

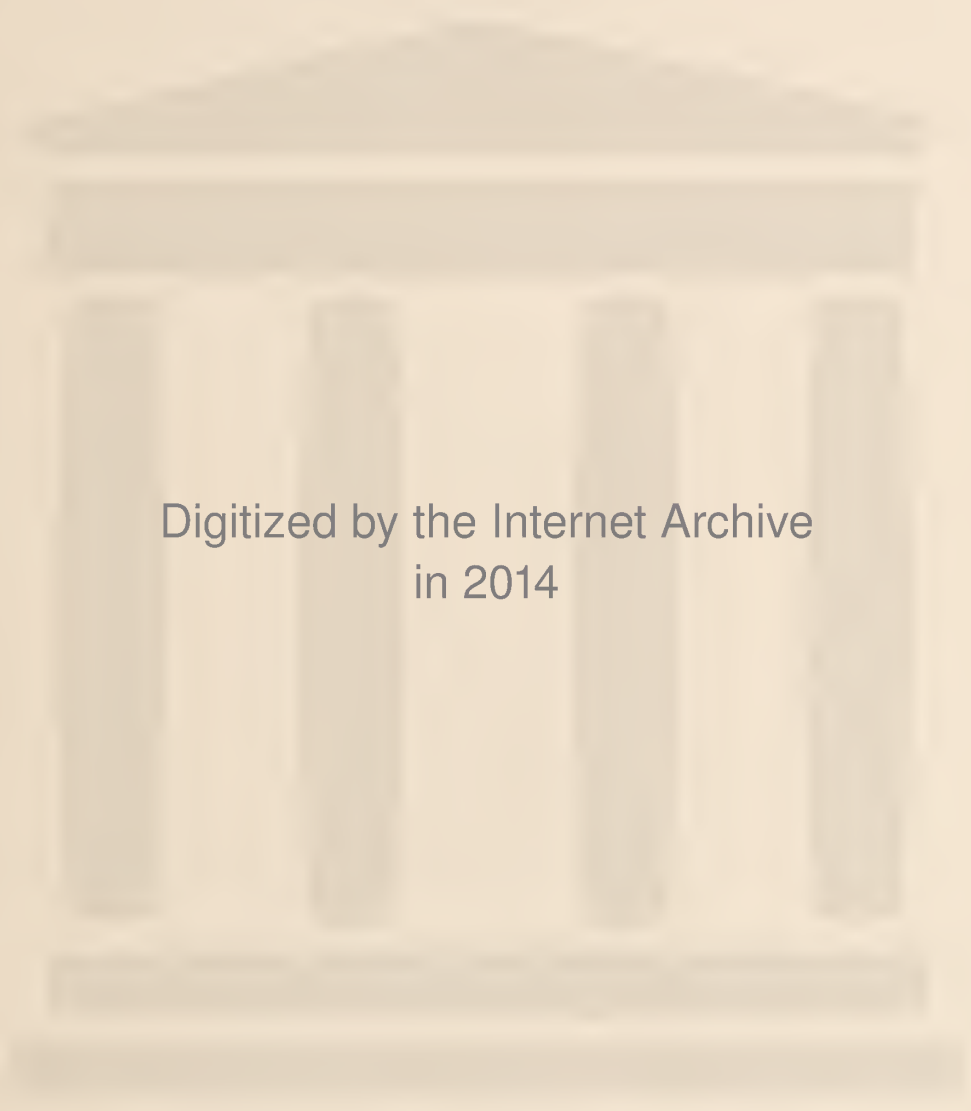
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CHARLES M. EDWARDS, M. D.,
Managing Editor

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HYPOPITUITARISM IN ITS RELATION TO EPILEPSY.*

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When Cushing published his book on "The Pituitary Body and Its Disorders" in 1912, he made the statement that general epileptiform seizures were at times related to hypophyseal insufficiency. This statement, with its elaboration and the cases reported, gave an impetus to the study of the relation between hypopituitarism and epilepsy. Considerable work has since been done along this line. The writer, believing that the relationship existed, had cases showing clinical evidences of hypopituitarism radiographed by Dr. Daniel D. Talley, who made stereoscopic plates instead of the flat plates as the outline of the sella shows better. A preliminary report was published August, 1914, in the *Southern Medical Journal*.¹

Clark and Caldwell² think that the circulatory disorders in some cases of epilepsy, shown frequently in slow pulse, vasomotor stasis in the extremities and an invariably low blood pressure when arteriosclerosis is not advanced, the tendency to obesity and a ravenous appetite, suggest a disturbance of the pituitary body. Dr. Johnston, of Pittsburgh, they say, was the first to show that irregular bony for-

mation of the sella turcica might have some bearing on epilepsy.

Livon and Peron³ found that partial removal of the anterior lobe in a dog has caused, among other things, epileptic seizures.

Cushing gives six reasons why hypopituitarism is related to epilepsy. Briefly abstracted, they are as follows:

1. Sir Victor Horsley noted motor cortex hyperexcitability in canines after hypophysectomies.

2. Cushing observed a tendency in epileptiform convulsions in animals kept for long periods after partial hypophysectomy.

3. Epilepsy is a frequent accompaniment of clinical conditions in which an insufficiency of the gland is manifest.

4. The pituitary body is prone to be damaged from bursting fracture of the base of the skull.

5. It is believed the posterior lobe secretion enters the cerebro-spinal fluid and thus bathes the cortex with a substance which is essential to the functional stability of the cortical cells.

6. Many individuals, supposed to be suffering from so-called genuine epilepsy, present symptoms of hypophyseal deficiency, and in some of these hypophyseal extract has served to moderate the seizures.

My observations tend to show the relation of certain cases of epilepsy to hypopituitarism as pointed out by Cushing, while the radiographs of Dr. Talley in connection with these cases support the suggestion of Johnston as regards sella turcica changes. One fact may be emphasized; every case which gave definite symptoms of hypopituitarism showed marked sella turcica changes. One case showed these changes with but few clinical symptoms. All

*Read before the Richmond Academy of Medicine and Surgery, November 9, 1915.

1. Tucker, "A Preliminary Discussion of Pituitary Disturbance as Related to Some Cases of Epilepsy, Psychoses, Personality and other Obscure Problems," *Southern Medical Journal*, August, 1914, Vol. VII, No. 8, page 608.

2. Clark & Caldwell, *Journal American Medical Association*, Vol. LXII, No. 1, page 63.

3. Bull. Acad. de Med., 1912, Vol XVII, No. 324.

of Dr. Talley's studies were made without first knowing the clinical manifestations.

The study of hypopituitarism in its relation to epilepsy is a distinct advance as it separates a class of helpable epilepsy. Cases of epilepsy due to birth trauma, cases of the Jacksonian type due to injury after birth, cases due to syphilis and those cases due to hypopituitarism, for all of which treatment is more or less effective, rob epilepsy of much of its previous formidableness.

At present we do not claim to know all the clinical manifestations of hypopituitarism. We think the anterior lobe is most at fault, but we cannot make exact distinction between all the symptoms of disturbance of the two lobes. However, our study leads us to feel that the most common manifestations of hypopituitarism are lowered blood pressure, tendency to obesity, diminished perspiration, slow pulse, amenorrhea in young women, voracious appetite, circulatory disturbance, or, if before puberty, there is sexual underdevelopment and under development of the body hair. There are other cases which show evidence of hyperpituitarism in the past, and in these there is reason to believe that through illness or injury the secretion has been changed from a hyper- to a hypo-secretion.

The radiographic changes are: Enlargement and encroachment of the clinoid processes, usually the posterior; thickening and irregularity of the sella; and sometimes enlargement of the sphenoid and other bony sinuses.

It should also be remembered that a change in the pituitary secretion is frequently accompanied by disturbance of the other ductless glands.

Case 1. M. Z., female, aged 29 years. Attacks began at 12 years of age, and were both grand and petit in character. Patient had two or three attacks a week. Menses were scant, appetite voracious, perspiration decreased. Patient was obese, hair normal, pulse negative, and systolic blood pressure 130. Radiograph of skull was positive. Patient had injury to head at 10 years of age. She has been fed pituitary for one and one quarter years, and has had two severe and two slight attacks in this time instead of two or more a week. She missed taking the pituitary tablets oc-

asionally, and cannot afford to take them regularly.

Case 2. R. J., male, aged 16 years. Attacks began at 13 years of age, were major in character and occurred once every six weeks. Patient's father died of epilepsy. Appetite was voracious, perspiration decreased, pulse was



Normal:—This is a photograph of a normal sella turcica.

negative, and patient was moderately stout. Systolic blood pressure 95. Patient had injury to head at 7 years of age. Radiograph of skull was positive. Hair on the head and body was thin. Patient was fed pituitary extract and attacks ceased for a year. He could not afford the medicine and the attacks returned.

Case 3. E. B., male, age 19 years. Attacks began at 17 years of age; major in character. Patient had two to four attacks a week. One aunt died of epilepsy. Appetite was good, but there was a question as to whether or not his

perspiration was diminished. Patient was obese, pulse negative, hair normal, and systolic blood pressure was 110. Radiograph of skull was positive. Patient gave no history of injury to skull. He was fed pituitary extract and has been on this treatment, with one short intermission, since December, 1913, nearly two years. Patient has had only one slight attack, instead of two to four a week, and this occurred during a period when he had stopped taking the pituitary.

Case 4. E. G., female, aged 13 years. Attacks began at 11 years of age, were major in character and occurred once a month. Family history was negative. Up to this time patient had not menstruated. Appetite was voracious, perspiration was negative, pulse negative, hair normal, blood pressure unknown. Patient was obese. Radiograph of skull was positive. Was struck on head, when she was four years old. She was put on pituitary extract November 18, 1913, nearly two years ago. Had one attack in March, 1914, and one in April, 1914, and one February 7, 1915, in other words, three in two years instead of one a month. At least one of these attacks could be accounted for by her lessening the pituitary medication.

Case 5. M. T., male, age 16 years. Attacks began at 13 years of age and were both grand and petit in character, occurring once a month. Family history was negative, appetite was voracious, perspiration negative, pulse negative, hair normal, systolic blood pressure 103. Patient was of medium size. No history of injury to head. Radiograph of skull was positive. Patient was put on pituitary February 7, 1914, and has had only one slight attack since, which attack occurred October, 1914, i. e., one in a year and three-quarters instead of one a month.

Case 6. J. S., male, aged 22 years. Attacks began at 17 years of age, were both grand and petit in character, grand attacks occurring every few months. Grandmother was insane. Patient's appetite was good; perspiration was diminished; he was tall and thin; pulse negative; systolic blood pressure 118. He was struck on head when three years old. Radiograph of skull was positive. Patient was put on pituitary extract. Has only been under treatment since February, 1915, but is improving.

Case 7. L. L., female, age 23 years. Attacks began at 18 years of age, were grand and petit in character, grand attacks occurring one a month to one in three months. Family history was negative, menstruation was negative, appetite normal, perspiration free. She was obese, hair normal, pulse negative, and systolic blood pressure 110. She had chorea when 12 years of age. Marked general vasomotor mottling was noted. Radiograph of



This radiograph illustrates a sella turcica in which the fossa is decreased in size and the posterior clinoid process is markedly enlarged and roughened.

skull was questionable. Was put on pituitary extract, anterior lobe, March 4, 1914. Some improvement noted, but improved more rapidly when put on whole gland recently.

Case 8. C. G. W., male, age 25 years. Attacks began at three years of age, then went away for a long interval, returning at 18 years of age. They were both grand and petit in character, occurring one every four or five weeks. There is a history of some epilepsy in family. Patient's appetite was voracious, perspiration free, pulse negative, hair normal, systolic blood pressure 105. Pa-

tient tall and thin. Radiograph of skull questionable. Patient had fever when 18 years of age when attacks returned. This patient was put on pituitary extract about six months ago, and has had no attacks since.

Case 9. J. W. H., male, age 31 years. Attacks began at 9 years of age, were both grand and petit in character, occurring six or eight a year. Family history negative. Patient's appetite voracious, perspiration diminished, pulse negative, hair normal; blood pressure not taken. Radiograph positive. Patient was tall and thin. No injury. Was fed pituitary but has not improved.

Case 10. B. H. W., male, age 49 years. Date when attacks began not definitely known, but patient says they began when he was a young man. Attacks are both grand and petit in character, occurring every three or four months. Family history was negative, appetite voracious, perspiration was not noted, pulse negative, systolic blood pressure 105. Patient was of medium size. Radiograph of sella pathological. Patient was fed pituitary extract, whole gland, December 13, 1913, nearly two years ago. He has had no attacks since, instead of three or four a year.

In conclusion, I will state that good results with pituitary feeding need be expected only when the patient has some clinical evidence of hypopituitarism, and that this should be backed by radiographic evidence. It is interesting to note that most of these cases give a history of previous head injury, and that in all but two the attacks began during the adolescent period. In one of these two they returned during adolescence, after an absence since early childhood, and in the other the child was approaching this period, being nine years of age when the first attack occurred. Most of these cases were treated with the anterior lobe pituitary extract.

Case 9 has not improved on the anterior lobe, and will be put upon the whole gland and results noted. He was evidently a case of hyper-secretion which we believe has changed to hypo-secretion.

Many cases are under observation, but the time is too short to report positive results of treatment. The above cases were not selected especially except that they had been under

treatment the longest, and this paper should only be considered in the light of a preliminary report.

Madison and Franklin Streets.

SOME MEDICO-LEGAL OBSERVATIONS IN REFERENCE TO INSANITY.*

By JOHN T. GRAHAM, M. D., Wytheville, Va.

"You will have to send for another doctor," said the one who had been called, after a glance at the patient.

"Am I so ill as that?" gasped the patient.

"I don't know just how ill you are," replied the man of medicine, "but I know you are the lawyer who cross-examined me when I appeared as an expert witness. My conscience won't let me kill you, and I'll be blamed if I want to cure you. Good-day."

This story was taken from the humorous column of one of our medical journals, but to many of us it is no joke. That there is a great dislike on the part of the physician to appear as a witness is well known. Nor does this dislike rest entirely on the inadequate reward for his services as a witness, although that in itself would be sufficient, but there must be other reasons.

Among many reasons that may be given to account for the antipathy of the doctor for the witness stand, there are two which we shall notice briefly.

1. The lack of proper training of medical men on medico-legal subjects. Examine the catalogues of our medical colleges and you will find a great disparity in the number of hours given to the consideration of medico-legal questions and other subjects of the medical course. Yet nowhere is the physician brought more prominently before the public, and nowhere does he so often appear to poorer advantage than in the witness chair. He more often brings his profession into disrepute here than in any other sphere of his professional activities, and all because his knowledge and training on these subjects is inadequate. Men are graduated from our medical colleges, year after year, who have never even seen a lunatic, and who have no real knowledge of the abnormal states of the mind, except as seen in the

*Read before the Medical Society of Virginia, at its forty-six annual meeting, at Richmond, October 26-29 1915.

eccentricities of some members of the faculty or student body.

Our Virginia medical schools are very fortunate along this line. With the Staunton State Hospital near the University of Virginia, and the Central State Hospital near Richmond, an abundance of clinical material may be had to demonstrate all phases and types of insanity.

2. There is a wrong impression in the public mind concerning medico-legal subjects, and especially is this true in regard to insanity. To the general public the noisy, excitable, incoherent, and destructive maniac is the type of insanity. While this type does exist, such a one is easily recognized as insane; he is dealt with accordingly, and there is very little danger in him. But the quiet, scheming, cunning paranoiac, who moves around amongst people in his daily avocations is the man who may spread destruction in his path.

Medicine and law have ever been somewhat at variance on insanity, particularly in matters relating to criminal responsibility. The modern acceptance of the doctrine of criminal responsibility may be summed up as follows: "Was the person whose act is in question able to understand its nature, and to pass a fairly rational judgment on its consequences to himself and others, and was he a free agent so far as that act was concerned?"

A former medical superintendent of Matewan State Hospital (Allison), in writing on the medico-legal aspects of insanity, says of the above: "This is the basis upon which at present rests the legal analysis of a man's responsibility for his acts. It must be remembered that the knowledge of the act must pertain to the particular one in question and not to those of a similar character. Concerning abstract acts in general, a person may have very clear ideas as to right and wrong, but in relation to his own deed at a stated time he may entertain false and most erroneous beliefs. The law requires that he must know the nature of his act, in other words, its physical character, whether it was, for example, an act of assault, of killing, of appropriating property or of kindling a fire; that is, he must understand the material essence of what he was doing at the time. He also must know the quality of his act, whether, for instance, an

assault was in self-defence, for revenge, jealousy, or any other assignable motive; whether in appropriating property he was taking that which he believed to be his own, or was engaged in theft or robbery; whether his purpose in setting a fire was arson, or properly to promote warmth and comfort for himself and others. The quality of an act is determined by the mental processes which lead up to its committal. It is important to discover the premises from which his reasoning starts. His train of thought, though apparently logical, may have some delusional idea as its origin. The underlying motive, therefore, should be considered in order to form a correct judgment. In short, was the person actuated by a rational impulse, or was he controlled by a diseased mind?

"An idiot, imbecile, epileptic, or a demented person may act without apparent motive, and have no knowledge whatever of the nature and quality of the act, or he may even be entirely ignorant of having committed it.

"As a further test, a person to be irresponsible must be so incapacitated as not to know that an act was wrong, that is, morally wrong. It is not necessary that he should have a fine ethical sense, but he should understand that the act in question was a wrongful act for him to do, and should reasonably understand its consequences to himself and others. It is not essential that he should know that the act was against the law of the land, for the law does not excuse ignorance of the statutes, but the defendant must know that the act in question was not a right thing upon general grounds.

"There are some few persons, however, who apparently understand the nature and quality of an act, and know that it is wrong, yet who are so impelled because of stress of disease that they are unable to refrain from acts which they know are wrong; in other words, they are so dominated by imperative ideas as not to be free agents.

"The history of law, in relation to responsibility, shows a gradual development: the early test was that a person must be deranged to such a degree as not to know more than a wild beast. The rules of the MacNaughton case, as formulated in the answers of the English judges to the House of Lords in 1843, state that to establish the defense of insanity it must be proven that the defendant did not

know the nature and quality of his act, or that his act was wrong. This marked a great step in advance, and formed the basis of the law in criminal responsibility for more than half a century."

Medicine goes a step further: We find there are persons afflicted with certain forms of insanity, such as manic-depressive, of the paranoid type, and true paranoia, who know the difference between right and wrong but owing to their exalted ego, they argue that they are superior to the common mass of people, and can commit certain acts which are wrong if committed by any one other than themselves. After persons of this type have committed a crime their demeanor may change for a time; the nerve tension or mental strain under which they have been laboring, has been relieved, and instead of showing an exaltation of mind, they may appear to be in a state of abject humility. But upon close examination, they are found to be exalted in their humility. Recently a case of this kind has been observed. The patient's exaltation took on the humility type. He was mentally patting himself on the back as a paragon of humility. In his own estimation he could give Moses points on meekness.

The plea of insanity as a defense for crime has encountered popular opposition. When the plea of insanity has been made, juries, in some instances actuated by sympathy, have returned verdicts which seemed miscarriages of justice, and have thus brought this plea into public disfavor. On the other hand, many dangerous lunatics, for whom the plea of insanity is not made, and whose true condition is not recognized, are sent to prison for short terms and then released, whereas if they had been subjected to careful examination and their true condition recognized they could be permanently confined. The public prejudice against the plea of insanity is not surprising when we stop to consider that insanity is a question about which the public knows very little. The public is usually right about every question on which it is informed, and usually wrong on every subject about which it is not informed. Insanity being a subject which trained professional minds have not entirely mastered, is it to be expected that the public is always right in its conclusions in regard to it? The popular prejudice against

this plea will continue to exist as long as our courts stick to that old worn out fetich known as "trial by jury." It seems unreasonable that a man must spend years in acquiring an education, and a special knowledge of law, a certain standard of perfection, before he can practice law, and yet a man of little or no education and untrained mind can sit on a jury to decide questions pertaining to the rights of his fellow man as to property, liberty and even life itself. The physician must give special study, and have special preparation, to be qualified to practice medicine; and yet judgment is passed on his professional knowledge by a jury of untrained and non-professional minds. Trial by jury has outlived its day of usefulness, and in many instances has become a farce. A lawyer can no longer go into court depending solely on the justice of his case and his knowledge of law, nor can he rest secure in the preponderance of evidence for his claim, but he must engage in a sparring match with the attorneys of the other side in the selection of a jury; and he is counted the best and most successful lawyer who knows whom to put on and whom to strike off the jury. And yet this is all done in the name of justice.

Judge A.'s wife becomes sick. He sends for his family physician who diagnoses typhoid fever. A consultation is requested. Another doctor is called in, who makes a diagnosis of appendicitis. Now, to be consistent, Judge A. should call together a body of twelve men consisting of clerks, farmers, mechanics, etc.; let the two doctors state the condition of the patient to these twelve men and let them decide which she has, appendicitis or typhoid fever.

The doctor who appears as a witness before a jury should never take sides; he is a witness for the truth as he sees it. He should never hesitate to say, "I don't know" when his knowledge does not admit of a positive answer. I have never yet seen the lawyer who can go beyond this simple statement; but woe unto the witness who begins to speculate and theorize on any question on which he has not positive information.

A study of all eccentric characters, degenerates, and those of criminal tendencies in your communities will often give you a knowledge of such characters that may be useful

should you be called as a witness in the cases observed or in cases of a similar nature. The writer has more than once been saved embarrassment on the witness stand by having made the observations here recommended. If there should be a paranoic in your community, put him on your list and watch out for trouble, for it is almost sure to come; and when it does come, it will be sudden and terrible.

What is insanity? is a question often asked by lawyers in cases where the plea of insanity is an issue. No clear-cut definition can be given. Like heat and cold, sanity and insanity are relative terms and cannot be defined.

A physician came across a patient while strolling through the grounds of a hospital for the insane, and, stopping, spoke to him. After a brief conversation on conventional topics, the physician said: "Why are you here?"

"Simply a difference of opinion," replied the patient. "I said all men were mad, and all men said I was mad—and the majority won."

While sanity is measured by an approximation to the normal, as known in the experience of the majority of the human race, yet it does not denote mental perfection, nor does insanity denote something less than mental perfection. As it is impossible to find a person with so healthy and perfect a body that some slight defect cannot be observed, so it is impossible to find a perfect mind. Yet we must have something definite, something tangible, around which we may center our ideas; a working rule must be found, and the following as formulated by Maurice Craig is the best that has been given: A person may be considered of unsound mind if from some mental cause (1) he is unable to look after himself and his affairs, (2) he is dangerous to himself and others, or (3) he interferes with society. This author says in considering mental disorders three questions must be borne in mind and separately considered. In the first place there is the "self" which is composed of the sum-total of subjective sensations, perceptions, feelings, and ideas at any given moment. Diminish sensation and you have, to a certain extent, taken away the consciousness of self. That disordered sensation has a marked effect upon the individual ideas of self is clearly seen in several forms of mental dis-

order, where altered sensation is a prominent symptom. The second factor we must consider in dealing with mental disorder is environment. There are different grades of society, and the customs and habits of those grades vary. In the lower grades of society, education is of a more rudimentary nature, and, therefore, less is expected of a man who belongs to this class. What would be a false belief—a delusion—in the mind of an educated man, would be simply a matter of ignorance in an uneducated mind. In dealing with crime and insanity, the question of environment must always be considered.

The third factor, which Craig considers most important of all, is the adjustment of self to surroundings, or, in short, conduct. Now, in cases of insanity there is always a failure somewhere in the adjustment of self to environment, and may be shown in many ways. Food may be neither sought nor eaten. The ordinary laws of self-preservation may be ignored. The insane man may fail to protect himself from perils which endanger his very life. The rules of personal cleanliness may be neglected. Acts of violence against themselves or others may be a prominent symptom in the conduct of some persons. Others fail to conform to the social and moral code of laws that govern the community into which they are born, and their conduct is disordered to that extent.

Insanity is shown both by conversation and conduct, but conduct is of greater importance in deciding whether the accused shall be confined or given his liberty. When a man's conversation is wild and rambling, or filled with strange fancies and delusions, there is no difficulty even for the lay mind to diagnose his case; but the difficulty to the lay mind is greater when conduct is chiefly at fault, especially when the vagaries of conduct are slight: and yet the patient with disordered conduct is usually the more dangerous person.

The insane person as a unit in his relation to society as a whole is well summed up by Maundsley in his definition:

"By insanity of mind is meant such derangement of the leading functions of thought, feeling, and will, together or separately, as disables the person from thinking the thoughts, feeling the feelings, and doing the duties of the social body in, for, and by

which he lives, * * *. Insanity means essentially, then, such a want of harmony between the individual and his social medium, by reason of some defect or fault of mind in him, as prevents him from living and working among his kind in the social organization. Completely out of tune, he is a social discord of which nothing can be made."

In determining insanity, we find that the evidence to establish it cannot be derived from one symptom alone, but from a group of symptoms. As each individual piece of circumstantial evidence denotes nothing, but the chain formed by welding the separate pieces together may be so strong as to compel conviction; so with the symptoms of insanity, each of them present alone might be consistent with sanity, but taken together they may form so strong a chain of evidence as to force the inference of insanity. A man may be depressed, a man may have a delusion, a man may have an hallucination, a man may be emaciated and in bad physical health, and yet not be insane; but if he has all these at once he is almost certainly insane.

SOME NEW POINTS IN THE TREATMENT OF ACUTE GONORRHEA.*

By JOHN CONSTAS, M. D., Washington, D. C.

Assistant Professor of Operative Surgery, and Associate in Genito-Urinary Diseases, Georgetown University; Chief Genito-Urinary Surgeon, Washington Asylum Hospital, etc.

The genito-urinary text-books of late abound with literature on the operative work of the genito-urinary system and, thanks to the discoveries of many noble men and their dexterous interference, the lives of many persons have been saved. Causes hitherto unknown have come into light more so than in any other branch of medicine.

The genito-urinary specialty in my opinion, demands as much, if not more, care, precision, labor and judgment in the application of treatment, as well as in reaching a diagnosis, as any other branch of medicine.

The enormous percentage of gonorrhœa as compared with all other diseases confronts the physician with such a tremendous responsibility that it is a wonder to me why there are not a greater number of men specializing in this field. I doubt if there is anyone in this

gathering who will for a moment hesitate to express his opinion of the horrible complications of acute gonorrhœa, and yet very little progress has been made as compared with the operative work done for other diseases in the genito-urinary tract.

This failure, in my opinion, is due to the mania that at present prevails among the young, as well as the old genito-urinary specialists to try to qualify themselves in operative work, thus losing sight of the very diseases which cause the trouble for which they later perform their classical operations.

I do not by any means wish to be understood as saying that the genito-urinary specialist neglects venereal disease, but I mean, and I am sure you will agree with me, that there is a mania among all of us with regard to classic work and a partial disregard to the evolution of all things. The present agitation on eugenics; our ignorance of a specific treatment for gonorrhœa; the numerous and frequent complications and sequelæ of this disease; and the great indifference of the public toward this malady, together with the failure of all that has been written and said about this common foe of humanity to make a greater impression, leaves, I believe, ample room for discussion on this subject and any suggestions, therefore, toward the amelioration and eradication of this scourge will not be amiss.

For convenience I have divided the treatment of acute gonorrhœa into two categories: namely, instructive and medicinal.

When a patient presents himself for treatment suffering with a discharge in the meatus, after taking his history in detail I proceed invariably with a microscopical examination. When the gonococcus is found, after a brief preliminary description of the germ to the patient, I request the patient to observe it himself in the microscope. I find that this procedure makes a peculiar impression upon him. In other words, he realizes that he has gonorrhœa, and not an ordinary strain, as he calls it; for such is the term of the average victim of gonorrhœa.

I make it my rule to explain to the patient in the most practical and least technical manner what his disease is. I explain to him the difficulty in attacking the gonococcus, owing to the anatomy of the urethra, prostate, and adnexa; the ease with which the gonococcus

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can travel into those parts and its peculiar resistance to medicine.

My second move is to eliminate from his mind that gonorrhoea is but a trifling disease and can be easily cured. I picture to him, sharply and clearly, the horrors of gonorrhoeal rheumatism, cystitis, epididymitis, etc. In other words, by the time the patient leaves my office he is fully convinced that he is not suffering from a simple strain, but realizes he has contracted a very serious disease.

Experience has taught me never to hold out hope for a cure in less than eight to ten weeks. Now I proceed with my instructions:

After detailing to the patient that he must not eat asparagus, tomatoes, spices, beef, pickles, rhubarb, acid fruits, or drink strong tea or coffee, etc., I emphasize the fact that abstinence from alcoholic beverages and women is imperative.

I impress upon him that a discharge from any part of his body indicates a sore and unless that sore is in a state of quietude it will never heal. I tell him the chances he runs to be blind unless he is careful to cleanse his hands each time he handles his member. I also explain to him the possibility of introducing the gonococcus into his eyes or in the eyes of other members of his family through the bath-tub, and instruct him to cover his penis with a condom during bathing, also to see that no one else uses his towels.

I emphatically tell him that unless he carries out faithfully my instructions he will waste his time and money without any avail whatever. I tell him that medicine is but a secondary thing to the aforesaid instructions; and, finally, I warn him that unless he carries out my instructions I will refuse to treat him. I warn him that the cessation of the discharge does not by any means indicate that he is cured and, in order to convince him, I instruct him to urinate in a glass at home or when in my office; then I show him his urine loaded with pus cells. I go still further and tell him that even though his urine is clear he might harbor the gonococcus, which can only be detected through the microscope with which he has already seen the germ.

I supplement my instructions by letting him read, or I myself read to him the paragraph on prognosis in acute gonorrhoea in one of the genito-urinary text-books and ask him to spend

a few minutes when convenient and read the chapter on gonorrhoea in some text-book in the Congressional Library. Thus, he will be more convinced of the importance as well as seriousness of his trouble than otherwise, when he reads it distinctly from an author.

This might appear to you a waste of time or an unnecessary procedure, but I confess that I have but few patients who fail to continue the treatment; at least 85 per cent. implicitly follow my instructions.

You will be surprised to hear that those sufferers who have fully realized the nature of their trouble by the little knowledge which I have imparted to them in the manner above described become missionaries among their friends. There is not a week passes in which I do not have one or two patients brought by those who have been treated or are under treatment.

Medicinal Treatment: Unless there is extreme inflammation and edema of the meatus and prepuce, in general I immediately proceed with anterior irrigations of silver nitrate, beginning with 1/15000, and, if there is tolerance of the drug, within four or five days I use 1/1000. It is astonishing that very few patients complain of severe and lasting pain after urination with such a strong solution of silver. It is also surprising the heat that the urethra will endure. Hot water which feels almost unbearable to the finger will be easily tolerated by the urethra. In the meantime I advise the patient to soak his penis in hot water—very hot, as often as he can; as long as he can stand and as hot as he can bear, and, if it is possible, to abstain from any kind of hard work for at least three or four days.

No matter how profuse the discharge is, it will invariably cease by the sixth to the eighth day. I then begin to reduce the strength of the silver so that by the time I discharge the patient I am using a very weak solution, namely, 1/20000, now and then.

I also supply the patient either with a 3 to 5 per cent. argyrol solution, adding 2 grains of powdered alum to this, or protargol solution, from 1/4 to 1/2, and ask him to use either solution twice or more daily when he does not call at my office and once on the days he is treated by me. I emphasize that either injection must be used after urination and be kept in the meatus at least five minutes. I make

it my rule, however, to see that the patient can manipulate the syringe properly before he leaves my office. I prefer an all glass syringe with a blunt point and one which can be worked easily.

At the same time I prescribe the following medicines internally: Tincture of belladonna or hyoscin, m. 7 of the former, and m. 10 to 15 of the latter; potassium bromide and potassium citrate, of each xv to xx grains in elixir digestive or any other palatable vehicle, to be taken in half a glass of water an hour after meals and at bed time. At the same time I prescribe from 10 to 20 m. of santal wood oil on a lump of sugar, to be taken right after meals, or the equivalent amount in capsule form.

During the first two weeks I advise the patient to take a Seidlitz powder every other morning before breakfast and see that he has at least two loose movements. Whether the patient suffers from chordee or not, as a rule, I prescribe a suppository of pulv. opii, gr. 1, ext. belladonæ, grain $\frac{1}{4}$ to $\frac{1}{2}$, in cocoa butter, to be inserted in the rectum at bed time after the bladder is empty. I also advise the patient to rise and empty his bladder at any time during the night.

If the meatus is very angry when the patient presents himself for treatment, I use no irrigations and order no injections whatever. I furnish the patient, however, with the suppositories and the aforementioned internal medicine, together with the instructions to soak the organ in hot water almost all the time and ask him to return in three to four days. By this time most of the cases can be treated locally. Whether it is because of the internal medicines and suppositories thus given and the constant immersing of the organ in hot water that such a strong solution of silver seldom causes pain or severe burning I leave it to you to judge. Personally, I think it is the above treatment.

I prefer silver to any other medicine throughout the whole treatment because I have found that epididymitis, that annoying complication of acute gonorrhœa, is by far less frequent and I think the duration of the disease is shorter. In some cases, however, I have found that the alternate use of silver irrigations with the permanganate of potash is an ideal local treatment. I never use stronger than 1/4000

permanganate solution for either anterior or posterior irrigation.

Recently, in a series of 32 cases of acute gonorrhœa treated by the above method, the purulent discharge stopped in about six to eight days and the gonococcus disappeared in three to four weeks. The patients were discharged, including the observation period, in between the eighth and tenth week. No epididymitis nor other complication occurred in any of the 32 cases.

In a second series of 23 cases of acute gonorrhœa treated by the method in vogue, viz., by potash permanganate in the beginning, followed by silver nitrate in the declining stage, cessation of the purulent discharge corresponded with the period of the latter method, yet the presence of gonococcus was found in one-third of the cases after five and six weeks and the patients were not pronounced cured before the tenth to fourteenth week and three cases not until four and a half months. In the latter series of 23 cases I had two cases of epididymitis. In both series I used gonococcus and mixed staphylococcus vaccines, both indigenous and autogenous, alternately, beginning in the usual way with 30 millions of gonococci, repeating the injection in three days with 300 millions mixed staphylococci and so on till eight to ten vaccines were given. In spite of the fair number of cases thus treated I have not yet observed such a result as would have enabled me to say anything definite of the use of vaccines. In nine out of the total number of cases I used plain gonococcus vaccines but even then did not observe any appreciable change. I have observed, however, that in some cases by repeating the vaccines, say in ten to twelve days later, the slight annoying discharge would cease entirely. I am still using the vaccines, but in smaller doses, namely, I begin with five million gonococci and 25 million mixed staphylococci daily, but as this method is in its experimental stage I am not prepared to offer any opinion.

1111 *Massachusetts Avenue.*

“Johnny, the next time you are late bring an excuse from your father.

“Who? Pa? Why, he ain't good on excuses; ma finds him out every time.”—*New Haven Journal-Courier.*

AN ANALYSIS OF THE REPORT OF ABRAHAM FLEXNER ON THE REGULATION OF PROSTITUTION IN EUROPE.*

By CHAS. V. CARRINGTON, M. D., Richmond, Va.

A word of explanation is not amiss in this connection.

Abraham Flexner, Assistant Secretary of the General Education Board, New York City, was sent to Europe and given *carte blanche* as to expense and time in order that he might thoroughly investigate, as far as it was humanly possible, the subject of prostitution in all of its phases.

The investigation by a grand jury in New York City (of which John D. Rockefeller, Jr., was foreman) of prostitution, the "red light" districts and kindred subjects, is said to have been the reason for the sending of Abraham Flexner on his tour of investigation. His pre-eminent qualifications as a safe and sane investigator were, and are now, unchallenged. The following is a condensed extract from his voluminous Detailed Report on the Regulation of Prostitution in Europe:

"In discussing the regulation of prostitution in Europe, I propose in the first place briefly to describe regulation, and, in the second, to call attention to certain prevalent misconceptions in relation thereto. Arguments are often presented in behalf of some proposed method of dealing with prostitution in America on the ground that 'they do this or that in Europe.' The last word in every discussion bearing on the licensing of prostitution, the toleration of houses of prostitution, the segregation of prostitutes, the medical inspection of prostitutes, is, 'Well, at any rate, this is the way they do in Europe.'

"It is assumed that European wisdom, born of long experience, ought to influence American policy. Now, I am so unfamiliar with American conditions in respect to this evil that I cannot undertake to say how far or in what respect European experience is applicable to America; but I shall try briefly to state what European experience actually is.

REGULATION.

"Two methods are employed in dealing with prostitution in Europe. The first is called 'regulation.' Regulation means that prostitu-

tion is tolerated on certain conditions. In a word, regulation endeavors to get along with prostitution by subjecting it to certain rules which practically constitute a license to practice prostitution subject to these rules.

"Time was when regulation prevailed throughout almost the whole of Europe. It has now died out in Great Britain, Holland, Denmark, Norway and Switzerland excepting only the city of Geneva. It cannot be said to be as vigorous any longer even in a single one of the countries in which it still exists. The system is on its last legs in France, Belgium, Germany, Austria-Hungary, Sweden and Italy. In only two towns, Hamburg and Budapest, do the municipal authorities as a whole any longer tenaciously cling to it. When we are told that regulation is practiced in Europe, we may confidently reply that the system has died out in many countries and is moribund almost everywhere else.

DETAILS OF REGULATION.

"As to the details of regulation. The word is ordinarily employed in America as if regulation were a definite policy, formulated in unambiguous terms. Such is not the fact. No two countries and not two cities still adhering to regulation practice it in the same way. Wide diversity prevails in respect to points of fundamental and essential importance. I have not the time to enumerate these divergencies. They affect the question as to who can be enrolled, as to how enrollment takes place, as to what enrollment means, and as to what happens if the rules are broken. How are these diversities to be accounted for? If regulation operated successfully in any one place, every other city employing the system would copy the successful model. Regulation varies from place to place because it does not operate successfully anywhere. When, therefore, it is urged that regulation be adopted in America because it is used in Europe, I suggest that it be asked what form of regulation is meant and what degree of success it achieves in the place in which it is employed.

"If I may, for the sake of brevity, characterize regulation in general terms, I should say that essentially and generally in regulated communities the prostitute applies to the police for permission to carry on her trade; her name and abode are registered; she agrees to live in a particular place; to avoid certain lo-

*Read by title before the Tri-State Medical Society of the Carolinas and Virginia, at Richmond, Va., February 16-17, 1916.

calities; to avoid certain associations; to refrain from certain acts; and to appear at regular intervals for medical examination. These rules aim to secure chiefly two objects: the preservation of public order and the promotion of public health. Prostitution is a menace to both these things—a menace to public order, since the prostitute, if unrestrained, will offend against decency, and will make common cause either with outright criminals, or with other hardly less odious social parasites and vultures; a menace to public health, because venereal disease is the sure concomitant of all promiscuous sexual intercourse. Unrestrained prostitution means, therefore, disorder and the diffusion of venereal disease. If, now, regulation hopes effectively to grapple with prostitution on either or both of these grounds; if regulation hopes to preserve public decency or to promote public health, it is obviously necessary that all, or at any rate most, prostitutes shall be regulated. On the face of the matter, it is clear that, if a minority only are inscribed, the policy cannot be said to control or materially to affect the situation, from either the standpoint of health or the standpoint of order. As a matter of fact, no regulated city inscribes prostitutes enough to control the local situation. There are from 50,000 to 60,000 prostitutes in Paris; only 6,000 are regulated; there are 20,000 to 30,000 in Berlin; 3,300 are registered; there are 3,000 in Brussels; 182 are registered. In most cities the number of inscribed women is so small that the system is the merest farce: Havre registers 136, Munich 173, Stuttgart 22, Augsburg 6, Bremen 75, Rome 225, Geneva 86; and in general these totals are everywhere decreasing, despite the steady increase in the size of the cities themselves. When you are told that prostitution is registered in Europe you may reply that nowhere is more than an unimportant fraction registered, and that the bulk of it is everywhere handled without regulation, even in communities in which regulation is said to exist.

THE CHARACTER VARIES.

“A word by way of explaining why this is and must be so. Contrary to common belief, prostitution is usually a transient status. There are indeed a number of women who may be termed professional and practically permanent prostitutes, women who lead a life of prosti-

tution as long as they can secure patronage enough to earn a livelihood. But this body of professional and irreclaimable prostitutes is by no means the larger part of the prostitute army that exists at a given moment in any European city. The rest, the majority, indeed, are women who are not permanently or professionally engaged in prostitution, but who practice prostitution for a while or intermittently, touching the edge of the morass, but not sinking into it. Not infrequently they are mere children—girls from fourteen to seventeen years of age. Again, they are working girls, now temporarily demoralized, again supplementing their irregular or insufficient wages by earnings derived from immoral conduct. Inscription must, therefore, be limited to women who practice prostitution as their sole means of livelihood. If, however, the child prostitute and the incidental prostitute are not enrolled, regulation is bound to fail by reason of the fact that it is applicable to only a small part of the prostitute army. When, therefore, the registration of prostitutes is recommended to American cities, I suggest that the question be asked, who is to be registered, and I suspect that the argument will not get much further.

REGISTRATION ONLY PARTIAL.

“As a matter of fact, the case is rather worse than even the foregoing statement suggests. Let us admit that children cannot be registered, that incidental and occasional prostitutes must not be registered. A substantial number of professional prostitutes remain; why not do what can be done for order and sanitation by controlling these? It is a specious argument; but on close examination without cogency. The most powerful and autocratic police forces of Europe have yet shown themselves incapable of cataloging the professional prostitutes of their respective cities. A small number of helpless and stupid prostitutes can be apprehended, can be listed, can by arbitrary jail and work-house sentences be compelled to comply more or less with the police regulations, but only a small number. The majority—the majority, I mean, not of all prostitutes, but of avowedly professional prostitutes—cannot be registered. They are too cunning to be trapped; they elude the vigilance of honest policemen; they corrupt the dishonest; they disappear here and reappear

there. From time to time, the police of Paris, Berlin, Hamburg, Vienna and Budapest have made vigorous efforts to corral the unregistered professional prostitutes. Failure has always resulted. The lists melt as fast as they are increased; and the general tendency is downwards. By vigorous efforts 1,574 women were newly enrolled in Paris in 1901; 80 dropped out the same year. In Berlin, Vienna, Stockholm and elsewhere the number of disappearances and the number of new enrollments keep close together. Nor does disappearance mean that the women leave town; they simply hide or change their abodes. Regulation, therefore, nowhere succeeds even in permanently registering a substantial number of those women who practise prostitution as their sole means of livelihood.

EFFECT ON PUBLIC ORDER.

"What is the effect of regulation on public order? Does regulation assist or does it interfere with the preservation of quiet and decency? Consider for one moment. Regulation recognizes prostitution as a legitimate, even if deplorable, means of gaining a livelihood. The woman who has registered with the police is thenceforth authorized to practice prostitution. She has, indeed, no other way of gaining subsistence for the law stamps her a professional prostitute. To this end she must find customers. Where shall she find them? Obviously on the streets, in cafes, theatres and other resorts. Regulation begins by conferring upon the prostitute the right to procure and to solicit business. Street walking and soliciting in the streets and elsewhere are therefore universal in regulated towns. These practices are objectionable because they offend against public decency; because, by making professional prostitution more profitable, they make it more alluring; because, by increasing the amount of business transacted by the prostitute, they increase the amount of disease she spreads. Any policy that concedes to prostitution prominence is mischievous because the volume of the traffic is thereby increased; and the damage done increases in the same ratio as the volume of the traffic. Regulation necessarily concedes prominence to prostitution, for the law cannot enroll a woman and then deny her all opportunity to prosecute the business which it has just authorized. So far from assisting public order and decency, regulation

is absolutely inconsistent with order and decency.

DEMORALIZATION OF THE POLICE.

"Assuredly the demoralization of the police is not the least of the objections to regulation. For regulation by conceding to registered prostitutes certain privileges denied in theory to non-registered prostitutes requires that the police deal in one way with one set of prostitutes and in another way with another set of prostitutes. The result is that a situation is created in which the police are subjected to serious and not infrequently fatal temptation. It is true that the street conditions in European cities have improved in recent years, but regulation can have had nothing to do with it; for street conditions have improved while regulation has been dying out, and street conditions are best in cities like Amsterdam where regulation has been entirely suppressed.

NO SEGREGATION ABROAD.

"There is a common notion that regulation involves the toleration and segregation of disorderly houses, and you have all doubtless heard regulation advocated for American cities on the ground that in Europe prostitution is confined to disorderly houses which are set off to one side so as not to offend decent people. This is another myth. The so-called tolerated house is not an essential part of the regulatory policy. Many cities have suppressed houses of prostitution even though they continue the attempt to regulate prostitution. The tolerated house does not exist in Berlin or Munich. More than this, houses of prostitution have practically died out even in most cities where there is no objection to them on the part of the authorities. I have said that at this date it is calculated that there are 50,000 prostitutes of all kinds in Paris. Only 387 live in the forty-seven houses of prostitution that still exist in the French metropolis.

"Still another myth is widely credited in this country. We have all heard arguments based on alleged European experience in favor of segregating prostitution. The proposition is highly plausible. Prostitution exists on a large scale; it cannot be summarily stamped out of existence; its proximity to decent people is demoralizing and offensive. Let us therefore suffer it to betake itself quietly to some remote section of the town where it can neither demoralize the weak nor offend the fastidious.

This, we are assured, is the way they do in Europe.

"It is significant that segregation in this sense is a word that cannot be translated into German or French or—so I am told—into any other European tongue. There is no such thing as segregation of prostitution in Europe; there is no such thing as segregation of even that small fraction of prostitution which is regulated by the police. The forty-seven houses of prostitution in Paris, the six in Vienna, the thirteen in Budapest, the ten in Frankfort, the ninety-eight in Cologne, the seventeen in Geneva, the twenty-two in Rome, the thirty in Stockholm are scattered in various parts of the city. The Hamburg houses occupy more than eight different streets in widely separated sections of the town. The Dresden houses are found on thirty-two different streets. Moreover, in all these cities registered prostitutes live in other streets as well. The situation, then, is this: The bulk of prostitution, even in regulated cities, is not registered at all: it lives where and as it pleases. The minority may be registered but only a small portion of this minority lives in houses and these houses are scattered. As far as Europe is concerned, segregation is a term which attempts to describe what has no existence whatsoever. I may go further. In the course of an inquiry that included all the great cities of Europe from Glasgow to Budapest and from Rome to Christiana, I did not meet a single police official who favored the concentration of even registered prostitutes in a single neighborhood. Not only is such concentration or segregation impracticable: it is highly undesirable. Prostitution like crime is most dangerous and most offensive when it collects in nests. The segregation of prostitution, even if feasible, would be objectionable precisely as the segregation of criminals would be objectionable.

"So much on the score of public order, in reference to which we may fairly say that regulation is useless or worse, and that on the ground that it is useless or worse, it is being rapidly discarded throughout the Continent.

THE SANITARY POINT OF VIEW.

"Let us turn now to the sanitary side of regulation. The registered prostitute is medically inspected at intervals in the interest of her own health and that of her patrons. I will not discuss this point from the standpoint of

morals; I will not even urge that by making itself responsible for the safety or supposed safety of promiscuous intercourse the state incidentally incites to it. I prefer to meet regulation on its own ground. Medical inspection is said to minimize disease; it is said to be the only sensible way to deal with a problem that cannot be got rid of: it makes the best of a bad bargain. Well, does it?

"What are the facts? Medical inspection of prostitutes has been practised on the Continent off and on for perhaps a century. The largest venereal clinics in the world are found in regulated cities—in Paris, in Berlin and Vienna. Students of medicine who desire to find a wealth of venereal disease repair, and have for years repaired to cities in which for years prostitutes have been medically inspected in order that venereal disease might be diminished. It would appear, therefore, that medical inspection has not been potent enough to affect the total volume of venereal disease. Such statistics as are available amply confirm this statement.

MEDICAL INSPECTION A FAILURE.

"There are several reasons why medical inspection is bound to be futile. In the first place, too few women are examined: for if, as I have said, the police never apprehend more than an unimportant fraction, medical inspection never reaches at all the bulk of those diseased. In the next place, medical inspection does not continuously protect even the registered women. The woman pronounced diseased is forcibly confined to a prison hospital. Now, the prostitute resents imprisonment, even in her own hygienic interest. She learns quite early the signs of infection; discovering herself infected, she does one of two things: covers them up, a trick at which she is expert: or, as the phrase is, 'disappears'—does not report for medical examination, meanwhile plying her trade in secret.

"Again, the facilities provided at police headquarters and elsewhere for the purpose of medical examination are absolutely inadequate. In Paris, Rome, Geneva and Hamburg they are so bad that there is not the least doubt that medical inspection spreads more disease than it discovers. Conditions are better in Berlin, Dresden, Budapest and Stockholm. But the diseases with which inspection deals laugh to scorn the feeble instruments which medical

inspection employs. Syphilis is usually contracted early in the prostitute's career, often before she is old enough to be registered; it runs its course so capriciously that prolonged confinement in a hospital would have to be required, but no city has the requisite hospital facilities or can afford the expense. Syphilitic prostitutes, therefore, either escape detection, or if detected are released before they are non-infectious. In the case of gonorrhœa, the situation is even worse, for the prostitute well-nigh invariably suffers from chronic gonorrhœa, which is practically incurable. No professional prostitute is or can be made safe on this score. Medical inspection is therefore a farce. There are physicians in Europe who believe that some form of medical inspection might be helpful, but none of rank who contend that it ever yet has been. When, therefore, medical inspection is urged on the ground that in Europe it is employed to reduce disease, you may confidently reply that regulation in Europe has most completely collapsed at precisely that point.

RESULTS OF REPRESSION.

"Regulation, tolerated houses, segregation, and medical examination cannot be advocated in America on the ground that they have succeeded or that they are even widely used in Europe. They are not widely used. Some of them are not used at all, and none of them has succeeded anywhere. The alternative policy is, as I have said, called *abolition*. *Abolition* involves simply a refusal to recognize prostitution as a legitimate means of earning a livelihood. It does not mean that prostitution is ignored. There is not an abolition city in Europe that ignores prostitution. Prostitution is not ignored in abolition England, abolition Holland, abolition Switzerland, abolition Denmark or abolition Norway. It is in one way or another combated in all these countries and consistently combated because the law makes no exception of one prostitute at the expense of another. I cannot here discuss the abolition policy at length. I may briefly, however, summarize the situation regarding it.

"The disorderly house is non-existent in abolition countries. Clandestine brothels exist, it is true, but they lead an uneasy, transient and unprofitable life. Street conditions vary with the vigor and purpose of the local police. In

Amsterdam, for example, the street walker is unknown. In London she is prominent, though less so than in former years. Everywhere she is more or less prominent according to the trend of public opinion.

"Abolition, therefore, does not mean that venereal disease is to be allowed to rage rampant. It is, on the contrary, consistent with a determined and vigorous effort in the direction of hygiene and medication.

CAN SOCIAL VICE BE SUPPRESSED?

"I may fairly be asked to state in conclusion whether European experience points to any conclusion, valid for Europe, and perhaps to some extent for us. Perhaps the most significant expression I can utter is this: Prostitution is a modifiable phenomenon. We will not at this moment theorize about suppressing it entirely. But, according as society prefers, there may be more or less of it. Nothing is more readily susceptible of artificial stimulation than prostitution and the recourse of men to prostitutes. For example, men can be led to believe immorality necessary and wholesome. Time was when European medical men favored this view, and practice conformed without opposition to this demoralizing theory. Now, for the most part, they take precisely the opposite view. They regard masculine continence as feasible and wholesome; sexual irregularity is in consequence less generally condoned, and is probably beginning to diminish.

"But there are more direct and obvious ways in which the volume of prostitution and the intensity of its operation can be affected for better or worse. The liquor traffic left to itself tends to utilize prostitution to increase its profits; the pimp directly increases the number of prostitutes and their activity, and the increased activity of one prostitute has the same effect as an increase in the number of prostitutes. And there are other ways in which demand and supply, reacting on each other, can both be whipped up. Now, European administrators are practically of one mind in holding that every community can do something to check exploitation and artificial stimulation. How much can be done depends on public sentiment, on the vigor of municipal administrators, on the wording of the laws, or the tone and intelligence of the courts. Given a public sentiment that is determined to check the artificial inanimation of prosti-

tution for the profit of third parties, so determined that good laws are passed and able administrators and judges put in office, and there is no question that the amount of prostitution can be perceptibly reduced and the amount of damage perceptibly curtailed.

A RESIDUAL PROBLEM.

"Of course, even after crude artificial manipulation has abridged prostitution, a residual phenomenon, large and serious, will remain. I have no desire to minimize the problem which will then still confront us. There will be a large number of men with uncontrolled appetite; there will be a large number of women ready to gratify it on some terms or other. At no stage, indeed, is prostitution simply a matter of the existence and activity of dissolute women, for prostitution, like slavery, involves two parties, and in the last analysis no measures will tell that do not apply equally to both parties involved, to the man as well as to the woman. When the situation has been stripped of sheer exploitation, we are face to face with the individual man seeking gratification and the individual woman willing to sell it. What is to be done about them? As far as direct action is concerned, this question must be deferred until the suppression of exploitation has been accomplished—a humanly feasible, even if difficult, undertaking. But indirect action need not meanwhile be neglected. Whatever makes for social betterment is helpful; whatever makes for absolute equality between the sexes, whatever makes for absolutely equal responsibility between the sexes, whatever leads women to demand of men the same code of honor, decency and self-respect that men demand of women, is a contribution toward the solution of the residual problem that the suppression of commercialized and exploited vice still leaves on our hands."

In closing, I give a very striking and strongly put article from Ella Wheeler Wilcox, which shows so clearly the brutal inequality of some of our laws on this hydra-headed monster, Prostitution.

A REVERY IN THE STATION-HOUSE.

Last night I walked along the city street
And smiled at men; they saw the ancient sin;
In my young eyes, and one said, "Come with me."
I went with him, believing my poor purse
Would fatten with his gold. He brought me here
And turned the key upon me. In an hour
I shall be called before the judge and fined,
Because I have solicited. How strange

And inexplicable a thing is law—
How curious its whys and why-nots!
I was young and innocent of evil thought
A few brief years ago. My brother's friend,
A social favorite to whom all doors
Were open (and a church communicant),
Sought me, soliciting my faith and trust,
And brushed the dew of virtue from my lips;
Then left me to my solitary thoughts.
Death and misfortune entered on the scene;
I was thrown out to battle with the world,
And hide the anguish of a maid deflowered.

I left my first employer because
He, too, solicited those favors that
No contract mentions, but which seem to be
Expected duties by unwritten law
In many business houses. Soon I learned
That virtue is, indeed, its own reward
And often finds no other. My poor wage
For honest labor and a decent life
Scarce kept me fed and sheltered. Everywhere
In office, boarding-house, and in church aisles
I met the eyes of men soliciting.
They supplemented pleading looks by words,
And laughed at all my scruples. Finally,
The one compelling lover had his way,
And when he wearied of me I began
The dreary treadmill of the city streets,
Soliciting whoever crossed my path
To take my favors and to give me gold.

Somehow, I cannot seem to understand
Why there is law to punish me for that,
And none to punish any of the men
Who have pursued me with soliciting
Right from the threshold of my childhood's home
To this grim station-house.

My case is called?

Well, lead the way and I will follow you.

922 Park Avenue.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Reported by EMIL MAYER, M. D., New York, N. Y.

(Continued from page 595.)

The Effects of Radioactivity Upon Nasopharyngeal Fibroma.

By D. BRYSON DELAVAN, M. D., New York City.

The conditions due to the presence of this growth are usually so urgent as to demand relief.

For this three varieties of treatment have thus far been practiced:

1. Removal of the tumor after preliminary operation done for the removal of obstructing parts.
2. Removal through the natural passages by evulsion or with the cold snare.
3. The reduction of the size and the vascularity of the tumor by electrolysis or by the

injection of various chemicals, followed by the removal of the remaining mass by means of the galvanocautistic loop.

Of these methods the first is illogical, unsurgical, and, as experience has abundantly proved, deadly: shock from the preliminary operation is severe, hemorrhage profuse, and if the patient survive, deformity from the preliminary operation is serious and recurrence of the growth common.

The second method is much better than the first, but many provoke serious hemorrhage and shock, and it is apt to be followed by recurrence.

The third method is by far the best. Although tedious and sometimes painful and requiring considerable skill, statistical comparison shows that of twenty-seven cases removed after severe preliminary operation in which end results were given, fifty-nine per cent. were reported "cured" and twenty-six per cent. died. Of forty-one cases removed through the natural passages by evulsion or the cold snare, five per cent. died; and of sixty-six cases by electrical methods, one hundred per cent. were cured.

Much attention has of late been given to the treatment of uterine and other fibromata by means of the X-ray and of radium, and both in the United States and in Europe the apparent success attained renders the method worthy of consideration. The similarity of type between the uterine and pharyngeal growths attracts the attention of the laryngologist to the new treatment.

Fibromata of the nasopharynx are relatively much smaller and more directly accessible.

The complete reduction of the nasopharyngeal growth might not be essential, since it tends to diminish spontaneously after adolescence and finally disappears. If its growth could be controlled during the earlier years and until after the period of its activity, nature would in some cases at least intervene to effect a cure. Cases of slow development occurring in older rather than younger patients would offer the best prognosis. Judging from the effects of radium in other cases, its action would be active and profound; more may reasonably be expected from it than a moderate reduction in size.

Dr. Robert Abbe, pioneer in the use of radium in the United States, has originated

many ingenious devices for its application to various organs of the body, and especially for its use in the nasal and nasopharyngeal region.

In the application of the radium, the parts to be treated must be exposed to the rays, and the healthy surrounding parts must be protected from them. It is not necessary that the radium should be introduced bodily into the substance of the growth, as the blood vessels of the growth are more abundant near its surface, and as the rays penetrate at least a quarter of an inch, the treatment is entirely effective in profoundly influencing the circulation, and thus, as well as by its effect upon the connective tissue of the organ, causing a reduction of its size. Proper regulation of the strength of the radium and the duration of the exposure will prevent injury to the surrounding healthy parts. Should the radium treatment prove as valuable as it promises, the world may be congratulated that the unhappy record of past surgical failure will have been closed.

DISCUSSION.

Dr. Cornelius G. Coakley, New York City: Dr. Francis Carter Wood has been experimenting, as all know, on various animal colonies with radium; he has also done some clinical work with this agent. He has been kind enough to use it in several cases which I have sent him during the past year and a half. In a case of epithelioma of the nose, radium had a very favorable effect. The patient had a bad case of arteriosclerosis and died from cardiac trouble. All trace of the epithelioma had disappeared. Several cases of papilloma of the larynx were cured by radium. In one case the papilloma had existed from early childhood to the age of forty or more. In another case treated by him there was an angiofibroma which completely filled the nasal cavity, the mass being visible without a nasal speculum. He used eighteen milligrams in a very small glass tube wrapped in ordinary adhesive tape. This was thrust into the nose, and was followed by profuse bleeding. At the end of two weeks no change in the mass could be noted. For some reason the boy did not return to the clinic for eight or ten days, and when he returned it was found that the mass had decreased in size. A brass capsule containing eighty-three milligrams of radium was then inserted, the posterior end of this tube extending into the posterior nasopharynx.

This was left in for twenty-four hours. The excoriation all around the face was simply remarkable. No X-ray burn ever compared with this burn. Dr. Wood told me I need not worry about it, as it would disappear, which it did. The radium was applied in February, and the inside has not completely healed. The patient can breathe through the nose, however, and it is possible to look right through into the nasopharynx. The mass is attached to the posterior wall of the nares and apparently somewhere in the posterior ethmoidal region on the left side. Since the radium has been used the hemorrhages which the patient had at irregular intervals have almost entirely ceased. The radium is pretty apt to cure this fibroma. A smaller dose in this case would probably have been better.

Dr. Otto T. Freer, Chicago: I have used radium, but not in the treatment of fibroma. We have at our command a means which we did not have a few years ago. I have removed a very large fibromata, with a keen knife, from behind, after having injected directly into the growth a double dose of pituitary extract, two ampullae, followed by adrenalin. The hemorrhage did not exsanguinate the patient. There has been one recurrence since.

Would not the combination of surgery with radium be less tedious and more satisfactory than radium alone in the removal of fibroma that enters all the cavities?

I was interested in the recovery which Dr. Coakley reported. Dr. Frank Dudley Simpson, of Chicago, who has employed it so extensively, says he has never had a recovery. I would like to ask Dr. Coakley how long after the use of the radium the burn appeared and how long the radium was used.

Dr. Coakley, continuing the discussion: This is not the only burn which has come under my observation. I recall a case treated by Kelly, in which there was a most terrific burn, resulting in extensive infiltration and suppuration. That was a year ago last December. There was a recurrence of the epithelioma of the larynx, and the patient went down some time in March for further treatment. The radium was used without external reaction, but with such extensive internal reaction, with swelling of the arytenoid folds and aryepiglottic tissues, that it was almost necessary to do a tracheotomy.

In the case I cited, the boy had no treatment

for a week, when superficial ulceration appeared all over the skin of the nose and cheek. It was extraordinarily painful. The pain following the use of radium is what patients object to. There is no question of its activity.

Dr. Delavan, closing the discussion: I cannot conceal my great satisfaction with regard to the cases which Dr. Coakley has presented. I have been studying this matter of nasopharyngeal fibroma ever since I was an undergraduate student. I have seen the best surgeons take these cases and end with very unsatisfactory results. Statistics show that surgical procedures of any kind are dangerous. Evulsion, removal with a snare, and other methods, may be followed by hemorrhage. As far as I can compile statistics on the subject, there are five deaths in a hundred, as the result of shock or hemorrhage. There is always the danger of recurrence. The application of radium requires a certain amount of skill, but no surgical skill.

(To be continued.)

Analyses, Selections, Etc.

Some Observations on Pellagra.

The etiology of pellagra has by no means been settled. The spoiled maize theory has been largely displaced by the unbalanced diet theory as advanced by Dr. Joseph Goldberger and his assistants. There are many observers, however, who are not yet satisfied as to the true cause of this increasingly prevalent disease, says Dr. W. L. Seccor, of Kerrville, Texas.

While an unbalanced dietary, or more likely, prolonged consumption of canned goods, may have some influence, he does not think that the lack of nitrogenous food is the cause; and he is quite sure that marked increase in proteids will not of itself cure the disease either in all or even a high percentage of the cases. Five patients had been under treatment for tuberculosis of the bowels for periods varying from six months to two years; and though they had been fed milk, raw eggs and rare beef, the pellagrous symptoms continued to progress. Two recent cases were in the wives of well-to-do ranchmen, and these ate bacon and "frijole" beans at least two hundred days in the year. In these seven cases, then, nitrogenous and leguminous foods were far in excess of normal;

but all made extensive use of canned foods. Five of his cases occurred in families above the average, having good food in proper variety always.

The writer calls attention to a pain which may be in the temporal region, back of, or over one of the eyes, or it may extend over one side of the head. This pain is not that of an ordinary headache.

Several patients showed changes in the eye-grounds, and one developed vitreous opacities. Under treatment, the former became normal, but the latter remain.

In May, 1915, were reported the results obtained by the writer and Dr. E. E. Palmer from treatment of the disease with an auto-serum, and since the report was made, further excellent results have been obtained, and have been duplicated by other physicians, not alone in pellagra, but in other conditions where an increase in the antigenic function of the blood is desirable.

A detailed description of the method employed appeared in the *Medical Record*, July 17, 1915.

Tonic doses of arsenic hasten the improvement produced by the serum. It causes a pronounced leucocytosis which produces a more potent exudate in the blister. Seccor has found three drops of Fowler's solution after meals, amply sufficient; though in a few cases which did not respond readily to treatment, ascending doses to ten drops were used. It is not given continuously, but only for a few days at a time. Where there is pronounced anemia, iron also is used.

Bromides are used in cases with marked nervous and mental symptoms, until the serum begins to produce its effects; though in some cases it is necessary to continue them longer. It is, however, in this class that the auto-serum first shows its good effects.

In most of the cases, 1 c.c. of the auto-serum at intervals of one week proved perfectly satisfactory; in a few obstinate cases, however, larger doses and shorter intervals were used with benefit in all but two. In these, the symptoms were aggravated, and the dosage was immediately dropped to 1 c.c. Patients are given a well-balanced ration free from canned goods.

It is possible that the very rapid results have been partially due to change of climate,

but there is ample evidence that climate, diet or arsenic singly will not produce cures in any considerable number of cases; and further, patients who were either at a standstill or retrograding after prolonged treatment with sodium cacodylate, picric acid and diet, began to improve promptly when placed on the auto-serum treatment.—(*N. O. Medical and Surgical Journal*, March, 1916.)

Heredity and Eugenics.

It has been frequently said that each man is the product of his environment, but no environment will make a Shakespeare out of an ordinary man, said Casper L. Redfield in an address before the Eugenics Educational Society, Chicago, December 10, 1915. The kinds of breeding which produce our great men and our feeble-minded men are as widely separated as the men themselves.

The theory that acquired characters are not inherited originated in a misconception of what an acquired character is, and in an experiment which is absurd on its face. To acquire means to obtain by effort, by exertion, by the performance of work. An acquired character is one obtained by exercising an organ, or by the work performed by the organ. It consists of a physiological change occurring within the organ which is dynamic in character and is called dynamic development. The amount of an acquirement is proportional to the amount of work performed. A mentally active man has a better developed brain at the age of fifty than he had at the age of twenty, and the difference is due to the extra amount of mental work performed.

If an acquirement is to be inherited, the parent must make the acquirement first and get the offspring afterwards, not get the offspring first and make the acquirement afterwards.

Among certain eugenists there is a theory that it is impossible to produce an individual which is superior to anything which previously existed. That is, if some very superior individual exists, it is because there was, somewhere in his ancestry, a similar individuality. This theory amounts to a denial of evolution and a return to the Garden of Eden story with Adam and Eve originally created equal to any individual who has since existed.

It is not clear how widely extended this theory is, but it seems to be back of the proposition

to sterilize a large part of the population. That proposition is a public confession, by those who make it, that they know absolutely nothing about what causes improvement and what causes degeneracy. In their despair at seeing no way to improve the race other than that of killing off the inferior, they propose the killing process by indirection.

Let us consider the horse. A century ago there was no horse in the world capable of trotting a mile in three minutes. Now we have horses which have trotted a mile in two minutes. This is an absolute and very great advance in power made in the past 100 years. It has been said repeatedly that this improvement came about through selection, but the statement is not true and is made in complete ignorance of the facts. Selection has been used abundantly among horses, but that selection is not connected with the improvement which has taken place.

High speed at a trot is not a natural gait for horses. It is an artificial gait which never existed in any breed of horses until forced there by the art of man. Less than a century ago the only high speed gait for horses was the run, and when trotters were forced for speed they would break into a run. Now we have "born trotters" which will stick to the trot no matter how hard they are forced, and trotting speed approaches running speed. Here is a new character in the trotters of today.

To have selection a mare must have several foals. If she produces but one foal in her entire life, there can be no selection in her line. It is take that foal or none. Write out the pedigree of any 2:10 trotter, it matters not what one, and extend that pedigree to the time when there was no such thing in the world as a 2:30 trotter. In that pedigree there will be from 5 to 20 mares, no one of which ever had more than one foal in her life. The other mares, and the sires in the pedigrees, will be found, on investigation, to have produced less than the normal number of foals. Also, the lines of improvement to our high speed trotters average only seven generations to the century, while the normal number is ten generations. Actual improvement came in those lines in which opportunity for selection was reduced to its lowest limit.

The same thing is true in intellectual power in man. Take any list of intellectually emi-

nent men and you will find that they were sons of men much older than the average age of fathers when sons were born. A few will be found to be sons of comparatively young fathers, but push the investigation in those cases a little further and you will find that, while it is possible to get an eminent man from a young father, it is impossible to get one from a succession of young parents. A succession of young parents always results in the production of mental inferiority, and, if the parents are unusually young, in such a succession the product is weak mentally.

To maintain any group of animals on a level in its power capabilities there must be a certain amount of acquirement per generation before reproduction. If the amount of acquirement is decreased there is a decline in power capabilities toward a lower corresponding level. If the acquirement is increased there is a rise toward a higher corresponding level. The age of parents at time of reproducing is one factor in measuring the amount of acquirement, and an investigation which did not consider this factor in at least three generations of ancestors would be superficial.—(*Ibid.*)

Correspondence.

HEALTH OFFICIALS AID MATERIALLY IN PREVENTING RE-IMPOSITION OF SPECIAL LICENSE TAX ON VIRGINIA PHYSICIANS.

The following letter, issued to the medical profession of Virginia, speaks for itself:

Richmond, Va., March 23, 1916.

The medical profession of the State of Virginia owes the Boards of Health of the State and of the City of Richmond a debt of gratitude, which it is incumbent upon every member to recognize.

As is well known, at the recent meeting of the Legislature a bill was introduced by Delegate Browning, of Orange, the effect of which was to re-impose the special license tax on the doctors of the State. This bill was referred to the Finance Committee of the House of Delegates and was set for hearing, and representatives of both sides were invited to be present. As chairman of the committee appointed by the Medical Society of Virginia,

the direction of the side of the doctors was intrusted to me.

After conference with our committee, the only claim to exemption presented by us to the Finance Committee was that we are required by the State to render services without compensation, the effect of which is to lessen our financial returns, in that we are curators and promoters of the public health, and through co-operation with the State and Municipal Health Departments many thousands of dollars in the past few years have been diverted from the incomes of physicians by a lessening of preventable disease, thereby saving the lives of the citizens of the State to an incalculable extent.

At this meeting Dr. Ennion G. Williams and Dr. W. A. Plecker of the State Board of Health and Dr. E. C. Levy, Chief Health Officer of the City of Richmond, presented our claim most forcibly and convincingly, and brought out the fact that their boards were powerless without the co-operation of the doctors of this State. They showed what had been accomplished within the past few years in the reduction of disease and mortality, necessarily at a financial loss to the medical profession, and how, with few exceptions, the physicians of the State cheerfully responded when called upon to serve their health organizations.

The bill was reported with the recommendation "that it do not pass" and was defeated on its second reading in the House of Delegates by a vote of 57 to 24.

It is incumbent upon us, aside from philanthropic reasons, to show our appreciation of the valuable service rendered by the Boards of Health, that we cheerfully perform the duties imposed upon us by the State through health organizations so that our Board of Health may consist, not only of a small body appointed for the purpose, but in reality of every physician within the bounds of the State.

(Signed) A. L. GRAY, M. D.,
Chairman Legislative Committee,
 Medical Society of Virginia.

He who has a thousand friends has not a friend to spare.

And he who has an enemy will meet him everywhere.—*From the Orabis.*

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits, we will aim to review those publications which would seem to require more than passing notice.

The Criminal Imbecile.—By Henry H. Goddard, Director of Vineland Training School. The Macmillan Co., 1915. New York. Price, \$1.50.

Dr. Goddard needs no special introduction. His work on psychological research among the feeble-minded children is well known.

In this little volume he continues his work by studying three high-grade imbeciles who committed crimes. He gives a detailed account of the life histories of three juvenile criminals, the character of their deeds, discusses their psychology, concludes with an appeal for a better understanding of high-grade imbecility and then calls attention to the unjust and deficient laws governing the management of such individuals. The three delinquents are: Jean Giannini, Roland Pennington and Fred Tronson. They all committed their crimes recently and therefore present an unusual interest. The subject is highly important and practical, as the reviewer meets frequently difficulties in convincing the judge and jury that individuals such as described by the author of the book, are fit for hospitals and special institutions, and not for prisons. The book is well written and should be read by every thinking man.

ALFRED GORDON, M. D.

Editorial.

Spring Diet as an Aid in Pellagra Prevention.

The question of diet is receiving constantly greater attention in the treatment and prevention of disease. That a faulty or restricted diet at this season of the year is the chief factor in the production of pellagra is a point brought out in a circular issued by the Public Health Service. While the manifestations of pellagra are in most cases not in evidence until June or July, the condition invariably dates from a faulty diet of earlier months. Therefore, if the precautions are exercised by individuals in the spring months, the havoc wrought by this

scourge may be greatly lessened, if not entirely eliminated.

Attention is also called to certain danger signals which should be recognized by those who reside in pellagrous districts or those who have had previous attacks of the disease. Among such warning symptoms are extreme nervousness or change in the mental characteristics of the individual. Weakness or debility, a disinclination to undertake the ordinary daily tasks, and unexplained digestive symptoms may all be premonitory signs. These symptoms do not, of course, necessarily mean the development of pellagra, but taken in connection with the history of a one-sided, monotonous diet, they serve as a definite warning of the possibilities of its onset.

The diet recommended by the health service for the prevention of pellagra will not produce results if followed for a week or ten days only, but if continuously and consistently used, under circumstances similar to its administration in the various institutions where the experimental tests have been performed, it will protect the individual against the development of the disease. Necessarily, a rigid unvaried diet is wholly undesirable and the menu recommended is only to indicate in a general way the character of the food to be prescribed. Frequently the element of poverty, inaccessibility to market supplies, or even personal idiosyncrasy, may require some modification of the diet table, so that strict adherence to its components may not in all respects be practicable. The object of the diet as submitted is to minimize the consumption of the carbo-hydrate (starchy and sweet) foods and to increase the amount of fresh animal protein and of fresh legumes (peas and beans).

The breakfast, for example, should consist of oatmeal and cream, without sugar, with either ham or breakfast bacon and two eggs. Not more than two thin slices of whole wheat bread should be taken, preferably untoasted. Hot bread or biscuits are inadvisable. A glass of fresh milk is to accompany the breakfast and either oranges or grape fruit may be the initial course. The dinner should consist of either pea or bean soup, prepared from dried peas or beans, with a meat stock. The meat may be beef, pork, ham, chicken, veal or mutton, prepared in whatever manner is the most

appetizing, preference being given to roasting or broiling rather than frying. Hamburger steak, meat hash, or fish may be substituted to afford variety. Care should be exercised that the meats are not overdone. Of vegetables, Irish potatoes, boiled in the jacket or baked, cabbage, turnip or mustard greens, collards and lettuce, are to be recommended. For dessert, stewed, fresh or dried fruit will prove sufficient. The dinner should be accompanied by not more than two thin slices of whole wheat bread and a glass of buttermilk. The supper should consist of pork and beans, or baked beans properly seasoned, the usual amount of bread and a glass of buttermilk. If preferred, eggs, scrambled or otherwise prepared, may be substituted for the more substantial ingredient of the meal.

Dr. C. W. Stiles, of the Public Health Service, who has been doing special work among the poorer white people,—the class especially liable to develop pellagra—has offered a suggestion to overcome the prohibitive cost of fresh meats. He suggests that rabbits and hares as a possible dietary in combating pellagra is deserving of consideration. They can be penned and raised in the back yard, multiply rapidly, are not very selective in their food and can be killed and dressed at home. As he states, however, only actual trial will demonstrate whether the suggestion is more theoretical than practical.

Medical College of Virginia.

At a called meeting of the Board of Directors of the Medical College of Virginia, March 28, Dr. Robert C. Bryan was chosen professor of genito-urinary surgery to succeed Dr. Lewis C. Boshier, resigned. It was stated that Dr. Frederick M. Hanes would resign at the end of the present session to return to his former home at Winston-Salem, N. C., and his duties were divided so as to establish separate chairs for pharmacology and therapeutics, Drs. Charles C. Haskell and J. M. Hutcheson being elected to these, respectively. Dr. A. L. Gray was transferred from the chair of physiology to that of roentgenology, Dr. C. H. Lewis being elected as his successor. Dr. E. Guy Hopkins was elected professor of clinical pathology. Other members of the faculty were re-elected with out change.

The Association of the Medical Officers of the Army and Navy of the Confederate States

Will hold its next annual meeting during the Reunion of the United Confederate Veterans, at the Hotel Tutwiler, Birmingham, Ala., May 16-18 this year.

Under the new constitution, in addition to the former membership of Surgeons, Assistant Surgeons, Acting Assistant Surgeons and Chaplains, it is now provided that all Confederate soldiers or sailors (though not then Medical Officers), but who after the war became, and are now regular practitioners of medicine in good standing; and all regular practitioners of medicine in good standing who are the sons or grandsons of Confederate soldiers or sailors, have been made eligible to membership, and are hereby invited to be present.

There is much business of pressing importance which will require attention. Dr. Stuart McGuire, Richmond, Va., is president of the Association, and Dr. Samuel E. Lewis, Washington, D. C., secretary.

The Samuel D. Gross Prize.

The conditions annexed by the testator are that the prize of \$1,500 "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize, shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page, it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22nd St., Philadelphia," on or before January 1, 1920.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, con-

taining the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize. The trustees are Drs. William J. Taylor, John H. Jopson and Edward B. Hodge.

Surgeons Visit Richmond.

A delegation of seven surgeons from the Brooklyn Society for Clinical Surgery, Brooklyn, N. Y., recently visited Richmond. The president of the Society, Dr. Russell Fowler, accompanied the delegation. They spent March 16 at surgical clinics in Philadelphia; March 17 in Baltimore, and March 18 in Richmond. On the day in Richmond, they were at St. Elizabeth's Hospital in the morning and at St. Luke's Hospital in the afternoon, returning to New York that night.

Dr. William Wallace Bennett and Family,

Formerly of Cologne, Va., have moved to West Point, Va., and are located at the corner of D and 10th Streets, where he will continue the practice of his profession.

The National Conference of Charities and Corrections

Meets in Indianapolis, Ind., May 10-17. The following physicians have been appointed among the delegates from Virginia:— Drs. Ennion G. Williams, E. C. Levy, M. D. Hoge, Jr., and R. K. Flannagan, Richmond; I. C. Harrison and C. C. Hudson, Danville; Robt. P. Kelly, Lynchburg; A. S. Priddy, Madison Heights; E. H. Henderson, Marion; L. S. Foster, C. R. Grandy, T. V. Williamson, P. S. Schenck, and L. T. Royster, Norfolk; J. W. Preston and W. Brownley Foster, Roanoke; J. S. DeJarnette, Staunton, and B. B. Bagby, West Point.

University of Virginia Hospital Visited by Fire.

Early in the morning of March 23, the amphitheatre of the administration building of the University of Virginia Hospital was damaged by fire, which was believed to be due to mice setting fire to a box of matches. The staff of physicians and nurses did good work before the arrival of the firemen and patients

in all except one ward were kept from the knowledge of the fire. No one was hurt.

Dr. T. Edwin Baird,

Of Norfolk, Va., has been re-appointed by Governor Stuart as quarantine officer for the district of Elizabeth River and the ports of Norfolk and Portsmouth, for a period of two years, his term of office having begun March 10, 1916.

Dr. Charles H. Rolston

Has been quite sick at his home at Mt. Clinton, Va., since his return from Richmond, where he represented Rockingham in the House of Delegates of the General Assembly.

Medical Society of the State of New York.

Dr. Floyd M. Crandall, New York City, has been appointed secretary of this Society to fill the vacancy caused by the death of Dr. Wisner R. Townsend, also of New York City.

Dr. J. M. Hutcheson,

Of this city, suffered a few minor hurts when his car skidded and crashed into a telegraph pole, April 2. He was able to go to his office, a short distance away, without assistance. His automobile was not so fortunate, however, and had to be sent to the repair shop for a time.

The Warwick Co. (Va.) Medical Society,

Of which Dr. S. W. Hobson is president and Dr. Aaron Jeffrey is secretary, meets in Newport News on the second and fourth Tuesdays of each month.

Dr. Susan A. Price,

Who recently resigned from the medical staff of the Eastern State Hospital, at Williamsburg, Va., has accepted a position and entered upon her new duties as resident woman physician at the Skillman Epileptic Village, Skillman, N. J.

Drugs Still Advancing.

If the price of drugs continues to soar, the condition of which we recently heard, "a drugless drug-store," will be inevitable,—certainly as far as some drugs are concerned. We note there has been an increase of as much as 2,000 per cent. in the price of some drugs, for which the European War is still given the blame. We append the names of a few drugs as taken from a Washington report, stating their prices per

pound before the war and at this time: Antipyrine now \$60 to \$65, was \$2.25; potassium bromide now \$5.50 was 25 cents; potassium ammonium now \$4.50 was 40 cents; caffeine now \$13 to 13.50 was \$3; calomel now \$3.43 was 50 cents; cod liver oil now \$125 to \$150 a barrel was \$18 a barrel. And the end is not yet.

Dr. G. G. Thomas,

Wilmington, N. C., chief surgeon of the Atlantic Coast Line, was a recent visitor in Suffolk, Va.

Dr. Charles R. Robins,

Chief of the Virginia Hospital staff, Richmond, has notified the administrative board that he will retire from the staff July 1, and not be a candidate for re-election, owing to the pressure of other duties. His successor has not yet been named.

Dr. Stephen Watts,

Of Charlottesville, was a visitor in Orange, Va., the latter part of March.

The C. & O. Hospital,

At Clifton Forge, Va., is to be replaced by a handsome new modern structure to be built on the site of the former building. It was expected to start work on it the first of this month.

Dr. Robert S. Preston

Was re-elected secretary-treasurer of the Richmond chapter of alumni of Johns Hopkins University, held in this city, March 24.

Dr. D. L. Elder

Was elected treasurer and a member of the registration committee of the North Carolina Club, recently formed in Hopewell, Va.

Tokyo to Have Tuberculosis Hospital.

The Salvation Army of Tokyo, with the assistance of many prominent Japanese, is vigorously pushing a project to build a hospital in that city for poor consumptives. The hospital, to be known as the Booth Memorial Hospital, is to cost about \$21,500, and it is hoped that work will be started on it this year.

Dr. W. S. Rankin,

Raleigh, N. C., was elected president of the Southeastern Sanitary Association, at its meeting in Brunswick, Ga., the latter part of March. The Association is composed of physicians of

North and South Carolina, Georgia, Florida and Tennessee.

Dr. Perry W. Miles,

Of Milton, N. C., was a recent visitor at the home of his father in Mathews County, Va.

Dr. William P. McGuire

Has returned to his home in Winchester, Va., after spending some time in New York.

Dr. John W. Dillard,

Who has been touring Southern California, with a party of friends, has returned to his home in Lynchburg, Va.

Dr. and Mrs. Thomas R. Marshall,

Of Ware Neck, Gloucester Co., Va., spent a few days in Richmond the latter part of March.

Dr. and Mrs. Wilson E. Driver,

Of Norfolk, Va., were recent visitors in New York City.

Dr. Paul V. Anderson,

Of the Westbrook Sanatorium staff, was among the speakers at the meeting held in Richmond, April 1, of alumni of Trinity College, of Durham, N. C.

Dr. and Mrs. G. T. Divers,

Of Buena Vista, Va., have been visiting at the home of Mrs. Diver's father, Dr. R. S. Martin, Stuart, Va.

Rates at Catawba Sanatorium Lowered.

Owing to the action of the last General Assembly in restoring the appropriation for the maintenance of the Catawba Sanatorium to the figure for 1913-14, the State Board of Health has been enabled to lower the rates for patients from \$7 to \$5 a week, beginning April 1st. The State pays the difference between that figure and the cost of giving the patients the proper treatment for tuberculosis.

Dr. Ernest R. LaPlace

Has been appointed professor of surgery in the Medico-Chirurgical College of Philadelphia, *vice* Dr. William L. Rodman, deceased.

Dr. Robert L. Kennedy,

Of Havana, Fla., was among those who suffered by the fire which visited that place March 17. The business section of the town was destroyed and Dr. Kennedy felt that he was

fortunate to escape with his grip. Dr. Kennedy was a member of the 1910 class of the Medical Department of the University of Maryland.

Dr. Tom A. Williams,

Washington, D. C., went South early this month and while on the trip was scheduled to speak in Knoxville, Birmingham, New Orleans and Mobile.

The Virginia Health Department

Recently issued several unusually interesting bulletins on Fresh Air, Care of the Baby, and the Health Almanac. Each is full of interest and may be had upon application to the Department at 1110 Capitol Street this city, as long as they last. We especially call attention to the fact that the Health Almanac incorporates a section on First Aid to the Injured, which alone makes this bulletin worthy of a place in every home in the State.

Attention is called to the approach of the typhoid season and to the fact that, with proper precautions, it is a preventable disease. Free literature on this subject will also be sent where requested. The estimated cost of typhoid in Virginia for 1914-15 was about \$4,000,000. This is reckoned on a basis of a cost of at least \$150 for each of the 6,008 cases, occurring in the State from October 1, 1914 to September 30, 1915, which alone was equivalent to more than \$900,000. To this is added the reckoning of one death to every ten cases of typhoid with a valuation of at least \$5,000 on each life.

Dr. J. T. Neilson,

Formerly of Emory, Va., is now located at Morristown, Tenn.

Dr. Robert F. Williams,

Formerly of Richmond, but now located at Woodberry Forest School, this State, has been seriously sick at Johnston-Willis Sanatorium, this city.

Dr. Bernard B. Pitkowitz,

Who, after graduating from the Medical College of Virginia in 1914, served as interne at Virginia Hospital, this city, and later in a Brooklyn, N. Y. Hospital, recently paid a short visit to this city before settling down for the practice of his profession in Brooklyn.

On Ambulance Duty.

Drs. C. H. Childress and F. P. Fletcher, who have been internes at the Virginia Hospital for the past several months, entered upon their duties as ambulance surgeons the first of April.

Dr. S. H. Price,

Of Montvale, Va., recently visited his son, Dr. Epps Price, at Alta Vista Va.

Medical Lecture.

Drs. S. B. Moon and S. W. Budd, of the faculty of the Medical College of Virginia, will make an address on the evening of April 25, on "The Cause and Nature of Tumors." This is one of the popular science talks open to the public, given under the auspices of the above-named school.

Dr. Paul Barringer,

Charlottesville, Va., was the guest of honor at the meeting on March 25, of the Lynchburg Alumni Association of the University of Virginia.

Dr. and Mrs. J. Frasia Jones,

Of this city, left the latter part of March for a visit to South Carolina and Florida.

Dr. Byron W. Eakin,

Of Union, W. Va., has been the recent guest of his sister in Blacksburg, Va.

Emergency Hospital.

The American Locomotive Company has filed plans for the erection of a two-story brick building on the grounds of its Richmond plant, to be used as an emergency hospital. The structure is to cost \$6,500.

Dr. C. P. Capps,

Of Meherrin, Va., visited in Farmville, the last week in March.

Dr. James A. Rice

Has returned to his home in Heathsville, Va., after a short stay in Baltimore, Md.

Dr. R. L. Hudgins,

Of Farmville, Va., was the recent guest of relatives at his old home in Buckingham County, Va.

Dr. and Mrs. C. Edward Martin,

Of Emporia, Va., were recent visitors to Richmond.

Lt.-Col. Charles F. Mason, M. C., U. S. A.,

Has resigned his post as chief health officer of the Panama Canal and will return to the United States in May to make his home in Virginia. Dr. Mason graduated from the Medical College of Virginia in 1884 and has many friends in Virginia who will be glad to note his return.

Dr. Walter M. Brunet,

Of Lynchburg, Va., was recently called to Petersburg, by illness in his family.

Dr. J. Shelton Horsley,

Of this city, gave an illustrated lecture at the Unitarian Church, March 23, on "Modern Knowledge of Cancer."

Increase in Population in Ireland.

Figures just made public show that there was an increase of population in Ireland last year of 9,452, which is due to the diminution in emigration, as there was a decrease in the number of births and a slight increase in the number of deaths in the same period.

Obituary Record.

Dr. John Gordon Rennie,

Of Petersburg, Va., universally esteemed and beloved as a physician, died March 30, at a New York Hospital, whither he had gone only a few days previously to undergo treatment for a nervous breakdown, thought to be due to overwork. His death, in the prime of life, was a shock to his many friends in Petersburg and throughout the State.

Dr. Rennie was the son of a Presbyterian minister and was born in Henrico County, Virginia, August 15, 1874. His medical education was received at the University College of Medicine, Richmond, from which he graduated in 1899. Besides being identified with a number of medical organizations, he was a Mason and Knight Templar and was actively engaged in church work, being an elder in the Presbyterian church. His widow and several children survive him as well as his mother and a large family connection. The Petersburg Medical Faculty met March 31, and adopted resolutions of sympathy and respect and, as a tribute to his memory, attended the funeral in a body.

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Original Communications.

DEATH FROM HYPERTHYROIDISM—WITH REPORT OF CASES.*

By STUART MCGUIRE, M. D., Richmond.

Operations for simple goitre are now so safe that a death would cause comment and require explanation. Operations for exophthalmic goitre are always attended by some risk, and occasionally the hazard is so great that in the opinion of some surgeons, the work should not be attempted. Frequently a bad risk can be converted into a good risk by proper and prolonged medical treatment. Sometimes the treatment, no matter how skillfully and persistently carried out, fails to relieve the symptoms and the patient gets steadily worse.

The object of this paper is to briefly discuss the essential features of the medical treatment of hyperthyroidism, and to bring before this Association the question of what to do when the patient does not improve. Shall he be allowed to die a medical death or shall he be given a surgical chance even at a great immediate risk?

Rest is the first and most essential element in the medical treatment of the disease. It must be absolute and complete and must be mental as well as physical. It is useless to attempt to secure it at home. The patient should be placed in a hospital, where he can be under proper control.

An ice bag over the heart seems to slow its rate and quiet its tumultuousness, and its application serves to keep the patient more quiet in bed as he refrains from turning and twisting for fear of displacing it.

Water should be given in abundance in order to eliminate toxic products from the system by way of the emunctories. Distilled water, while not as palatable, will be found more efficacious. This is partly due to its greater solvent qualities, but more largely due to the fact that the patient thinks it has special merit and will drink it in large quantities. Every hospital should have an apparatus to supply distilled water for this class of patients. If no still is available, then the water can be obtained from a local artificial ice plant.

The diet of these patients is important. The machinery of their systems is being driven under forced draft and they need fuel to save the consumption of their own tissues. Food should be given every three hours and in as large quantities as possible without creating digestive disturbances. Ochsner states the diet should contain no red meat or animal broths, but consist principally of milk, butter-milk, cream, bread, butter, cereals, fresh vegetables, and cooked fruit. Grape juice and other drinks prepared from fruit will be found palatable and beneficial. Tea, coffee, alcohol and tobacco should, of course, be avoided.

The administration of various drugs has been recommended, usually on an empirical or symptomatic basis. Their number and diversity are conclusive proof that there is as yet no specific remedy. Hydrobromate of quinine with ergotin, glycocholate of soda and pancreatic extract all have an established therapeutic action which should indicate and justify their trial. I have not sufficient confidence in any of the drugs at my command to persist in their use when there is any probability of upsetting the patient's digestion. I believe that just as at present we have a drug by which in hypo-thyroidism the deficiency can be supplied and the symptoms relieved, so

*Read by title before the Tri-State Medical Association of Virginia and the Carolinas at Richmond, Va., February 16-17, 1916.

in the future we will have an agent by which in hyper-thyroidism the excess will be neutralized and the patient cured. When that day comes exophthalmic goiter will be transferred from the surgical to the medical list of diseases.

The use of the X-ray has long been advocated in these cases, the theory being that a sclerosis is produced that lessens glandular activity. I tried it for awhile but gave it up because in bad cases where help was most needed the physical exertion and mental excitement of the transportation of the patient to and from the X-ray room did, in my opinion, more harm than the treatment did good. With the introduction of the Coolidge tube, however, and the ability it affords the roentgenologist to give massive doses and get results by a few treatments at long intervals, and with the present practice of treating the thymus as well as the thyroid gland, I have changed my opinion, and for the future, in the treatment of these patients, I will rely more on the effect of the X-ray than on any other one factor, save rest.

The injection of boiling water as first advocated by Wyeth for the cure of angiomas, was applied by Porter in the treatment of exophthalmic goitre. The theory on which it was based is that the destruction of glandular cells and the obstruction of blood vessels will cut down the output of thyroid secretion. This method has not found favor at the hands of the profession as a cure, but has been extensively used as a temporary palliative measure. It is not free from danger, however, as Dr. C. H. Mayo told me in a personal conversation that he had recently had three deaths follow its use. He did not make the statement in a way to lead me to believe he condemned the procedure and had abandoned it, but he used the fatal results to illustrate the fact he was trying to impress that these patients could not tolerate the slightest traumatism without danger of acute and perhaps fatal hyperthyroidism developing.

The injection of a solution of quinine and urea, as advocated in a recent article by Watson, is along the same line and based on the same general principle. He states he has used the method in fifty cases with good results and no mortality. He gives from two to four preliminary injections of sterile salt solution

at from one to three days' interval, to diminish a possible nervous reaction, and then injects from one to four cubic centimetres of a thirty to fifty per cent. quinine and urea solution into the body of the goitre. This is repeated every third day. From eight to fifteen infiltrations are usually necessary to produce a marked improvement. The author states that he believes the greatest field of usefulness for the injection will be found in those cases of beginning hyperthyroidism not severe enough to justify operative treatment, and as a preparatory measure to partial thyroidectomy in chronic cases of toxic goitre, in which the patient is too ill to warrant any form of immediate operative procedure. He does not believe the injections will relieve the symptoms of advanced toxic goitre when the vascular and nervous systems have been permanently damaged.

Surgical Intervention. If by rest, diet, medication, the use of the X-ray, and perhaps some form of injection treatment, the patient's condition can be improved so that it is reasonably safe to operate on him, then under proper precautions, either a ligation or a partial thyroidectomy should be performed. But suppose the patient does not get better? Suppose he gets steadily worse, and it is apparent that unless something more radical is done he will almost certainly die? What then?

The most definite opinion written or expressed is that of Dr. C. H. Mayo, who says in substance the following: The mortality of a partial thyroidectomy depends largely on the proper selection of cases. The operation should not be considered a life saving procedure and should not be performed on a bad risk. When the chances are apparently against the patient he should be treated by non-surgical measures. If he fails to improve he should be allowed to die a medical death.

I have the greatest esteem and admiration for Dr. Mayo. He is honest, fearless, experienced, and his surgical judgment and wisdom are equalled by few of the profession, still I am not willing to accept his views on this subject. His position is a very satisfactory one to the surgeon, and very conducive to a favorable operative mortality, but is it fair to the patient suffering with the disease?

The patient's rights come first, and if there is no hope without an operation, he is entitled,

if he wishes it, to the possible benefit of surgery, even though the chance be a small one. A surgeon should be a life saver and not a record maker.

Acting on this conviction, I have operated on all the cases of hyperthyroidism referred to me by physicians, because their symptoms did not yield to medical treatment. I have spared neither time nor care to get them in good condition, but failing, I have operated on them and given them, in my opinion, their only chance for life. Needless to say, I have adopted gentle measures, using Crile's plan of anoci association and often dividing the operation into several stages. Despite all I can do, however, my mortality is steadily increasing. I cannot believe I am becoming less careful or skilful, and am forced to the conclusion I am getting a larger and larger number of bad risks. In my first series of one hundred operations for goitre, I did not have a death. In my last series of one hundred cases, I had five patients to die.

No conscientious surgeon can rest content in the face of a fact like this. I have studied my problem and discussed it with others, but if I am right in the position I have taken, there is no help for me unless the family physicians are educated to recognize the disease earlier and send the cases requiring an operation more promptly to the hospital, or unless some new discovery increases the safety and effectiveness of the present accepted surgical treatment of these patients.

The five fatal cases that occurred in my last hundred operations were all carefully studied and the danger of the operation understood and explained to their relatives. They were all carefully treated for days or weeks by the most accepted methods, to try to improve their condition. They all failed to get materially better and accepted a risk in order to get a chance, and they all lost.

These deaths were especially distressing, as the patients were so long under observation and treatment that my relations with them became more personal than professional and when they died it was like losing friends.

The only consolation I have is the knowledge that during the same period of time, an equal or larger number of patients with the same disease, in as bad or worse condition, were operated on, and after anxious days, during

which they had rapid pulse, high fever, and sometimes wild delirium, proved equal to the ordeal and are now healthy, happy and useful citizens.

513 East Grace Street.

MEDICAL CO-OPERATION IN THE STUDY OF MENTAL EFFICIENCY.*

By WM. H. HIGGINS, M. D., Richmond, Va.

The awakening of our social conscience, and the widening influence of scientific investigations along humanitarian lines have, in recent years, revolutionized the domain of medical activities. The time was when the sphere of the physician was limited to the treatment of diseased conditions after they had become securely entrenched within the bodily organism. He dealt with diseases as he found them and, with the knowledge available at that period, rendered a service peculiarly valuable to his contemporaries. Cause and effect were widely separated, each malady being a law unto itself. The advent of instruments of precision paved the way for greater accuracy in diagnosis, and marked the dawn of Preventive Medicine. Soon vital responsibilities were added by the discoveries of Pasteur, Koch, Reed and others, which contributed largely to this ever-increasing field of usefulness.

The commercial world was not oblivious to its own needs, and the conservation of the health of its employees became obviously an economic necessity. The co-operation of the physician with the employment agencies of our larger companies has made possible the adaptability of the individual to his work more satisfactory than under any previous method. It has been demonstrated that bodily efficiency is a variable quantity, capable of being handicapped by many factors, and is likewise a potential force which is more highly specialized along certain lines. Thus, the failure of a man to give adequate service may result from one of two causes. First, his physical infirmities or some obscure sickness may be sufficient to render him unfit for his obligations. His efficiency as a workman is consequently impaired, and unless the medical aspects of the situation are recognized and his duties are properly adjusted, both he and the company are the losers thereby. Fortunately,

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the application of medical knowledge to these commercial needs has made such readjustments practicable, as is evidenced by the experience of many to-day. The second cause of failure may arise from the lack of the necessary mental qualifications. Although it is well known that the normal mind, in its generally accepted term, may be utterly lacking in the requisites for certain specific duties, it is not recognized with sufficient seriousness from the practical standpoint. The indiscriminate selection of street car conductors, telephone operators, engineers, *et al.*, without due regard to their peculiar fitness for the responsibilities has inevitably proven to be a cause for many disappointments. By reproducing the essentials of these various forms of employment in miniature, Munsterberg studied the reactions of his subjects under ideal environments. From his studies he was able to classify the mental aptitude for the different vocations.

The ability to respond to a given stimulus at a given time is within the range of many, but to be able to react accurately to a chance stimulus occurring at irregular intervals demands a reflex sufficiently sensitive and evenly balanced to bring about a successful issue. Even normal individuals vary in their responses to different stimuli; in one the different impulses being hyper-sensitized to a given excitant may produce a premature reaction; in another, the nerve centers being relatively hypo-sensitized, may inhibit the motor impulse as it passes through the reflex arc. These differences may be due to individual idiosyncrasies, which must be determined, or to diseases affecting some part of the nervous mechanism. Thus, normal functioning in one may be synonymous with morbid functioning in another. Quoting Dr. Llewellys Barker, "Modern medicine has taught us that the conditions necessary for a good mind are:

(1) The inheritance of such germ plasma from our progenitors as will yield a brain capable of a high degree of development to individual and social usefulness.

(2) The protection of that brain from injury and the submission of it to influences favorable to the development of its powers along normal lines."

As mental efficiency is so closely interwoven with bodily efficiency, the psychologically

trained physician must enter a new arena and must make a still wider scope for his domain.

An analytical study of any deviation from the normal mind is a very complex one, dealing subjectively with problems of a congenital, acquired or environmental origin, and objectively with questions of a social, educational and commercial aspect. The classical experiments of Gregor Mendel, one-half century ago, with the cross fertilization of plants, are familiar to us all. Based upon these investigations, he enunciated a law likewise applicable to the spermatozoon and ovum in animals. He showed that in the creation of the new cell formed by the union of two mature cells, an equal number of the bearers of heredity, so called determinants, came from each parent. Supported by this scientifically proven fact, one can boldly search for evidences of individual traits peculiar to a family, as they appear in succeeding generations. Thus, a child will be most generally intelligent who inherits a mental potentiality which is the resultant of familial development along systematic lines. Conversely, the child whose heritage is besmirched with neuropathic influences will most generally reflect the image of his forbears. This statement is so true that it should command the serious consideration of every physician in practice to-day, for he is the one to whom such derelicts first present themselves. These unfortunates, hopelessly stigmatized through no fault of their own, automatically place themselves at the mercy of the State, and in due season render their service by reproducing their own kind.

The medical profession is obligated to protect the life of the new born in the same sacred manner in which it is called upon to serve the parent. Its professional ideals as well as the Federal laws do not permit it to neglect any measures which would preserve life, yet it is criminally responsible for the future generations when it makes no protest against the union of the social unfit. It is true and proper that romance cannot, and should not, be replaced by the cold-blooded eugenic laws governing the stock farm; yet the substitution of knowledge for ignorance on questions involving the transmission of unstable nerve structures from one generation to another will go far toward abolishing a perpetuating burden, as well as an unnecessary evil. The family

physician wields an influence in his community of such magnitude that no one fails to feel his presence. Therefore, his conscience should be awakened to the necessity of enlightening the people of the causes of mental deficiency, and especially the harmful effects of heredity. It should be remembered that approximately 80 per cent. of the mentally deficient spring from families in which the existence of mental defect, insanity, epilepsy, criminality, etc., can be demonstrated. When this fact has become known to the general public through their medical advisers, a decisive blow will have been struck against the perpetuation of this type in the next generation. It is greatly to be desired that the State and County Medical Societies should feel this responsibility, and should co-operate by instituting such measures as will be productive of the greatest good. These organizations are in a position to reach practically every family in the State, and with their influence a publicity campaign could be launched which would command the serious consideration and respect of the public at large.

The efficiency of a child's mind is dependent also upon the influence of an acquired or environmental nature. Given a proper guiding stimulus, surroundings based upon constructive and peaceful ideals, and endowed with a healthy body, we have the essentials for developing real efficiency. Unfortunately, conditions in life impose many unexpected penalties, resulting at times in the normal mind of the child becoming the subnormal mind of the adult. These impressions, however, are not necessarily lasting, as the studies of recent years have shown. We are just beginning to recognize the intimate relationship existing between the bodily functions and the mental activities. The various psychoses and aménias following the acute infections have been well known for a number of years, but the influences of chronic diseases and ductless gland upheavals upon the mental state is a new problem for the physician to consider in the light of his present knowledge. In the same manner as the cause and cure of mental enfeeblement in the Cretin have been recognized, it is possible that other ductless glands may be claiming their quota of defectives, and, if so, we may confidently expect equally brilliant results. Irregularities in the function-

ing of the pituitary gland have already been detected in certain cases, and there are authentic accounts of impaired mentalities being restored by proper glandular medication. Crile has shown that our emotions and mental alertness are subject to varying response from our adrenal glands. It is not outside the realm of reason to look to this source for aid in some of our defectives. Ductless gland therapy is still in its infancy. The distinct indications for the administration of certain glandular substances are very hazy, and are based on rather confused clinical syndromes. However, we have reasons to believe that in the near future, we will be enabled to differentiate the various types, and that a definite step forward will be made in the treatment of many who are now considered hopeless.

Probably no disease has given rise to more serious consideration or bears a closer relationship to neuro-psychic disturbances than syphilis. An acquired infection in childhood is not common, nor does it offer especial difficulties in diagnosis. But the problem of hereditary lues looms up with increasing importance as its frequency becomes established. Some authorities distinguish between a specific infection and affection. In an infection the syphilitic organism is inoculated into the tissues. In those instances where the brain substance is the seat of the infection, cerebral syphilis results. Various types will appear, depending on the parts involved. Mental retardation, altered personality, paralysis, ataxias, and even insanities may develop.

Quoting from Neustadter: "An affection is a state of lowered vitality, as compared with the normal threshold. Such lowered vitality is inherited by the offspring without the specific germ in the tissues. Alcohol and tuberculosis as well as syphilis are productive of such conditions."

Upon this neuropathic or psychopathic constitution, physical or psychic, traumata or infectious diseases will often engraft some form of mental deterioration, and consequently render the mind decidedly unstable.

The child of syphilitic parents may survive the infection through early life, and even escape the physical stigmata of the disease. Not uncommonly he may advance normally up to the tenth or eleventh year, and then without apparent cause, his mental develop-

ment ceases. Or epileptic seizures may first occur, and initiate the mental change and final cessation. The deterioration may be of quite a different character, involving the moral or ethical sense. Though nurtured in good families, and amid refined environments, such an individual may become ungovernable, and lie and stoop to petty thefts. Thus many a juvenile offender bears the curse of an unstable nervous system bequeathed by a syphilitic parent.

Aside from the milder manifestations of cerebral syphilis, Haberman states that idiocy and imbecility are in goodly proportion due to congenital lues. Lippman found syphilis associated in 41 per cent. of his cases; Ziehen found it a probable factor in 17 per cent. and positively in 10 per cent. of his class of milder feeble-mindedness. Boas, on the other hand, tested 2,061 defective children in Denmark and obtained a positive Wassermann reaction in only 31. Goddard, in this country, considers it a relatively infrequent factor in his experience. However, since the more general use of the Wassermann test, we have come to recognize that there is a larger number of backward or defective children affected with syphilis than was previously accepted. No thoughtful physician is unmindful of the fact that the nerve and brain tissues are sites of predilection for the syphilitic organism, and therefore it cannot be lightly disregarded. His co-operation in ferreting out these specific cases is one of the greatest services he can offer in the study of the subnormal mind, as in the diagnosis rests a reasonable chance for improvement. It is one of the few infectious diseases whose sequelae can be remedied to a certain extent, or even entirely, if recognized early.

In some laboratories, organic brain lesions have been found in the majority of cases of mental deficiency. Dickson, basing his opinion on one hundred feeble-minded children studied by him at Vineland, asserts that all will show signs of previous cerebral disease. Mendelson, in a summary of nervous and mental findings in 1,000 inmates of the Lincoln State School, found evidence of a cerebral paralysis in 15 per cent. Our experience in Richmond more nearly conforms to the latter figures. Meningitis, encephalitis and many other well known infections are proven to

leave residual scar tissues in the brain, which would tend to very materially impair the mental functions. The recognition of the so-called psychic epilepsy, probably of organic origin has been of invaluable aid in the proper interpretation of certain cases having a medico-legal bearing. According to Spratling, the paroxysm is replaced by a nervous storm, and is not accompanied by the usual signs of epilepsy. During these attacks the individual may commit all kinds of theft, arson, assault, etc., and would afterwards have no knowledge of what had transpired. A thorough neurological examination in such instances is necessary to establish a diagnosis.

Injuries before and after birth have unquestionably also shared in the production of feeble-mindedness. Contracted pelvis, the improper use of forceps, prolonged labor, and severe blows on the head are often sad epochs in the child's early life. On the other hand, as Goddard has pointed out, it is very difficult to establish the relationship between an accident and a subsequent defective mentality, when it occurs in conjunction with other known predisposing causes. However, a careful medical history should be secured in every instance where trauma is a possible factor. In recent years surgical intervention at the time of the injury has been tried with partial success in a limited number of cases. There is a reasonable hope that this method of relief will become more efficient as surgery of the brain is developed.

The eyes, ears, tonsils and adenoids have been recognized for some time as having a bearing on the mentality of our children, but it has been only within recent years that definite constructive work has been accomplished by the co-operation of the medical specialist. Statistics and individual opinion vary so largely as to the influence of these organs on the mental activities that it is difficult to estimate their relative importance in diseased conditions. Out of several hundred subnormal children in the New York schools, Dr. Carwin found 150 marked defectives who were both backward and incorrigible. After appropriate treatment they were re-examined in six months and all showed decided improvement in their mentality. It is estimated that there are 4,000 children annually in Minnesota, who are retarded at least one year by the presence of a de-

noids. As the cost to the State for education is \$25.00 a year for each child, the problem carries an economic phase as well. In Mendelson's study of 1,000 defectives, 38 per cent. showed impaired vision, and 18 per cent. had auditory trouble. If these figures present a true picture, one must conclude that mental efficiency can be converted into mental deficiency by physical defects. The child is thus handicapped before he reaches the age of maturity, by which time, unless relief has been obtained, he is often unfit to assume the responsibilities of life and may easily become a prey to his environments.

Obviously the school offers the greatest opportunity for accurate observation and study of mental health. Here the child is placed on his own resources, and whatever lies hidden within his mentality will make itself known as the daily pressure of the class room is brought to bear upon him. In fact, often times the first indications of mental enfeeblement are manifested by repeated failures, indifference to school discipline, or outbursts of psychic storms. These children may react normally in their own unrestrained home life, but placed under restrictions and made subservient to definite routine regulations, they find it impossible to adjust themselves to the new situations. In forming an opinion of the capabilities of a child, the pedagogical record is most essential, and I cannot too strongly urge upon the examiner to keep in the closest touch with the daily progress and reactions in the school room.

The early recognition of the subnormal child is imperative because the treatment and ultimate results depend upon the type of the defect. Roughly speaking, they may be divided into four classes. First, a certain per cent. can be materially helped medically and surgically. These are due to syphilis, abnormal ductless gland secretions, cerebral hemorrhages, and other intra-cranial surgical conditions. Second, the backward child, who was born with a normal mentality but is handicapped by immature development, lack of previous school advantages, impaired vision or other remediable causes, simulates the real defective very strongly, and constitutes a large percentage of the cases. Third, the hopelessly enfeebled child whose inheritance virtually guarantees a perpetuation of its kind, repre-

sents 80 per cent. of the total feeble-mindedness. Fourth, closely allied to one or all of the above grades, and often the most difficult for the teacher to manage, are the neuroses of a functional nature, chiefly hysteria and dementia praecox. Their eccentricities and perverted mental unbalance make them a source of endless confusion. The school should be looked upon as the clearing house for these types, where the opportunity for careful comparative study is unlimited.

The co-operation of the physician with the teacher is most essential in order to properly handle this problem. Where the needs of the situation demand it, the physician should be trained along psychological lines, and should be able to apply, and to place the proper interpretation on the mental tests in conjunction with his neurological examination. A mental diagnosis of feeble-mindedness is necessary before a case can be properly or legally considered with reference to care, treatment or prevention. There is no difficulty in the recognition of idiocy or imbecility, but the field of mental defect has so broadened as to include large groups of persons who formerly were supposed to be normal. The low-grade type, bearing his unmistakable facial stigmata, is never placed in positions of trust, and although he is a burden, he is not necessarily a menace to the community. We are most vitally concerned, however, with any method by which the borderline class can be recognized, for it is from this group that we reap our paupers, prostitutes, criminals and ne'er do wells. So clever they may be that their unquestionable degeneracy may be masked by school training or social aptitude. An absolute and incontestible diagnosis of these obscure cases can be made only after a thorough physical examination, a detailed record of the family history, reliable information concerning his birth and early childhood, and a knowledge of all accidents or illnesses which could have a bearing on his mental development. It is necessary to know of his school history, habits, associates and special abilities. The employment of certain psychological tests is valuable in analyzing the individual defect, and is very essential in the interpretation of the patient's reactions. By this means one can demonstrate the subject's power of attention, judgment, discrimination, constructive

imagination, etc. The physical examination will reveal any existing deformities, or residues of hereditary defect or early injuries. The presence or absence of any physical stigmata is significant, and should be carefully noted. Variation in the size, shape, and position of the ears, facial asymmetry, ocular abnormalities, imperfect dentition, and atypical anthropometric measurements suggest degenerative changes. True muscular co-ordination is lacking among the highest types of mental defect, as is manifested by an awkward gait, or the performance of movements requiring precise muscular action. I have found that rapidly pronating and supinating the hand on the thigh is a very satisfactory test to demonstrate this point.

Having established a diagnosis, it should be the physician's duty to aid the teacher or guardian to individualize her work, in order to meet the needs of the child. His much broader duty and privilege, however, aside from directing appropriate treatment, is to carry to the homes of these unfortunate children the gospel of preventive medicine and the knowledge of the factors producing the feeble-minded child. In so doing, he will be safeguarding the homes of future generations and will be sharing in the conquest of the mental defective.

6 West Franklin Street.

REVIEW OF ONE HUNDRED CASES OF HEART DISEASE FROM THE DIAGNOSTIC STANDPOINT.

By ALEXANDER G. BROWN, JR., A. B., M. D.,
Richmond, Va.

Making a selection of one hundred "heart cases" from the last thousand (1,000) cases diagnosed and treated by me in private practice, I have studied them for some conclusions by dividing them into four general groups. Recently there has been seen in literature a tendency to get away from the anatomical grouping of heart diseases and to adhere mainly to the etiologic grouping. The "rheumatic hearts," the "syphilitic hearts," "nephritic hearts" and "arteriosclerotic hearts" composed the larger part of such classification. In my clinical consideration of one hundred heart cases I have rather adhered to the anatomical

parts affected, so far as assigning individual cases to groups, endeavoring in each case to study the associated conditions and to identify the etiologic factor. It is undoubtedly of maximum importance in treating all heart cases to diagnose anatomically as well as etiologically. It is important to understand the anatomical defects, as well as the etiologic factors, in order to develop a rational treatment. To recognize the pathological changes or results of definite etiological agents or agencies is the ideal procedure of the diagnostician, and is the main foundation on which to erect an effective and successful treatment. Pursuing this method, my cases have been divided in four groups, namely,—Group A,—Valve Cases; Group B,—Valve Cases with Serious Extra-Heart Lesions; Group C,—Muscle Cases without Previous Valvular, Vascular or Kidney Lesions; Group D,—Muscle Cases with Serious Valvular, Vascular or Kidney Lesions.

It may be properly claimed that this is a mere arbitrary division of cases. It may be said also that one observer may place certain cases in one group while another observer may place those cases in another group. In these groups it has been with myself a question not infrequently to which group to place certain cases. Often it is a matter of judgment or opinion. But to err in accuracy in this may be forgiven where the latitude is wide and where it is quite certain that some cases may occupy each and every group as the progressive development of the case occurs.

These patients, I may say, are all white, excepting one intelligent colored woman and one pure Indian woman (Pamunkey Indian). They were seen in office practice, in consultation and in private practice. None of the cases here studied were taken from class material, dispensary or public service. Most of them are from the "better walks" of life. Many are among "well-to-do." Some were seen only in consultation, some only once in a complete examination for diagnosis and report to physician sending the patient, some were treated at the homes and some were studied and treated at my office. These details are given to keep the record straight, for it is obviously important and right for reports on work to show the conditions under which the observations were made.

*Read before the Medical Society of Virginia, at its forty-sixth annual meeting, at Richmond, October 26-29, 1915.

GROUP A—VALVE CASES.

In this group I have placed twenty-eight of the hundred cases of heart disease under consideration. These are the cases of valvular or endocardial defects, chronic or acute, without marked extra cardiac pathology. The hearts in this group are insufficient or stenotic in action. The patients are all white, 16 females, 12 males, the oldest 58 years and the youngest 3 years, six under 20 years of age, and 21 between 20 and 60 years of age. The complaints, as expressed by the patients, vary, yet in all there is a similarity of expression. "Rapid and painful heart action," "fullness in chest," "difficulty of breathing," "weakness and faintness," "choking and dizziness," "irregularity and palpitation" are some of the complaints which induced the patients to seek medical advice. "Shortness of breath" on exertion is a common complaint in the group—nine expressing it, while "weakness," and "fullness" and "pain over heart region" occur frequently. Various associated conditions are naturally run across as one goes through a routine examination, physical and laboratory, of such cases. Some cases of this

group show not one but sometimes several more important associated conditions—chorea, obesity, œdema of lungs, high blood pressure, enlarged tonsils, diseased teeth and gums, various stomach disturbances (motor, secretory, anatomical), anemia, intestinal parasites, paralysis of recurrent laryngeal nerve, malarial infection, etc. Impressed with the importance of the etiologic diagnosis in this, as in all study of heart cases, an effort was made, both by close inquiry into the history and physical examination, to unearth the infective agent and agency in each case.

The valvulitis is due in each instance in this group to some germ agent. Of the twenty-eight cases it was ascertained that 21 were of "rheumatic fever" or "tonsillitis" origin, while one was of "chorea," one "scarlet fever," two infections of labor, one syphilis, one la grippe, and one unknown. The left heart is the site of most inflammatory changes, 19 of the cases showing mitral regurgitation while the remainder showed either mitral regurgitation and stenosis combined or mitral stenosis, or aortic regurgitation alone, or aortic and mitral regurgitation or aortic stenosis and mitral re-

GROUP A—"VALVE CASES."

FILE No.	CASE No	SEX	AGE	CHIEF COMPLAINT	ASSOCIATED CONDITIONS	ETIOLOGIC FACTOR	ANATOMICAL DIAGNOSIS	PRESENT STATUS
10014	1	F	45	Rapid and painful heart action	St. Vitus Dance	Infective chorea.	Mitral regurgitation.	Good
10037	2	F	32	Fullness in precordium.	Obesity.	Tonsillitis.	Mitral regurgitation.	Good
10092	3	F	42	Dyspnea and irregular heart.	Loss of compensation and œdema.	Rheumatism in youth.	Mitral and pulmonary	Good
10116	4	M	29	Weakness, fainting and dizziness	Anemia.	Tonsillitis in youth.	Mitral stenosis.	Good
10131	5	M	30	Irregular heart.	Chills and fever, endocarditis.	Tonsillar origin. (?)	Mitral regurgitation.	Good
10142	6	M	30	Choking and asthmatic.	œdema of lungs.	Exanthemata.	Aortic and mitral regurgitation	Dead
10186	7	F	58	Palpitation, dyspnea.	B. P. 180 m. m. hg. pulse 100.	Rheumatism.	Mitral regurgitation.	Good
10193	8	M	38	Palpitation, choking.	B. P. 120 m. m. hg. nervous.	Rheumatic fever, no tonsillitis	Mitral regurgitation.	Good
10197	9	F	16	Heart pains, dizziness.	B. P. 110, amenorrhea.	Rheumatic fever, last summer.	Mitral regurgitation	Good
10247	10	M	10	Rapid and irregular and painful heart.	Enlarged and diseased tonsils.	Tonsillar infection.	Mitral regurgitation and stenosis.	Good
10282	11	M	48	Shortness of breath.	Cyanosis and weakness.	Rheumatic fever.	Mitral regurgitation.	Good
10285	12	M	30	Palpitation, dyspnea.	Chills, fever, loss weight, etc.	Repeated rheumatic fever.	Mitral regurgitation and stenosis.	Dead
10290	13	F	24	Weakness and faintness.	Nausea, etc.	Rheumatism when young.	Mitral regurgitation and enlarge.	Good.
10309	14	F	40	Irregular action.	Ulcer of stomach.	Tonsillitis.	Mitral regurgitation.	Good
10431	15	F	12	Dyspnea and dizziness.	Distressing digestive symptoms.	Tonsillitis, rheumatic fever.	Mitral and aortic regurgitation.	Good
10502	16	F	40	Weak feeling, pain in heart.	Very nervous. B. P. 134 sys.	LaGrippe.	Mitral regurgitation.	Good
10425	17	F	10	Pain and tachycardia.	Chills, fever and sweats.	Rheumatic.	Mitral and aortic regurgitation.	Good
10455	18	F	42	Pain, irregular and rapid heart.	Chills, fever, sweats.	Pregnancy infection.	Acute endocard Mitral	Good
10545	19	M	40	Rapid and irregular heart.	Pain over precordium.		Mitral stenosis.	Good

GROUP A—CONTINUED.

FILE No.	CASE No.	SEX	AGE	CHIEF COMPLAINT	ASSOCIATED CONDITIONS	ETIOLOGIC FACTOR	ANATOMICAL DIAGNOSIS	PRESENT STATUS
10545	20	M	18	Nausea and weakness, pain in extremities.	Stomach symptoms.	Tonsillitis.	Mitral regurgitation.	Good
10564	21	F	16	Dyspnea and tachycardia.	Oedema lungs and anasarca.	Rheumatic fever.	Aortic and mitral regurgitation	Dead
10597	22	F	22	Indigestion.	Choking and anemia.	Tonsillitis.	Mitral regurgitation.	Good
10636	23	F	34	Weakness and faintness.	B. P. sys. 120, nervous.	Repeated tonsillitis.	Mitral regurgitation.	Good
10733	24	F	36	Irregular and rapid heart.	Chills and fever, loss of weight.	Pyelitis and infected pregn.	Mitral regurgitation.	Good
10794	25	F	40	Rapid and irregular heart action.	Paralysis of recurrent laryngeal nerve.	Rheumatism.	Mitral stenosis.	(?)
10905	26	M	15	Rapid and painful heart.	Chills, fever and enlarged spleen.	Tonsillitis.	Left endocarditis.	Dead
10940	27	M	43	Weakness and dyspnea.	Anemia (malaria).	Tonsillitis, pyorrhea.	Mitral regurgitation.	Good
10962	28	M	3	Heart irregular and fast.		Congenital syphilis.	Stenosis aortic.	Good

gurgitation. Twenty-two of these were improved by treatment and are doing well, four died, and in two the present status is unknown.

GROUP B VALVE CASES—WITH SERIOUS HEART LESIONS.

In this group I have placed those cases which show serious valvular defects (some relative, no doubt) that appear secondary or aggravated by serious conditions outside of the heart. There are 18 in this group, 11 males, and seven females, nearly all approaching or past middle life. In this group the

expressions of sensations of "dizziness," "smothering," "choking," "pain in chest," "shortness of breath," "insomnia," "nervousness," "fluttering of the heart," etc., were most usual complaints expressed. Either as an associated condition or an etiologic factor, syphilis, alcoholism, so-called "rheumatism," infections like meningitis and la grippe, gout and Bright's disease were observed or elicited from the history or examination. Twelve are living and improved, while five have died, and the present status of one is unknown.

GROUP B—"VALVE CASES" WITH SERIOUS EXTRA HEART LESIONS.

FILE No.	CASE No.	SEX	AGE	CHIEF COMPLAINT	ASSOCIATED CONDITION	ETIOLOGIC FACTOR	PRESENT STATUS
10087	1	M		Palpitation and irregular action.	Dilatation of aorta.	Syphilis.	Living
10091	2	F	22	Loss of voice and precordial pain.	Dilatation of transverse aorta.	Strain of pregnancy.	Living
10107	3	M	55	Pain in chest.	Aneurism of ascending aorta.	Alcoholic and specific.	Dead
10119	4	M	60	Irregular heart and pain.	Rheumatic arthritis.	Infections of early life.	Dead
10167	5	F	49	Pain over heart.	Arteriosclerosis.	Rheumatism.	Living
10181	6	M	44	Dyspnea and anginal pains.	Asthma.	Meningitis.	Living
10182	7	F	65	Dyspnea.	Cirrhosis of liver.	Bright's.	Living
10159	8	M	58	Heart weakness and pain.	Rheumatism.	Bright's.	Living
10183	9	M	35	No complaint, mitral regurgitation.	Tonsillitis.	Infection.	Living
10220	10	M	38	Stomach trouble.	Kidney stone.	Early tonsillitis and recent kidney.	Living
10261	11	F		Dyspnea.	Hypertrophic cirrhosis.	Syphilis. ()	Unknown
10319	12	M	52	Nervousness.	Arteriosclerosis.	Gout.	Dead
10509	13	M	68	Dyspnea.	Arteriosclerosis.	Gout.	Living
10647	14	F	65	Pain over heart.	Bronchitis.	LaGrippe.	Living
10652	15	F	78	Headache, dizziness.	Arteriosclerosis.	Bright's.	Dead
10808	16	M	50	Fluttering of heart.	Arteriosclerosis.	Bright's.	Living
10817	17	M	26	Difficulty of breathing.	Bright's.	Rheumatism.	Dead
10827	18	F	28	Stomach trouble.	Chronic appendicitis.	Rheumatism.	Living

GROUP C—MUSCLE CASES WITHOUT PREVIOUS VALVULAR, VASCULAR OR KIDNEY LESIONS.

Group C includes 31 patients in whom the muscle symptoms were dominant, with valvular, vascular or nephritic symptoms absent or in the background. Fifteen were males and sixteen females. All were over 20 years of age and most of them were over 40 years of age. They complained of weakness, rapid heart action, coldness of extremities, faintness, numbness, swelling, pain over chest, languor and nervousness, tremor, choking palpitation, oppression of chest.

Associated conditions, such as gall-bladder infection, malaria, pyorrhea, climacterium, (natural and artificial) acute infections, (la grippe), pyelitis, stomach disturbances, goitre, uterine disturbances, intestinal distention, low blood-pressure, etc., were observed.

The etiologic factors in this group may be arranged in the following way:

Syphilis—I think syphilis particularly subtle in the heart muscle cases and is very important to discover. Wassermann or luetin tests, or both, may be properly performed in all cases of myocardial disease. I must confess, in some of these cases, occurring among most respectable women and men, it is possible that latent syphilis has been overlooked by me, depending, unwisely, on the denial of syphilitic history. The most respected members of the community may justly be examined for syphilis where the heart shows otherwise unexplainable weakness. Syphilis undoubtedly preys upon the cardio-vascular system in a most stealthy manner. In the heart muscle this unobtrusive progress is peculiarly strikingly seen in at least three of my cases of this group (XI, XXV, XXIX). Of the 31 cases of muscle defect, syphilis may have been, and probably was, the etiologic factor in others than the three discovered. Two of the three died; all were men, one a bookkeeper (XI), one a contractor (XXV), one a physician (XXIX).

To illustrate: Case XI, aged 48 years, had syphilis when a young man, and two months before consulting me had begun to suffer from shortness of breath, inability to lie down with comfort, with irregularity of pulse and palpitation. Examination showed valves competent, heart sound remote, diameter increased,

action irregular and rapid. He did well on anti-syphilitic treatment.

Derangement of Glands of Internal Secretion—Cases I, XIV, XIX, XX, XXII, XXIV were apparently due to disturbance in the secretion of the internal glands. All were white women, all, except one, married. One died from progressive failure of the heart muscle.

Case X (10256) is illustrative of the apparent influence of the suppression of internal glands upon the heart action and function. She is white, age 37 years, weighs 204 pounds, 6 feet tall, no children. When 16 years of age, began to have a great deal of trouble with her ovaries. When 24 years old (about 14 years ago), operation for the removal of both ovaries was done. Since then, has taken on much flesh. In trying to "reduce" herself by dieting three years ago, "symptoms of ulcer of the stomach" set in and about that time she began to suffer from shortness of breath, swelling of ankles, and dizziness and numbness in the extremities, with many nervous symptoms. My examination showed heavy weight, large frame, no heart murmur, very indistinct first and second sounds, blood-pressure 190 systolic, 100 diastolic. Hemoglobin 71 per cent., R. B. cells 5688000, leucocytes 6200, urine negative. This patient responded to treatment with great promptness and has for about one year been doing well on the corpus luteum with some courses of digitalis.

The thyroid must not be overlooked. In the group several of these patients came to me because of rapid, irregular heart action with faintness and shortness of breath, not having suspected disease of the thyroid gland. Only one showed the classic triad of symptoms of exophthalmic goitre. All showed some struma; only one showed the eye signs. In this group of "muscle cases" due to disturbance of the cardio-vascular function, were variously noted palpitation, increased pulse rate, varying attacks of tachycardia, irregular pulse, with mental state of insomnia, restlessness, depression and melancholia, etc.

Blood Cases—There were five cases (II, III, IV, VI, VII) which were apparently caused or aggravated by a sub-standard blood state.

To illustrate: Case II, after having had an attack of intermittent malarial fever covering five weeks' duration, showed malarial

bodies on blood examination with considerable falling off in hemoglobin. His heart muscle gave evidence of dilatation.

Case VI showed a hemoglobin of 69 per cent., with R. B. count of 4900000. The heart sounds were very difficult to hear. Her lips were blue and hands livid. She showed a systolic blood pressure 90 m.m. Hg. On any exertion she exhibited dyspnea and suffered from dizziness. She showed no kidney disease. With rest, iron, arsenic and digitalis practiced for many months she is now in good condition.

Muscle-Strain Cases — Muscle-strain appeared to act as a factor in producing heart

symptoms in four cases (VIII, XIII, XXX, XXXI). For instance, Case XII was an athlete and long-distance runner who came in suffering from nervousness and languor, dizziness and sense of fullness in chest. Examination showed heart increased in diameter, rapid in action, and low blood pressure. Rest and tonic treatment promptly restored heart to normal.

Obesity—Three cases (IX, X, XXVII) appeared to have as the chief etiologic factor of the heart weakness an accumulation of fat, Case X being one also influenced by an artificial climacterium, as I have already pointed

GROUP C—"MUSCLE CASES" WITH VALVULAR, VASCULAR OR KIDNEY LESIONS ABSENT OR IN BACKGROUND

FILE No.	CASE No.	SEX	AGE	CHIEF COMPLAINT	ASSOCIATED CONDITION	ETIOLOGIC FACTOR	PRESENT STATUS
10097	1	F	45	Fast heart.	Climacterium (no nephritis).	Internal secretions. No pus	Living
10058	2	M	23	Precordial pains.	Chills and fever.	Malarial parasite.	Not known
10102	3	M	45	Chills and fever.	Fever (intermittent).	Malarial parasite.	Living
10182	4	F	35	Heart weakness.	General weakness.	Anemia.	Living
10134	5	M	32	Swift (paroxysmal).	General gastric and heart pains.	Unknown.	Dead
10168	6	F	60	Heart weakness and dyspnea.	Gall bladder infection.	Anemia.	Living
10192	7	M	44	Blue lips and cold extremities.	Bad teeth and infected gums.	Anemia.	Living
10189	8	M	45	Heart weakness, etc.	None.	Muscular strain.	Living
10221	9	F	45	Dyspnea and faintness.	Pulse 64 (B. P. 110).	Obesity (172½.)	Living
10256	10	F	37	Headache, numbness and swelling.	Operation ovariectomy, artificial climact.	Obesity (204).	Living
10305	11	M	48	Dyspnea and irregularity.	Blood pressure (100).	Syphilis when young man.	Living
*10303	12	M	60	Angina.	Arteriosclerosis.	Malarial infection for years.	Living
10311	13	M	20	Languor and nervousness.	First and second sounds soft.	Prolonged at athletic exercise.	Living
10322	14	F	47	Faintness and dizziness.	Metrorrhagia.	Not made (climacterium).	Living
10356	15	F	68	Faintness and dyspnea.	LaGrippe.	Consultation.	Living
10357	16	F	38	Dyspnea and pain.	Valvular lesions.	Consultation.	Living
*10370	17	F	65	Anginal pain.	Arteriosclerosis.	Consultation.	Living
10378	18	F	68	Intermittency and weakness.	Pyelitis.	Consultation.	Dead
10403	19	F	55	Swift heart dyspnea.	Stomach symptoms.	Goitre (consultation).	Dead
10415	20	F	32	Tremor and tachycardia	Struma and exophthalmos.	Goitre (consultation).	Dead
10446	21	F	67	Pain and choking.	Fright, arteriosclerosis.	Arteriosclerosis.	Dead
10463	22	F	43	Faintness and dyspnea.	Stomach symptoms.	Goitre.	Good
10459	23	M	27	Intermittency and weakness.	Sense of impending death.	Alcoholism (acute)	Good
10565	24	F	36	Irregular and palpitation.	Amenorrhoea.	Goitre.	Good
10567	25	M	56	Dyspnea and weakness.	Indigestion.	Syphilis (suspect).	Dead
10527	26	M	58	Dyspnea and lividity.	Gout (arteriosclerosis).	Alcohol.	Good
10604	27	M	38	Palpitation and fear.	Abdominal gas.	(Coco Cola).	Good
10620	28	F	43	Faintness and nervous.	Menopause.	Obesity	Good
10738	29	M	55	Tachycardia and fear.	Oedema of lungs.	Syphilis.	Dead
10629	30	M	38	Pain in chest.	Low B. P.	Excessive beer drinking.	Good
10963	31	M	23	Faintness.	Low blood pressure.	Boat racing.	Good

*No. XII, XVII, XXI and XXVI showed vascular disease, but the muscle symptoms dominated the clinical symptoms at the time of examination.

out. Case IX is a woman, aged 43, of medium height, weight 172½ pounds, with blood-pressure, systolic 110, diastolic 60 m.m. Hg.; pulse rate 64; heart sounds very weak, with dyspnea on exertion.

Over-Stimulation Cases—This sub-group includes three cases (XXIII, XXIV, XXVII). Alcohol appeared to cause the heart disturbance in two of these cases, while "coco cola" habit of three years' duration seemed to be the cause in the other case.

The *Anginal Cases* (XII, XVII, XXI) may be more properly said to exhibit muscle defects secondary to the vascular disease and blood-pressure. But when the examinations were made the paroxysm had passed and these patients were suffering from the muscle weakness, irregularity and dilatation. One patient was a man 60 years old who gave a history of chronic malarial infection, denying syphilis. Case XVII was a woman 65 years of age, while case XXI was a woman 67 years. She died.

Case V was one of paroxysmal tachycardia.

The Wassermann was negative; blood examination gave no clue, stomach contents were negative. Feces gave no positive findings. Patient died and cause of muscle defect was not discovered.

Case XV showed muscle trouble following an attack of la grippe, while in case XVIII pyelitis was marked. Case XVI was one of dilatation of the heart secondary to decompensation.

GROUP D—MUSCLE CASES, WITH SERIOUS VALVULAR, VASCULAR AND NEPHRITIC LESIONS.

This group includes the late and terminal cases of heart disease, whether from causes within or without the heart, or both. In this group there were 23 of the hundred cases reported. They were all beyond 50 years, except one. Twenty were men, three women. Bright's disease, arteriosclerosis and decompensation of the heart muscle were contributory factors. The mortality in this group was high: Eighteen died, three status unknown, and one living. Fifteen were seen in consultation.

GROUP D—"MUSCLE CASES", SECONDARY TO VALVULAR, VASCULAR OR KIDNEY LESIONS.

FILE No.	CASE No.	SEX	AGE	CHIEF COMPLAINT	ASSOCIATED CONDITION	ETIOLOGIC FACTOR	PRESENT STATUS
10002	1	F	55	Weakness, shortness of breath.	Obesity (201 lbs.).	Rheumatic fever when young.	Dead
10009	2	M	56	Lump in chest, shortness of breath.	Obesity (232 lbs.).	Bright's disease.	Living
10035	3	M	55	Shortness of breath.	Obesity (216 lbs.).	Bright's disease.	Dead
10044	4	M	55	Shortness of breath, etc.	Obesity (200 lbs.).	Bright's disease.	Dead
10100	5	M	60	Shortness of breath, oedema.	Hypertrophic cirrhosis.	Bright's disease.	Dead
10077	6	M	60	Eodema and dizziness.	Arteriosclerosis.	Bright's.	Unknown
10129	7	M	52	Difficulty of breathing.	Arteriosclerosis.	Alcoholic.	Unknown
10130	8	M	53	Palpitation, dyspnea.	Arteriosclerosis.	Infections of early life.	Dead
10180	9	M	68	Dizziness and shortness of breath.	Arteriosclerosis.	Bright's.	Dead
10233	10	M	50	Pain over chest and dizziness.	Pyelitis.	Bright's.	Dead
10358	11	F	70	Difficulty of breathing, etc.	Arteriosclerosis.	Bright's.	Dead
10329	12	M	69	Dyspnea and oedema.	Coma.	Bright's.	Dead
10353	13	M	68	Dyspnea and dizziness.	Arteriosclerosis, uremic coma.	Bright's.	Dead
10381	14	F	62	Shortness of breath.	Arteriosclerosis.	Bright's.	Unknown
10401	15	M	68	Dyspnea.	Dropsy.	Bright's.	Dead
10428	16	M	62	Shortness of breath, etc.	Arteriosclerosis.	Bright's.	Dead
10447	17	M	40	Palpitation and precordial.	Tuberculosis of lungs.	Infection.	Dead
10515	18	M	58	Shortness of breath.	Hydrops of left pleural sac.	Grip Infection.	Dead
10525	19	M	48	Shortness of breath.	Stone in kidney.	Bright's.	Dead
10566	20	M	62	Shortness of breath.	Intestinal indigestion.	Bright's.	Dead
10590	21	M		Difficulty of breathing.	Arteriosclerosis.	Bright's.	Dead
10732	22	M	64	Hiccoughing, rapid breathing.	Hypertrophic cirrhosis.	Bright's.	Dead
10836	23	M	63	Shortness of breath.	Arteriosclerosis.	Bright's.	Living

CONCLUSIONS.

Group A—Valve Cases:

1. Treatment in this group relieved the patients in all but four cases of distressing symptoms and placed the heart on a better working basis.

2. The removal of the etiologic factor in some of these cases restored compensation, allowing the patient to lead a fairly comfortable life, and insured against a relighting endocarditis.

3. Most of these patients being young, cardio therapy produced good results.

Group B—Valve Cases With Serious Extra Heart Lesions:

4. The results of treatment in this group were much less encouraging.

5. The nature of the compensations as well as the removal of etiologic conditions largely influenced the results.

Group C—Muscle Cases With Valvular, Vascular and Nephritic Lesions Absent or in the Back Ground:

6. I was agreeably surprised in the management of this group of cases by the good results secured.

7. Study of the blood, stomach contents, feces, the glands of internal secretion, etc., seemed in this group to help very materially in obtaining a favorable turn in the clinical course of the cases.

1135 West Franklin Street.

CHLOROFORM IN OBSTETRICS.*

By CHAS. A. SAUNDERS, M. D., Norfolk, Va.

Reading a paper before you on chloroform in obstetrics is somewhat like carrying coal to New Castle. And I am fully aware of the numerous criticisms that my subject may receive at your hands.

One of the objects of our meetings is to have an exchange of opinion, and the subjects brought before our society should be fully and freely discussed; it is for that reason that I bring this subject to your attention. Especially would I like it discussed by the general practitioner and the out-of-town doctor, for it is these men that chloroform in obstetrics will serve the best purpose.

The city doctor is so close to the hospital and competent assistants, that he does not have to rely upon himself so much, and take such chances as does the man away from these, for he can in a very short time have the use of a hospital, able and competent assistants, both nurses and doctors, hence ether would naturally be the anesthetic of choice.

Every one agrees as to the benefits derived from anesthesia when operative procedures are to be undertaken, but there is still a considerable difference of opinion as to the advisability of its routine employment in normal labor. However, as doctors, humanitarians, and care-takers of so many of our race, it behooves us to assist nature and the prospective mother all we can, and to rob labor of as many of its horrors as it is possible for us to do with safety. Too many of our profession are either afraid to use anesthetics, or are indifferent to our patient's suffering.

Chloroform and ether are the most popular anesthetics, and when obstetrical operations are to be performed, it makes very little difference which is employed, as it is well known that the dangers incident to chloroform are markedly reduced at the time of labor, and that only a very few deaths have followed its use under such circumstances.

Exactly why the parturient woman should enjoy this immunity is a question which has not yet been definitely settled, still it is a fact well established.

On the other hand, chloroform is far preferable in normal labor, for by its use obstetrical anesthesia can be rapidly and safely produced, whereas ether, owing to its slower action, bad odor, longer influence, and method of administration, does not lend itself so readily to this method of employment.

As a result of my experience and observation of 16 years, I believe that chloroform, when properly administered, is practically devoid of danger in such cases, and should be given whenever there is time for its proper administration, unless there is objection on the part of the woman, or in those cases where the parts seem sufficiently large to admit of delivery without tearing the perineum, and the labor seems almost painless.

The choice of the time of its administration, however, is of great importance. It should

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not be used until late in the second stage, when dilatation is complete, the head or presenting part well down on the perineum, and the pains severe and expulsive. At this time a few drops of chloroform should be poured on the inhaler, and with the beginning of a pain, the patient should be told to breathe in the fumes vigorously. It should be remembered that during the acme of the pain, the expiratory efforts which are then called into play prevent the inhalation of any great amount of the anesthetic, but as soon as the contraction has ceased the inhaler should be removed, to be used again when the patient shows signs that she feels another pain coming on.

This is kept up until the distention of the vulva is, at its maximum, when obstetrical anesthesia is not sufficient to abolish the pain; the patient should then be put under that complete control so much desired, whereby one can have absolute control of the advance of the head, giving sufficient time for the parts to stretch fully, thus preventing laceration of the perineum. During this stage I render my patient completely unconscious for the moment by increasing the dose of the drug.

By this procedure the woman is saved a great amount of unnecessary pain, and at the same time tendency to perineal laceration is diminished. For, if suffering is minimized or done away with entirely at the critical moment, the patient will lie still, instead of tossing in bed, and there will not be the same danger of the head being suddenly expelled at the acme of a contraction; nor does the doctor have to expend his energies in persuading the patient to keep quiet, or in forcing her legs apart so that he may protect the perineum. The amount of chloroform required for this purpose, when properly used, is very small, rarely exceeding four to six drams.

For various reasons, the administration of chloroform should be deferred as long as possible in the second, and never resorted to in the first stage, unless exceptional indications call for its employment.

Leaving out of consideration its possible influence upon the efficiency of the uterine contractions, it is only natural that as soon as the patient has experienced the soothing effects of the drug, she is extremely loath to do without it, and, once having begun, the physician may

find himself forced to continue its administration for a considerable length of time.

It has been urged that the use of anesthetics, in labor diminish the force of the uterine contractions. This statement is partially correct, for, when administered for any great length of time they undoubtedly lead to the shortening of the uterine contraction, and to a prolongation of the interval between them. On the other hand, when administered only at the proper time, and in no excessive amount, this objection does not hold good, and, in many instances, small doses appear to stimulate the uterine contraction and, by diminishing the sensation of pain, enable the patient to bring her abdominal muscles into full play, thereby accomplishing a great deal in the way of squeezing the child out, which she previously might have been unwilling to do. In this way the completion of labor is hastened.

It has been taught that anesthesia predisposes to relaxation of the uterus after expulsion of the placenta, and in this way increases the danger of post-partum hemorrhage. So far as my experience goes with some four hundred cases, such sequelae are not likely to occur, provided the drug has been properly administered, and so far it has not occurred with me. It must be admitted, however, that the prolonged administration of chloroform certainly tends toward uterine inertia, and I believe is not without some deleterious effect upon the child.

Ordinarily the patient is allowed to come from under the influence of the anesthetic as soon as the child is born. It is not necessary in the third stage of labor, and should not be used, except when the placenta is to be removed manually, or an extensive perineal laceration is to be repaired, in which case the drug should be administered by a competent assistant. Besides, it should be remembered that after birth of the child the mother does not appear to enjoy the same immunity as when in active labor.

DeLee, Edgar, Lusk and others claim that chloroform causes a great many deaths in the parturient woman after labor by degenerating the liver, the blood, and the heart muscles. Since these noted men claim such disastrous results, there certainly must be some truth to it, and while I do not dare stake my judgment against theirs, I do believe that these

extreme results are caused by a too long and frequent administration, as well as too much of the drug at the time. If you are going to soak your patient often, and for an indefinite period, you should use ether, the proper surgical anesthetic.

I do not wish to be understood as advocating the use of chloroform to the exclusion of all other anesthetics in obstetrics, for, without question, ether, nitrous oxide gas with oxygen, and probably others have their field of usefulness, but I do consider chloroform the most satisfactory anesthetic in the hands of the man in general practice with no assistance.

The prime object of the whole thing is to make our patient in labor as comfortable as possible, without doing her any harm.

The safety of chloroform in obstetrics, as in all other fields of its employment, lies in its judicious and careful administration, with a clear understanding of the work to be accomplished.

When a physician has gained his patient's confidence, with a sensible woman, a competent nurse, a quiet but properly lighted room, with some of the various suggestive pictures of fond motherhood on the walls, we may then give her a "hypo" of a quarter grain of morphine, with probably a seventy-fifth grain of hyosine, a little chloroform properly administered, and we have practically the much vaunted and suggestive condition called "twilight sleep."

To recapitulate, chloroform is more convenient and less bulky than ether, or other general anesthetics.

It does not take much of it.

It is quick to act, and just as quick to pass away.

It is pleasant to take, as compared to ether.

It does not have a lasting and undesirable after-effect.

It rarely causes nausea or vomiting.

Most patients like its odor and effect better than ether.

The patient is just as wide awake after the delivery as before, and promptly so.

Then, too, it is our duty to our wives, mothers and sisters, to rob labor of as much of its terror as possible.

307 Taylor Building.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Hyperplastic Sphenoiditis and its Clinical Relations to the Second, Third, Fourth, Fifth, Sixth and Vidian Nerves and Nasal Ganglion.

By GREENFIELD SLUDER, M. D., St. Louis.

The writer spoke of the body of the sphenoid independent of what cell occupied it, and mentioned the close relations of the above enumerated nerve trunks to its bony wall, and that the size of the cavernous sinus rather than that of the sphenoid cell was what determined some of those relationships. He spoke of the striking difference, clinically, between the nerves in the canals—maxillary and mandibular branches of the fifth and Vidian compared to the third, fourth and sixth, which run through the wide gap of the sphenoidal fissure, the former being a clinical question infinitely more often than the latter. The diagnosis was made from bone removed from the anterior part of the sphenoid sinus of one hundred and fifty-six cases by Dr. Jonathan Wright, whose microscopic findings corresponded almost uniformly with cases clinically. The slow growing bone increase had for its clinical history long-standing pain and often very slow progressive loss of vision, sometimes only a segment of the optic nerve being involved, the cases of violent headache and rapid loss of vision showing acute ostitis engrafted on the chronic process. The bone sometimes showed periostitis, and sometimes the mucous membrane was normal. The argument was that the clinical picture in the chronic cases arose from narrowing of the bony canals in the process of the hyperplastic bone changes, and that the optic nerve was thereby compressed in the optic canal, producing disc swelling with loss of vision. That the recurrent pain in the second division of the fifth and Vidian—usually diagnosed as migraine—was explained also by narrowing of their confines." In many of the cases these headaches preceded the optic nerve troubles by many years. He attempted to explain this on the score of drainage, the lower part of the sinus usually being bathed in a small amount of thin secretion, whereas the optic and the upper part was not so. He thought the hyperplastic lesion rendered the district more vul-

nerable, and cited that the small areas here become inflamed from unrecognizable origin, and according to their position were more or less disastrous. In the upper outer anterior aspect of the sinus, loss of vision occurred; and in the lower outer and lower middle parts, great pain of maxillary and Vidian distribution, respectively. He raised the question, how lesions of this kind could be bettered by removal of bone for drainage. He did not believe that the primary blood letting of the surgery explained it, and cited a case in argument thereof. He stated that a similar lesion in the anterior nose, where very easily visible, was subject to recessions of longer and shorter duration, and that the condition was apparently helped by judicious surgery. The degree of hyperplasia of the plica septi seemed to be an index of the hyperplastic process in the sphenoid, whereas the degree of hyperplasia of the posterior tip of the middle turbinate seemed an index of a similar condition in the postethmoid.

He appended Dr. Wright's summary upon concluding the examination of the series of specimens.

Headaches Due to Non-Suppurative Intransal Conditions.

By GEORGE C. STOUT, M. D., Philadelphia.

Headaches of nasal origin, in which suppurative conditions are positively eliminated by macroscopic examination, trans-illumination, the X-ray, etc., have not occupied a prominent place in our literature heretofore. But, while these headaches are found in a relatively small per cent of the cases who consult the specialist, they are of sufficiently frequent occurrence, and severe enough in their result upon the nervous and mental condition and general health of the patients, to warrant their being considered as a group by themselves.

The pain varies, from occasional attacks of moderate degree to frequent seizures of intense agony. It is commonly referred to an area back of a triangle formed by the glabella, the outer canthus of the eye, and the anterior nasal spine. It may also affect the teeth, the neighborhood of the eustachian tubes, or ears, sometimes extending down to the shoulder. It is usually unilateral, but may be bilateral, or occur on both sides alternately.

It is not increased by the use of the eyes, though sharp, shooting pains through the eyes are often present. When the pain has existed for a long period the effect upon the patient is deplorable; his general health is undermined, and his mental condition profoundly depressed.

Owing to the very slight departure from normal of the rhinoscopic picture, these cases frequently pass through many skillful hands before the true cause of the pain is recognized. A thorough routine examination of the middle turbinate fossæ should, therefore, be made in all doubtful cases. All the more common causes of headache must be eliminated, such as neurasthenia, eye strain, febrile conditions, syphilis, malaria, digestive disturbances, rheumatism, etc. The absence of pus and the condition of the eye ground should be ascertained. The general appearance of the lower portion of the nose may be normal, but upon further examination it will be found that, while the middle turbinate may be of normal size and coloring, its cavity is narrow and compressed either by the lesser upper (or counter) deviation of the septum, or by a bilateral thickening of the upper portion of the septum, or by a split septum due to injury. Careful exsanguination of the inferior turbinates and their immediate surroundings only should accurately determine the joint of contact. The exsanguination alone may so relieve the existing headache as to prove the chief localizing factor of the cause of the pain.

Treatment should be directed to the middle turbinate itself, and should consist, first, in frequent applications of cocaine, adrenalin and astringents; and, second, as a last resort, the extirpation of a part, or the whole, of the middle turbinate. While the good results of the local applications may be only temporary, the operative procedure usually effects a complete cure of the pain.

The operation may be done under local anesthesia in the phlegmatic patient, but in others the general anesthesia is advisable. As a rule, there is no free bleeding after the operation, and the dressing consists merely in some mild antiseptic powder. The after-treatment consists in keeping the nares wide open and the insufflation of calomel powder every second day.

DISCUSSION OF PAPERS BY DRs. SLUDER
AND STOUT.

Dr. Cornelius G. Coakley, New York City: I have been discouraged by the migraine type of cases described by Dr. Sluder. I have, however, seen numbers of these patients, sent by ophthalmologists, with varying conditions. In all cases there is a question whether there has been any disease in the posterior sphenoidal and ethmoidal sinuses. None of these cases present typical signs of suppurative disease. Radiographs show nothing, the sinuses always appearing perfectly normal. In most of these cases the ophthalmologist, and also the rhinologist, have gone through all the tests, excluding all the usual causes of the disease to be found in the eye. The statements which have come to me have usually been that the cause of the trouble cannot be found in the nose, and that the etiology cannot be determined. The majority are not likely to get better without some aid. I have probed the sphenoidal sinus—which can be comparatively easily done—and have examined that portion of the sphenoidal mucous membrane which can be reached with the probe, finding it relatively normal. At the request of the ophthalmologist I have removed the middle turbinate, made a large opening in the sphenoid and have found normal membrane. I have been astonished at the improvement in most of these cases, although the vision has been bad for two or three weeks, followed by complete recovery.

I have tried to use the Holmes pharyngoscope as described by Dr. Sluder, but I do not see how he gets into the sphenoid so as to make use of the Holmes pharyngoscope possible. I have been able to examine a little of the roof and floor, some of the posterior wall, and a little of the anterior surface. The great difficulty with all sphenoidal operations is that the orifice becomes very much contracted, so that in the course of six or eight weeks the opening is no larger than normal, and sometimes smaller. If the essayist will tell us how to make an opening that will remain, I will be obliged to him.

Referring to Dr. Stout's paper, I wish merely to say that pressure against the anterior wall does give rise to these symptoms.

Dr. John F. Barnhill, Indianapolis: We see cases over and over, such as Dr. Stout

describes, in which removal of the anterior turbinate relieves the condition. Removal of tissue in the nose with no clear indication for doing so is to be deprecated. The matter of diagnosis is of the greatest importance. X-ray and blood examinations should be made, but patients will often not allow it. My greatest source of information has been from the University clinic, where we have advantage of all the channels from which information comes. Sometimes when all the lines of investigation have been followed—X-ray, ophthalmologic, and blood examination—we find appendicitis. I recall three instances of that kind. We may take a line here from our friends, the surgeons in the far northwest. Nose cases are going to them today, as well as all other classes of cases, because of the tremendous reputation they have for examining patients in every way with the one cost. When we examine them and have all the other examinations made it amounts to hundreds of dollars. Very often the trouble is not in the nose at all.

Dr. Hanau W. Loeb, St. Louis: The merit of Dr. Sluder's paper rests in the determining of trouble in the sphenoid cavity when no pus is present, and discovering the relation of this trouble to the cranial nerves. This is a good deal to find out in a few years.

Dr. Stout's paper is also important. There are two or three points which will establish the diagnosis in these headaches—headaches in which I operate upon the middle turbinate. They are uniform in character; they attack one side of the nose, one part of the head: they last a more or less definite number of hours, then disappear: they almost invariably appear in the morning and disappear in the evening. As a rule, I refuse to operate unless cocain relieves them, and unless there is some marked process present. It is sometimes the case that I am surprised to find the amount of pathologic process going on when there is no pus. Whether the cause is circulatory or not, I do not know. We have been able to do an immense amount of work in relieving the patient where the anterior turbinate is involved, but we have not been able to do much where the posterior sinus roots are involved. Dr. Sluder's work is important in this regard.

Dr. George A. Leland, Boston: Not the large amount of pressure, but the continuous pressure, explains some of these cases. This

may be illustrated by pressing upon the skin of the hand. It requires only a short time to cause considerable pain, which may not be felt so long as the pressure is exerted, but which manifests itself as soon as the pressure is removed. We have the same condition in the nose. There is a certain amount of soft tissue covering the cartilage. I have seen cases in which a little spicule of bone, sticking out from the septum and pressing upon the second turbinate, will cause pain when, during menstruation, there is an increase of pressure, or when the patient eats too much or drinks too much; and with this increased pressure there is the headache which comes under similar conditions.

Dr. William E. Casselberry, Chicago: I can confirm the observations of the essayists as to the total absence of pus at times. If pus in the quantity described by Dr. Coakley is considered as an indication of the presence or absence of suppurative sinusitis, I am in accord; but in other cases smaller amounts of pus may occur in one or another of the sinuses, not shown by X-ray examination. But, ad seriatim, taking the antrum, the sphenoid, the ethmoids, I have been able to discover an appreciable quantity of pus or mucopus, which amounts to the same thing. I am under the conviction that in most of these cases there is a suppurative condition which is at the bottom of the hyperplasia complained of.

Dr. James E. Logan, Kansas City: I recall one case, in which the headache came periodically in the morning, stopping in the evening. The young man suffered from very extreme headache, beginning about nine o'clock in the morning and stopping about four in the afternoon. He had been operated upon for removal of a portion of his middle turbinate. The headache persisted—nasofrontal headache. I removed the rest of the middle turbinate and opened the duct, thinking pus was there. Very little pus was found. The patient suffered continuously with the headache, which gradually came later in the morning and remained later in the afternoon. Finally, by suction, I got secretion from the nasofrontal duct. This was sent to the pathologist, and it took forty-eight hours to get a culture, which showed a very faint mixed infection, with staphylococcus aureus and streptococcus. An autogenous vaccine was made from this, three

injections of which were given, and the patient got well. The same course was followed in another case, and the patient was given relief. Nothing else had given relief. Such cases would seem to indicate, as Dr. Casselberry has just suggested, that the pus is there and can be found if we look for it.

Dr. Emil Mayer, New York City: The amount of pus may be very small in these cases. I recall, in this connection, an experience at Mount Sinai Hospital. The patient, a young man, who had acromegaly, presented a history of persistent headaches. He had high temperature, muttering delirium, and choked disc, and as a result examination of his nose was exceedingly difficult, and required skillful dodging. I succeeded, however, in getting a little pus, but said I thought very little could be done for him. The attending physician thought operation was all that could be done, and so I removed the anterior portion of the ethmoid. In twenty-four hours the headache and delirium had cleared up. Some of those in consultation thought I operated at a time when the man was in some sort of crisis. I do not think so. I introduced a probe into the sphenoid and had an X-ray taken. The result was a perfectly clear picture of the probe in the sphenoid, and all then agreed that I was right.

Dr. Otto T. Freer, Chicago: Even very extreme conditions, where there is a sharp crest or ridge very far back in the nose, so rarely cause headache that I have become very skeptical of pressure headaches in general. The whole question is one of reflex. Where we try to remove the effect by the use of cocaine, we are just as much in the dark as we were before. This is, in fact, an open door for all sorts of experimental operations. The patient may be told that it is entirely experimental, the septum is resected, the patient is no better, and still he blames the doctor, no matter how plainly he has tried to impress that the operation is purely experimental.

I agree with Dr. Casselberry about concealed suppuration, but I wish he had been a little more specific as to his method of exploring the sinus. Exploring the sinus through the natural opening is not always satisfactory. I recall a case in which the thin roof of the antrum had been perforated by the canula, the injecting fluid injected into the

orbit, and the eye put out. I do not regard washing out the antrum through the natural opening as an entirely safe procedure. The frontal sinus is still more difficult for diagnostic washing. It is sometimes by no means a trifle. In one case which I recall the patient fell over in a convulsion. The fluid could not get out through the small opening, and there was intracranial pressure. One thing that gives an indication of concealed infection is the complaint by the patient of a discharge running back into the throat. A perfectly healthy sphenoid and infundibular region usually does not go with diseased ethmoid. Something must be there to give us a hint. The nerve most often affected, in my experience, is the anterior ethmoidal, which is a very sensitive nerve, as Killian has shown.

Dr. Casselberry, continuing the discussion: In a recent issue of the *London Journal of Laryngology, Rhinology and Otolology*, Kelly, of Glasgow, records no less than thirty cases of bad results from exploratory puncture by the penetration of the antrum. The one Dr. Freer mentions is the first I have heard of in an attempt to irrigate the antrum through the natural opening. When he puts in the canula and penetrates the orbital plate he is not irrigating through the natural opening. The canula with which I irrigate through the natural opening is very thin, reasonably thicker where I hold it, having more than a right angle turn at the bend, and not exceeding more than from one to two millimeters in length. Properly introduced, it will serve for the irrigation of the antrum through the natural opening, which can be accomplished safely in the majority of instances. The stop-cocks must be arranged and the air pressure regulated. Not more than ten pounds pressure should be used to begin with, otherwise harm will be done. This is run up as the operation proceeds. The same thing is true of all the other sinuses.

Dr. J. Gordon Wilson, Chicago: Dr. Sluder's paper is extremely interesting and suggestive. It does not mean that there may not be disease of the sinuses without suppuration. That depends, of course, upon what we mean by without suppuration. There may be hyperplasia of any sinus without any suppuration at all. Some years ago I did some work in the way of putting capsules into the sinus,

having introduced into these capsules different forms of bacteria. The capsules were so arranged that the bacteria would not come out, but their toxins would. There was hyperplasia in these cases. I used drugs for these experiments, some of which were kept alive for several weeks. I have often wondered how infection passes along these nerve trunks. I suggest, as quite possible, that there may be absorption of the toxins from the lymphatics into these nerve trunks.

Dr. Sluder, closing the discussion: Answering Dr. Coakley's question about the method of operation: The outlet and the sinus itself must be large enough to permit of the use of the pharyngoscope. I use a right-angled knife. The posterior part of the cribriform plate and the posterior and upper-most aspect of the olfactory plate are approached, the sphenoid sinus or one of the misplaced ethmoidal cells being punctured by such a stroke. As soon as the cell is punctured the stroke is directed downward, forward, and inward. The septum is cut down to the floor of the sphenoid. The knife is then introduced carefully along the cribriform plate. Again the upper-most posterior aspect of the olfactory plate is approached. The knife is then turned at an angle of forty-five degrees, and downward and outward. This, on the cadaver, has been proved to throw the posterior ethmoidal labyrinth pretty thoroughly open every time. By means of the pharyngoscope it is found that there are two very satisfactory openings into the posterior ethmoidal cell, and sometimes the sphenoidal. Sometimes it is possible to get it all out in that way. Dr. Wright has one such specimen, measuring a half inch in diameter.

Dr. Coakley spoke of being unable to get good observation with the pharyngoscope. I always operate under cocain. I uniformly refuse to operate upon these patients except under cocain. I give them scopolamin first. The primary stroke is sufficient to produce enough shock, and at the same time to prevent the wound from bleeding. With the pharyngoscope close at hand it can be passed in. The patient may faint: let him faint. The wound for a time does not bleed.

I have some cases in which the opening staid open for five or six years. I have never seen membranous closure, as suggested by Dr.

Bryan, but I have seen bony closure, as suggested by Dr. Coakley.

Dr. Loeb spoke of congestion in the sinus, which he thought more responsible than the vacuum of which I spoke. Politzerization will stop the trouble. The congestion is the result of the vacuum.

Dr. Leland has given a valuable point about the little pressure of long standing.

I have tried vaccines repeatedly, as suggested by Dr. Logan, but have not gotten the results.

Dr. Mayer spoke of crises and the use of ergot. In my text I brought out, partly as a matter of speculation, that there is in some canals a considerable pad of fat; in the optic canal there is exceedingly little. If this hyperplastic process narrows the canal and this pressure is maintained for a considerable time, nature's shock absorber is used up. Sometimes a trifling indigestion will start up the trouble, just as sometimes a trifling thing will diminish the vision. If ergot is given when there is this congestion, it will contract the tissues and relieve the headache.

Dr. Stout, closing the discussion: I merely wish to say, with reference to Dr. Casselberry's remarks, that I distinctly said there was apparently no pus.

(To be continued.)

Editorial.

The Legislature and Virginia's Insane and Feeble-Minded.

In view of the unsettled condition of the State's finances and the demands upon its treasury for support of the government and the various public institutions, the General Assembly of Virginia was as generous as could have been expected in dealing with her hospitals for the insane and epileptics. The amount appropriated for the maintenance for the next two years aggregated \$1,235,750, and for various additions and betterments \$117,440, making a total of \$1,353,190. This is about one-eleventh of the amount of the general appropriation bill. True, these institutions did not get all that was needed; yet, with the amount appropriated, the board of directors and superintendents can, it is believed, with the continuation of the economy that has characterized their management, meet the imperative requirements,

and probably add something to advanced methods of care and treatment. At this time there are nearly five thousand patients in our five State institutions for the insane, epileptic and feeble-minded. Although some of them are overerowed, no unfortunate insane person has been denied admission; but comparatively few feeble-minded and epileptics have been given institutional care.

It was somewhat disappointing that ample means were not provided for the enlargement and support of the colony for white feeble-minded at Madison Heights, and an initial appropriation made for the colony for the colored feeble-minded, established two years ago at the Central Hospital, near Petersburg. Among the bills looking to the interest of the feeble-minded, was one which in every way meets modern requirements for their examination and commitment to the State colonies. Doubtless the next legislature will make provision for construction and for care of quite a number of these unfortunates.

Another forward step was made by the legislature in making provision for commitment to the State hospital at Staunton, of persons, who through the use of alcohol or drugs, have become dangerous, or unable to care for themselves, their families or their property. No doubt there are a number of defective and deteriorating alcoholic and drug cases that need prolonged attention and treatment in an institution. Already Virginia had good laws regulating legal, emergency and voluntary commitment, so as to provide hospital treatment in any stage of mental disease; and also special custody and observation of the criminal insane.

W. F. D.

The Virginia Public Health Association

Is to hold its annual meeting in Newport News, May 8-10, under the presidency of Dr. J. W. H. Pollard, of Lexington. Dr. W. Brownley Foster, of Roanoke, is secretary-treasurer. The program includes among other things, an address by Asst. Surg. Gen. Henry R. Carter, of the U. S. Public Health Service, who will discuss the public health aspects of malaria. There will be several symposia devoted to malaria, control of communicable diseases and school inspection in which health officers from all parts of the State will exchange views and explain their problems.

The first conference of rural school and

visiting nurses ever held in Virginia will be convened simultaneously with the Public Health Association. With respect to this Conference, it is interesting to note that prior to 1914, there was only one rural school nurse in the State, while now these nurses are at work in a number of counties.

Psychiatric Clinic.

Through the courtesy of the Board of Directors and Doctor W. F. Drewry, Superintendent of the Central State Hospital, at Petersburg, nearly one hundred students from the Medical College of Virginia were given the advantage this month of seeing and studying cases representing the various forms of mental disease, epilepsy, etc. The cases were presented and explained by members of the Hospital Medical Staff, and Doctor P. V. Anderson, of the Medical College. They gave brief clinical talks regarding diagnosis and general methods of treatment and care. This has long been recognized as the proper method of teaching clinical psychiatry; that is, using, under suitable conditions, the cases in State institutions.

In order to encourage interest in the care and treatment of the insane, and to give the general practitioner an opportunity to become more familiar with mental diseases, the Central Hospital, as well as other hospitals in the State, has on several occasions invited local medical societies and groups of physicians to meet at the Hospital.

Another Medical College Merger Rumored.

It is announced that committees have been appointed to consider the amalgamation of the medical schools of the University of Pennsylvania, Jefferson Medical College and Medico-Chirurgical College, of Philadelphia, and it is expected that a definite announcement will be shortly forthcoming. The purpose of the amalgamation is not to gain in size but rather to increase the importance of the institution.

Dr. Fayette A. Sinclair,

Who has been located at Poquoson, York Co., Va., for several years, has decided to locate in Newport News, Va. He has recently taken a special course in X-ray treatment in a New York hospital.

The American Proctologic Society

Will hold its eighteenth annual meeting in Detroit, Mich., June 12 and 13, at Hotel Statler.

Dr. T. Chittenden Hill, Boston, is president, and Dr. Alfred J. Zobel, San Francisco, secretary-treasurer. The preliminary program, issued the first of this month, gives the names of twenty-four papers which promise much of interest.

Appointed to the Medical Reserve Corps.

Drs. Chas. V. Carrington and Carrington Williams, both of this city, have been appointed by President Wilson as first lieutenants in the medical reserve corps, U. S. Army.

Married—

Dr. George Paul LaRoque and Miss Eva Page Murdoch, both of Richmond, Va., on April 19.

Dr. Robert Grant Willis and Miss Edith Duesberry, both of Richmond, Va., April 12.

Dr. E. P. White, Poquoson, Va., and Miss Annie Burcher, Grafton, Va., April 10.

The Virginia Antituberculosis Association

Announces that the annual Red Cross Seal sale in this State, at the close of 1915, jumped from \$3,800 the previous year, to \$9,000. As is known, the proceeds are divided between the various localities and the central organization. This increase is very gratifying and leaves more money in the different localities for educational work in the homes than has heretofore been spent in the whole State.

Dr. C. T. Carter,

Danville, Va., was a recent visitor to this city.

Dr. Harry D. Howe

Has returned to his home in Hampton, Va., after a short stay in this city.

Drs. E. L. and W. D. Kendig

Were among the delegates named to represent Lunenburg County, Virginia, at the State Democratic Convention at Roanoke, in June. Dr. E. L. Kendig will be chairman of the Lunenburg delegation.

The National Association for the Study and Prevention of Tuberculosis

Will hold its annual meeting in Washington, D. C., May 11 and 12. Dr. Henry B. Jacobs, of Baltimore, is secretary of the Association.

Dr. Everett F. Long,

Of Denton, N. C., who graduated from the Medical College of Virginia in 1909, has been

elected full time health officer of Davidson County, N. C.

Dr. C. Lydon Harrell,

Of Norfolk, Va., has placed the contract for the erection of a \$25,000 apartment house at Colonial and Harrington Avenues, that city.

City Physicians Resign.

Drs. W. P. Hoy and Claiborne Jones have tendered their resignations as city physicians in Peterburg, Va., to become effective May 1. The work of the city physicians in Petersburg has been very heavy during the past few months and in March alone, the three physicians paid more than 600 visits to the poor and wrote more than 700 prescriptions.

Dr. and Mrs. William A. Shepherd,

Of this city, have returned home after a visit to Washington, Baltimore and Old Point Comfort.

The Grace Hospital Training School for Nurses,

Of this city, held its annual commencement exercises in the auditorium of the Jefferson Hotel, on the evening of April 17, at which time six nurses received diplomas. Dr. Robert C. Bryan presided and Dr. H. S. MacLean awarded the diplomas. The address of the evening was made by Mr. John Stewart Bryan.

Dr. and Mrs. Harry Porter,

Of Lonisa, Va., spent a few days in Richmond, early this month.

Dr. Joseph M. Burke,

Of Petersburg, Va., chief surgeon of the Seaboard Air Line Railway, spoke to the Boy Scouts of that city, April 7, and gave a demonstration of first aid to the injured.

Dr. Stuart McGuire,

Of this city, dean of the Medical College of Virginia, was the principal speaker before the William Edgar Marshall Medical Society of the Wake Forest, N. C., Medical School, at the celebration of its first anniversary, April 6. Following the address, the Society gave an informal reception in honor of the speaker, the faculty and the visiting physicians.

Gift to Hospital.

At Founder's Day exercises at the University of Virginia, April 13, President Alderman announced that among the various gifts recently made the University was a \$10,000 donation from Charles Steele for equipping the new hospital wing, which has been made possible by his generosity.

Dr. Job G. Holland,

Of Holland, Va., paid a brief visit to friends in Suffolk, early this month.

Dr. L. J. Stump,

Of Pocahontas, Va., was elected chairman of the mass meeting held in Tazewell, Va., April 11, to elect delegates from the Ninth District to the State Democratic Convention in Roanoke, in June.

The West Virginia State Medical Association

Is to hold its annual meeting in Wheeling, May 16-18, under the presidency of Dr. A. P. Butt, of Davis. Dr. J. Howard Anderson, of Marytown, is secretary.

Dr. and Mrs. John F. Armentrout

Have returned to their home in Roanoke, Va., after a short visit to Richmond.

Dr. William E. Knewstep,

Of Hampton, Va., was a visitor in Richmond, early this month.

University of Virginia Men Secure Appointments.

At the recent examinations of contestants for internship at the Cincinnati General Hospital, Wm. K. Vance, Jr., Bristol, Va.-Tenn., and Oscar B. Biern, Huntington, W. Va., both of the senior medical class of the University of Virginia, were two of the successful applicants.

Dr. John M. Scott,

Of Hagerstown, Md., has recently been elected mayor of his city for the fourth consecutive term.

Another Hospital.

A new hospital was opened early this month at the Dupont plant in Hopewell, Va., near the James River Y. M. C. A., in which contagious diseases only will be treated. It is said to be

fitted with every requisite of a modern hospital.

Dr. and Mrs. George C. Hall,

Of this city, motored to Baltimore, early this month for a short visit to friends in that city.

Dr. W. O. Lee

Has returned to his home in Danville, Va., after a short visit to Richmond.

Pellagra

Is said by the U. S. Public Health Reports to have taken a toll of 8,000 lives in the United States during 1915.

Dr. W. P. Hoy,

Petersburg, Va., was elected surgeon of the A. P. Hill Camp, Sons of Confederate Veterans, of that city, at its annual meeting, April 7.

Dr. F. G. Scott, Jr.,

Orange, Va., was a recent visitor to Charlottesville, Va.

Dr. William Beverley Pettit,

Of New Canton, Va., has again sailed on one of the British ships carrying munitions of war to the allied forces. This time he was to go directly to Egypt and expected to return to his home about midsummer.

Dr. W. O. Smith,

Altavista, Va., was a recent visitor to Keswick, Va.

The Mary Washington Hospital Association,

Fredericksburg, Va., has awarded the contract for the building of an addition to the hospital, the price to be \$6,500. Work is to begin at once.

Dr. Frank J. Morrison,

Of Chuckatuck, Va., visited New York, about the middle of this month.

The Lynchburg and Campbell County (Va.) Medical Society

Held its regular monthly meeting, April 3, Dr. E. W. Peery presiding. Twenty-five members were in attendance. Dr. Manfred Call, of Richmond, read an interesting paper entitled,

"The Minimum Medical Examination." Dr. Bernard H. Kyle was in his place as secretary.

The Warwick County (Va.) Medical Society

Had the dentists as their guests at its regular meeting, held at the Warwick Hotel, April 11. The address of the evening was given by Dr. Clarence Porter Jones on "Focal Infections." Drs. S. W. Hobson and Aaron Jeffrey are president and secretary, respectively, of this Society.

Dr. James G. Riddick,

Of Norfolk, Va., has entered the campaign for mayor of Norfolk on the independent ticket. The general election is to be held in June.

The Southern Sociological Congress,

Meeting in New Orleans, this month, elected Dr. C. H. Brough, of Fayetteville, Ark., president, and re-elected J. E. McCulloch, of Nashville, Tenn., general secretary. Dr. Oscar Dowling of New Orleans, is one of the vice-presidents. The time and place of the next meeting will be decided later. Dr. C. J. Hatfield, secretary of the National Association for the Study and Prevention of Tuberculosis, in an address stated that, although there had been a decrease of 25 per cent. in the tuberculosis death rate in the last ten years, there are yet 1,000,000 cases of the disease in the United States at this time, with only 40,000 beds available for consumptives in hospitals. Four thousand visiting nurses are engaged in visiting at the homes of patients.

The Sons of Confederate Veterans,

Richmond Chapter, at its annual election of officers, April 17, elected Dr. McGuire Newton, surgeon, and Dr. Virginius Harrison as a member of the executive committee.

The Military Surgeon,

With its April issue, appears in a greatly enlarged form and makes an appearance so attractive that it is a pleasure to have the book in one's library, apart from the worth of the matter it includes. We had wondered how a publication of this sort could be financed in the usual way until we noted from an editorial on its re-organization that "the extra money necessary has come from sources hitherto untapped and entirely separate from the previous income of the Association" and "the improve-

ments carry with them not a single dollar of additional burden." We congratulate the Association and the editor, Lt. Col. E. L. Munson, M. C., U. S. A., on their excellent journal.

St. Agnes Polyclinic.

The management of the St. Agnes Hospital for colored people in Raleigh, N. C., announces the organization of the St. Agnes Polyclinic. Its object is the extension of the work of the hospital and the use of its varied material for post graduate instruction. The medical staff includes Drs. H. A. Royster, H. G. Turner, Hubert Haywood, Jr., A. S. Root, C. O. Abernethy, R. H. Lewis, K. P. Battle and Wright.

The American Society of Tropical Medicine

Will hold its thirteenth annual meeting in Washington, D. C., in affiliation with the Triennial Congress of American Physicians and Surgeons, which meets there May 9-11, 1916. Dr. Milton J. Rosenau, Boston, is president and Dr. John M. Swan, Rochester, N. Y., secretary.

Epilepsy

Is caused by a germ, according to Dr. Charles A. L. Reed, of Cincinnati, in an address given last month in St. Joseph, before the Missouri Valley Medical Society. He claims that this new germ, called the bacillus epilepticus, like the bacillus of lockjaw, exists in the soil, and enters the body through the stomach and intestines.

The American Association of Anesthetists

Will hold its fourth annual meeting in Detroit, Mich., June 12, at the Hotel Tuller, just prior to the sessions of the American Medical Association. The scientific sessions, which promise to be very interesting, will be followed by a banquet at the Hotel in the evening. Further information may be obtained of the secretary, Dr. James T. Gwathmey, of 40 East 41st St., New York.

Campaign for Prevention of Blindness in North Carolina.

The Committee on Conservation of Vision, appointed some months ago by the Medical Society of North Carolina, is planning a vigorous campaign during the coming summer and fall. Lectures, exhibits, etc., will be given

before the general public, and it is hoped that these will pave the way for the introduction of a bill before the next Legislature, providing for the free distribution of prophylactic, the licensing of midwives and early reporting of ophthalmia neonatorum on the part of the physicians. A number of states have already passed laws along this line.

The Memorial Hospital Bulletin,

To be issued monthly by the Memorial Hospital, Richmond, Va., made its initial appearance in April. This first issue gives an interesting history of the Hospital, together with a number of photogravures of the exterior and interior of the institution. "Subsequent issues will be devoted almost exclusively to the publication of case reports or other scientific papers read by members of the Staff," at its regular meetings. This Bulletin will be mailed free of charge to members of the medical profession who make application to the business manager, Mr. Frederic B. Morlok, Memorial Hospital, this city. Dr. William A. Shepherd is editor.

Examination of Candidates for Assistant Surgeons, U. S. P. H. S.

Boards will be convened at the Bureau of Public Health Service, 3 B St., S. E., Washington, D. C., and a number of the Marine Hospitals of the Service, May 31, 1916, for the purpose of examining candidates for admission to the grade of Assistant Surgeon in the Public Health Service, the salary in this grade being \$2,000 a year. Successful candidates will be numbered according to their attainments on examination and will be commissioned in the same order. They will receive early appointments.

Candidates, who must be between 23 and 32 years of age and graduates of reputable medical colleges, must have had one year's hospital experience or two years' professional work. They are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate. Examinations, which will cover a period of about ten days, will be physical, oral, written and clinical.

After four years' service, assistant surgeons are entitled to examination for promotion to

the grade of passed assistant surgeon, at \$2,400 a year. Passed Assistant Surgeons after twelve years' service are entitled to examination for promotion to the grade of Surgeon, at \$3,000 a year. Senior surgeons receive \$3,500 and assistant surgeon-generals \$4,000 a year. When quarters are not provided, commutation at the rate of \$30, \$40, and \$50 a month, according to the grade, is allowed. All grades receive longevity pay, 10 per cent. in addition to the regular salary for every five years up to 40 per cent. after twenty years' service. The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For invitation to appear before the board of examiners, address "Surgeon-General, Public Health Service, Washington, D. C.

The American Academy of Medicine

Is to hold its forty-first annual meeting in Detroit, Mich., June 9-12, with headquarters at Hotel Statler. This meeting promises much of interest for those attending. Drs. Woods Hutchinson, New York City, and Thomas Wray Grayson, Pittsburgh, Pa., are president and secretary, respectively.

Measles Still in the State.

From a number of places come reports of a large number of cases of measles. In Richmond, during March, there were reported 1,068 cases, while in Petersburg, it is stated there were 1,114 cases. Lynchburg had a good number of cases, as also Danville.

Obituary Record.

Dr. Andrew Capers Doggett,

One of the oldest and most beloved of the general practitioners of Fredericksburg, Va., died at his home in that place April 14, after several months of intense suffering with cancer of the stomach. He was nearly sixty-four years of age. He received his medical education at the University of Virginia from which he graduated in 1875, later taking a post-graduate course at Bellevue Hospital, New York City. Upon returning from New York, he began the practice of his profession in Fredericksburg, his native home, where he has

since resided. He is survived by his second wife and a daughter by the first marriage.

Dr. Thomas M. Dunn,

A prominent citizen of Albemarle County, Va., died at his home at Free Union, April 4, in his eightieth year. He was a practising physician for nearly sixty years, having graduated from the Medical College of Virginia in 1857. Dr. Dunn had been identified with the political life of Albemarle County for about fifty years and had on several occasions represented that county in the State Legislature. He was never defeated for any public office for which he tried. His widow and three children survive him.

Dr. Richard Adams Epes

Died April 12, at his home in Blackstone, Va., after a week's illness of pneumonia. He was thirty-eight years of age and had studied medicine at the Medical College of Virginia, later taking a post-graduate course in Baltimore. He was for some time associated with Dr. W. V. Atkins, of Blackstone, in the practice of his profession. His widow and several small children survive him.

Dr. E. D. Supplee,

An assistant surgeon at the DuPont Hospital, City Point, Va., was drowned on April 2nd, it is supposed in an effort to save his wife, both having left this city in a canoe that afternoon. Both bodies were recovered between this city and City Point. Dr. Supplee was a native of Washington, D. C., about twenty-five years of age, and had graduated from the Medical College of George Washington University in 1914. He had been married only about four months, and had been at the DuPont Hospital for only a short time.

Dr. Theodore B. Sachs,

Of Chicago, a graduate of the University of Illinois College of Medicine in 1895, died suddenly at the Edward Sanatorium, Naperville, Ill., April 2. He was born in Russia in 1868. Dr. Sachs was considered an authority on diseases of the lungs and, at the time of his death, was president of the National Association for the Study and Prevention of Tuberculosis.

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THE FREE DISPENSARY AS A MUNICIPAL HEALTH AGENCY.*

By JAS. H. SMITH, M. D., Richmond, Va.

In the last report of the State Board of Charities and Corrections to the Governor of Virginia, there were listed only four general dispensaries and three tuberculosis dispensaries within the State, and these all in three cities.

I do not know that this is the whole of the medical dispensary work in the State, nor how far it represents the conditions in the Carolinas. But it may be that the introduction of the subject here will stimulate a special interest with reference to some locality.

The free dispensary had its birth in London in the seventeenth century. The Apothecaries Guild was imposing upon the poor of the city by prohibitive prices for drugs, and the dispensary was resorted to by the physicians as a means to protect the sufferers.

In America the institution has developed largely as an adjunct to medical teaching. Thus it has both a philanthropic and an educational aim. These dual functions are not only compatible one with the other, but are mutually helpful. The standards of instruction given the student and of treatment given the patient are usually about on a par.

As far as I know, there is little or no opposition from the profession to the dispensary's work, for these people belong almost wholly to a class who do not pay the private physician. In their dealings with private practitioners, they employ one after another—in each new illness summoning one to whom as yet they owe nothing. The subject for free treatment should

be the patient who cannot pay for good medical attention by the standards of the community. In the South, I do not think the privilege is abused in more than one per cent of cases. I am told, even in the North, that the matter of dispensary abuse is more talked of than practiced. At any rate, where the necessity has arisen, practical methods of control have been applied.

The point of view I want to emphasize is the patient as an individual and as a citizen. We need not stop to discuss whose business it is in a democracy to take care of the sick poor. The natural history of most institutions organized for this business in America is about as follows:

In some locality, an individual conceives the plan, and he or a group of private citizens back their faith with money. If it is successful, public interest is aroused to the point where public funds are appropriated for its support, or for the starting of a similar institution. In another community, the experiment may have to be tried over again by private means, or the municipality in its official capacity may accept the results of other cities. This is the history of schools, hospitals, dispensaries, visiting nurse associations, mechanics' institutes, of juvenile protective agencies, and similar activities. It is the line of evolution of the social conscience. The extension of free dispensaries into smaller communities will proceed along both routes, private enterprise and public appropriation.

At one time it was thought sufficient for the dispensary to bring together the patient and the physician. But that day has passed. No matter how perfect the internal organization, the dispensary which operates solely within itself is stunted. It must be connected up with hospitals and agencies that reach the home of the patient. The average cost of conducting

*Read before the Tri-State Medical Association of the Carolinas and Virginia, at Richmond, Va., February 16-17, 1916.

the inside activities of a general dispensary is about 20 cents per visit. I will not say this is a poor investment, but at least such a business stands badly in need of development.

Patients applying for treatment at a general dispensary may be roughly grouped into four classes:

1st. Those with simple ailments or accidents that can be satisfactorily treated on the floor of the dispensary.

2nd. Those needing hospital care.

3rd. Those who need the services of a nurse at home to carry out the treatment prescribed in the dispensary or for the protection of the family and neighbors.

4th. Those whose physical disease is complicated by the pressure of social conditions.

First: The group requiring no attention outside of the dispensary.

By far the largest number come in this class, and it was in dealing with them that the dispensary first proved its right to exist. Many of them, of course, would get well without any treatment. But so it is in private practice. Many others are saved from serious illness by timely attention. Prevention of infection in wounds and the rational treatment of wounds already infected saves much time to the laborer and his employer. Urethritis in the male is well adapted to dispensary treatment, and any educational campaign in venereal conditions can find in the dispensary the pupils it should reach, and in as impressionable a state of mind as can be hoped for. The application of casts for orthopedic conditions, much of the work on the eye, ear, nose and throat, the oversight of the pregnant woman—this is the class of work in which the expenditure of 20 cents per visit yields good returns.

Second: The patient coming to the dispensary and found to need hospital attention.

This group represents approximately 5 per cent of the cases applying to a general dispensary for treatment. So it is quite necessary that the dispensary shall be affiliated with a hospital prepared to care for indigent patients. Often the ideal arrangement is that the dispensary shall constitute the out-patient department of the hospital. In communities where no municipal hospital exists, provision is often made by the municipality for privately owned institutions to care for a limited number of patients. While hospitals were few, dispensaries were

limited to large cities. But as surgery filtered through its metropolitan bounds, and took surgeons to towns instead of forcing townspeople to come to surgeons, hospitals multiplied and extended, until now every town of 10,000 inhabitants claims a hospital of its own. In the wake of the in-patient hospital is coming the out-patient department as a factor in the maintenance of the public health. The dispensary needs the hospital to care for certain patients: the public hospital needs the out-patient department to care for people who would otherwise entail unnecessary expense for hospital beds. The dispensary can serve the hospital by holding in the ambulatory class people who will do as well treated in this way; and by taking over ex-patients from the hospital, safely discharged at an earlier date because of the facilities afforded by the dispensary.

Third: The group requiring nursing attention at home.

In dealing with this and the fourth class of patients, the free dispensaries of the country are keeping pace with the progress of the day. Time will not permit an extended discussion of the field of the visiting nurse in co-operation with the dispensary. In infantile feeding, infantile diarrhea, parasitic conditions, skin lesions, the re-education of the muscles of orthopedic cases, and in many other conditions she can make effective the treatment prescribed by the dispensary staff. Going directly to the home of the patient, she ministers to his personal needs: if he is a source of danger to the public, the role of educator is added to the functions of the nurse. No class of cases illustrates the possibilities of co-operation between the dispensary and the visiting nurse better than the tuberculous. Dr. Hamman, in speaking of tuberculosis before the Medical Society of Virginia, said:

“The dispensary is the central point of attack, the clearing house of all other anti-tuberculous activities. It is the station where the tuberculous are discovered, and the fears of those not infected are confidently dispelled. It is the doorway to sanatoria, hospitals and other institutions.”

That the dispensary can be made, in fact, the central point of attack, I think I can show.

The first consideration in combating tuberculosis is to know, individually, who the vic-

tims are, and where they are located. In the cities of the South, three-fourths of the tuberculous cases are among the negroes. Seventy-five per cent of the attendance of the Dispensary of the Medical College of Virginia is colored. During the past two years, approximately 7,500 colored persons have visited this dispensary. There are 40,000 colored people in the city. One out of every six of the whole colored population, sick and well, is registered there. Naturally, the enrolment represents a much larger proportion of those chronically sick. I think it is safe to say that probably one-half of the tuberculous negroes in Richmond, having the disease in communicable form and exclusive of the bedridden, have within two years registered their names and addresses in the general dispensary. These figures are not quoted to show what this institution is accomplishing in tuberculosis, but to show the opportunity. They bring out the high importance of concentrating every energy on the recognition of the disease when and where the opportunity offers, and of providing an adequate corps of visiting nurses to combat its progress in the individual and in the community. In a very real sense the dispensary can be made the central point of attack. It is not only the doorway to the hospital, but the street directory of the infected. The visiting nurse is the one great arm we have for the control of tuberculosis in the negro. For we have no sanatoria for these people in Virginia, and the beds provided by any State must be altogether inadequate.

What is true of tuberculosis is in some measure true of syphilis. The dispensary is destined to play a leading part in the fight yet to be made against this disease. The following data will tend to show at once the magnitude of the problem, especially among the negroes; the utter lack of any appreciation of the necessity for prolonged treatment; and the dependency of the dispensary on some sort of suasion, moral or legal, to get the patient's co-operation.

During the year 1915, 356 specimens of blood were reported positive in the dispensary already referred to. This means that 356 individuals were definitely diagnosed to be suffering from a disease amenable to treatment, many with lesions of a communicable type. 103 made one visit only; 68 made two visits only; and so on in this inverse ratio: 47 made three visits; 34 four visits; 24 came five times; 18 six times;

9 seven times; 8 eight times; and nine made nine visits each. 36 came as often as ten times or more—only 10 per cent, therefore, treated thoroughly, even by a low standard of the necessary visits.

Do these figures minimize the value of the dispensary as a public health agency? Not at all. For whatever means are ultimately adopted to combat this scourge, the basis for its control must be a knowledge of its whereabouts. This is the first essential in putting into effect such measures as the authorities may prescribe or the opinion of the times permits. I do not wish to be understood as asserting that the time is ripe for making syphilis a reportable disease. But I do believe there is no other agency now at our disposal with a capacity for locating it equal to the dispensary. And I believe it is possible, even now, through educational measures conducted in the dispensary and at the home of the patient to considerably improve the thoroughness of treatment.

4th. The group whose physical disease and its treatment are directly related to a social handicap.

The intimate association of disease and poverty is strikingly illustrated by some figures published by Frankel. This writer analyzed the cases of 100 persons applying for relief to a charitable organization in New York, and found that in 62 the destitution was due to illness. Only last week the Chief Health Officer of the City of Richmond forcibly impressed this point. He went personally before the Administrative Board in behalf of a certain family, to secure a suspension of the rule requiring water to be cut off for the non-payment of the tax. The family was deserving, but was in financial straits due to illness, and the Board promptly afforded the necessary relief. If one-half the economic cripples can be traced in some measure to disease, and if illness flourishes amidst poverty, where can the headwaters of the stream be better charted than in the free dispensary? The dispensary furnishes at least one point of attack for the charities of the community. On the other hand, the dispensary needs a sane, constructive social service arm to get results in the medical treatment of many of its cases.

The mere fact of poverty does not in itself constitute a call for alms. Nor is the task of the social worker the distribution of alms. Her

activities are hedged about by the constant danger that, instead of constructive work, she may add to the public burden of social parasites. It is no field for the sentimentalist. The particular relation of the social service worker in the dispensary is with the patient as a person and as a citizen. Her function is not that of the nurse, though in small communities she must often be one and the same person. She must study the environment of the patient in its bearings on his disease, and, as far as possible, remove the obstacles to effective treatment. Naturally, the acquaintance made with a family through the introduction that illness gives, will often lead her far beyond the illness itself. But this is a side of the work with which we are not directly concerned in this paper. Let me briefly illustrate the scope of this new phase of dispensary work:

A child is referred to the dispensary by the school physician to determine the cause of its backwardness. Hypertrophied tonsils and adenoids, thyroid poverty, congenital syphilis, and all such etiological factors are excluded. It is a case of malnutrition. The school cannot teach the child in this condition; the dispensary cannot treat it; it is not a hospital case; it does not need home nursing, but food. This is the province of the social worker. A drunkard father may be made to contribute to its support, or a widowed mother helped with her burden of dependent children.

Or the staff physician advises the man with beginning cardiac decompensation to change his work. But he knows only one trade. Common labor would be not better, but worse. He can earn his living if given a chance. This, again, is the job for the man or woman who knows and holds the confidence of men employing a large number of people in light work. These people are not stamping out disease primarily, but they are breaking a vicious circle, of which one segment runs through the free dispensary.

I shall say nothing concerning the internal organization of a dispensary, because this phase must vary with local conditions. Departmental subdivisions are largely determined by the degree to which specialization is carried out in the local profession. Changes have to be made with the growth and development of the institution. This very flexibility makes the dispensary an exceedingly adaptable instrument. Its

location is fixed and accessible. It can develop its outside activities according to circumstances. It can ally itself with widely diversified agencies under separate management. It can serve as the medical adviser of juvenile courts and protective societies, agencies for placing children in homes, and all such forms of benevolent activity, with the advantage of ready consultation between specialists in many lines. Its position is not often dominant. It accomplishes most when it recognizes its limitations. It is self-sufficient in a large and important group of cases. But its greatest possibilities lie in its power to individualize the health problems of a community.

6 West Franklin Street.

TWILIGHT SLEEP.*

By VIRGINIUS HARRISON, A. M., M. D., Richmond, Va.

The term twilight sleep when used as synonymous with an unconscious condition and a painless labor is a great misnomer, does the method an injustice, and disappoints the patient.

Twilight sleep was conceived in Germany, and the infant method was delivered by Steinbuechel in 1902. It was a blue baby from the beginning, and was attended by many Germans, but finally delivered in a satisfactory condition to Gauss in 1906, he then reporting 300 cases.

In reviewing the literature, we naturally find papers only from those who are enthusiastic on the subject, and among the best of them are those by Knipe¹, Harrar and McPherson², Rongy³, Polak⁶⁻⁹, Baer¹⁰ and Beach⁷. Much of what I will have to say is taken from these papers and the reports of the discussions of them.

Twilight sleep can be divided into three periods: first, the patient is completely awake, impressions are stored in the memory, though there may be a diminution of pain; this indicates too small a dose of scopolamin; the second period, and the real twilight sleep of Gauss, in which the patient perceives impressions but does not store them up in memory; the third period, the impressions are neither perceived nor stored in the memory; this indicates too much morphine or scopolamin.

*Read before the Medical Society of Virginia at its forty-sixth annual meeting at Richmond, October 26-29, 1915.

Drugs and Dosage.—The Gauss method is to administer hypodermatically one-sixth of a grain of morphine; the needle is left in position and another syringe containing 1 c.c. of a solution of 1-200 to 1-150 of a grain of scopolamin (Straub) is given through it. In from thirty to forty-five minutes, according to tests as to memory, she is given another dose of scopolamin, this time the dose being from 1-200 to 1-400 of a grain. The morphine is not repeated, according to reports in literature. The doses are repeated as necessary, and success is claimed to be due to the gradual induction of the amnesia, and not forcing too much in a small space of time. Gauss emphasizes the point that the scopolamin must be a stable solution (Straub), put up in ampules of 1 c.c., containing scopolamin, grain 1-150 to 1-400, which will be the ordinary doses. He also emphasizes the fact that it requires a great deal of practice and experience to know just how much of the drug to use for any individual woman.

Many variations of the Gauss method have been tried, with varying degrees of success and disappointments.

To obtain just the right period requires acute judgment on the part of the obstetrician to give the right dose to any individual woman, and this is the secret of the method that but few have been able to learn. If the first period only is reached, the method is a failure, as memory is not interfered with and pain but slightly reduced. If the third period is reached, then the dangers to both mother and child assert themselves, indicated by inertia in the mother and a blue baby to revive, which is not always successful.

To produce twilight sleep and conduct a woman safely through a labor under its influence requires a good technical knowledge of the physiological and toxicological action of morphine and scopolamin, and more obstetrical knowledge of the forces at work, in both normal and pathological labor, than is usually possessed by those who profess to be particularly fitted for this work, by experience and special study.

The use of the drugs cannot be turned over to some one else, as you would in inhalation anesthesia, for one must be possessed of good obstetric knowledge to know how far to carry

the effect of the drugs. If one were expert in this he would manage the case entirely.

The after-treatment of the Freiburg patient consists of passive exercises of the muscles the first day; the second day these exercises become active; the third day the patient is allowed out of bed. The fourth day the patient is allowed to walk about, the only contraindications being, lacerated perineum, elevated temperature and anemia. No bad results are reported, and it is claimed that involution is more rapid. Gauss claims that early rising gives less phlebitis, less retroversion, less muscular relaxation and more rapid involution of the uterus. Knipe and others claim that the twilight sleep has nothing to do with these improved conditions, but they are solely due to the early rising.

The dangers to the unborn child are, first, the direct effect of the drugs. That the drugs pass over to the child is proven by their presence in the urine at birth. If too large a dose has been given, it gives rise to a condition of respiratory paralysis, manifesting itself as apnea or oligopnea; this latter condition is indicated by the child crying once at birth, and then becoming blue, with no impulse to spontaneous respiration until sufficient carbon dioxide has accumulated, when it will take one or more breaths and become blue again. It is claimed that, without treatment, in about fifteen minutes the child will commence to cry and breathe, and soon be out of danger. While in this condition of oligopnea the infant's heart is very irregular and may get down to sixty per minute. I would think it is advice well given to keep the family out of the room, if we must let a baby stay for fifteen minutes without trying to do something for it. Deep asphyxia may occur and require smacking and tubbing, hot and cold, to revive it.

The asphyxia may be due to too much morphine, too much scopolamin, too much intrapelvic pressure, or to a combination of all these causes. Gauss claims if his method is carried out, there will be no blue babies. All who have had experience with twilight sleep admit the second stage of labor is prolonged, even if the total number of hours of labor are shortened. The prolongation of the second stage will average one hour in primiparae, and one-half hour in those who have had children. Therefore, twilight sleep has a di-

rect danger to the child by increasing the chances of birth trauma.

Hocheison, Steffen and Wartapatian¹ report cases where the drugs used had a deleterious effect on the strength of the contractions of the uterine and abdominal muscles. Knipe says this is due to improper dosage. Gminder and Bass report cases where there seems to be a lingering effect of the scopolamin on the child, shown by a sleepy condition, the child refusing to nurse, the reflexes are slow, the pupils are dilated and without reaction, while the Freiburg clinic states that there are less still-births with than without twilight sleep.

The results reported by Gauss in his first three hundred cases are as follows: Born alive, 98.3 per cent.; still-born, 1.7 per cent.; crying lustily, 56.4 per cent.; asphyxia, 14 per cent.; oligopnea and apnea, 27.1 per cent.; so that of the 98 per cent. of the babies born alive, 41 per cent. were blue babies. In his last five hundred cases he had only 19 per cent. oligopnea and apnea. In 92 per cent. there was only a physiological bleeding after labor. The placenta had to be expressed by the Crede's method in 48.1 per cent. Forceps were used in 9.68 per cent. Harrar and McPherson² said the technique used by them was that of Gauss and Kronig. It was instituted only when the pains were five minutes apart and occurring regularly and lasting thirty seconds. They find that only one-fourth of the patients brought into the hospital were suitable for treatment, as they were too far advanced in labor. The drugs have no effect if the dose is given after the second stage of labor has begun. The Freiburg clinic claims success in 80 per cent. of its cases. Harrar and McPherson in one hundred cases had only sixty-six complete amnesic patients, ten partial, and twenty-four failures. Their average duration of labor was sixteen hours in primiparae, against eighteen hours in the untreated. The dilating stage of labor was the shortened part of labor; the lengthened second stage was noted. In their one hundred cases, seventeen were delivered by forceps, instead of eleven without twilight sleep. There were forty-seven lacerated perineums in the untreated and only thirty-six in those who had the scopolamin-morphine administered. Without treatment there were seven cases of asphyxia and one still-birth, while in those who

took the twilight there were ten asphyxiated babies and two still-births. Rongy³, in a paper, gives his experience with twilight in the Jewish Maternity and Lebanon Hospitals. He had a very good chance to study the method correctly, as he said he had the good fortune to obtain the services of Dr. K. Schlossingk, who had for four years been one of the assistants of Professor Kronig at Freiburg. Dr. Schlossingk took entire charge of the cases, and followed the identical technique of Kronig and Gauss.

Results in these Hospitals.—Rongy said that Schlossingk was not familiar with our type of women, and the solutions were not what he wished, the hospital not equipped as it should be, so the results were not encouraging. This to me should be a warning to those of us who have seen none or very few cases, to be very careful how we handle such methods, when an expert, who has learned under the originator, cannot use it successfully unless he is surrounded by very special conditions. E. B. Cragin⁴, in discussing these papers, says the more he studies the subject the more he finds he has to learn. He also had Dr. Schlossingk, the Freiburg assistant, to do the teaching at the Sloan Hospital, and Dr. Cragin says he "freely confesses they have had all the bad results one is likely to have in a long series of cases, but as they were beginners, he has to learn the advantages. He would present the disadvantages." The first he mentioned was the liability to uterine inertia, which was of frequent occurrence without the method, and would be more frequent with it. The patients at times were markedly excited and were liable to get out of bed, which interfered with aseptic work, if not contributing to sepsis. Again, it is hard to tell when a woman passes from one stage to another. He reports one case of still-birth at the Sloan, under the charge of Dr. Schlossingk, which he thought might have been saved by a forceps delivery one hour sooner, though he admits the child may have been killed by the repeated doses of scopolamin, or it might have been killed by the pituitrin; he thinks pituitrin is questionable in these cases. Another case showing the disadvantages was that of a frank breech, the child being left too long, and died soon after birth. Another disadvantage was that the woman could not use her abdominal mus-

cles to aid in expelling the child, and would require a forceps operation, whereas if other methods of anesthesia had been used, the woman would deliver herself.

Cragin and others say the method might be used as a first stage method and leave the second stage to be conducted along the old methods. All claim that the twilight sleep should be carried out in a hospital, and not in the home, unless the patient is financially able to take the hospital staff to her home for the whole time of labor. All agree that it should not be used by the general practitioner, but only by those who are specially prepared in obstetrical work. Ralph M. Beach⁷ made a report of one thousand cases of twilight sleep representing twenty-five different operators in America, and draws the following conclusions:

1. Twilight sleep is a reality, and not a fad.
2. By its application, we may give about 85 per cent. of the cases in which it is used, a practically painless labor.
3. It is contraindicated in certain definite cases, especially in primary uterine inertia, markedly contracted pelvis, and the emergencies of labor which demand operative interference.
4. It may be used in all other labors, and is especially applicable to the nervous and physically unfit women, in long first stage labors, and in cardiac cases.
5. The women after twilight labors are in better condition, because there are less difficult forceps operations, less lacerations of the cervix and perineum; better milk secretion and less nerve exhaustion. They recuperate much faster than by the old method.
6. It does not cause insanity, as stated in the lay press, but tends rather to diminish its occurrence.
7. We have more and better babies.
8. The disadvantages are slight, and we are learning to overcome them by a further knowledge of the method, a closer attention to detail and a perfection of technic.

Lastly, twilight sleep is a method which to give the best results must be performed under ideal surroundings, with the minimum dosage, and by some one who has trained himself to do the work.

Dr. Richard C. Norris⁸, in discussing Dr. Polak's⁶⁻⁹ paper, says that in strong, robust

women who have had children, ether analgesia and the judicious use of pituitrin in this class is a practical substitute for twilight sleep. But when we come to the hyperesthetic primiparae, the girl raised in the lap of luxury, whose nervous system cannot stand the strain, whose uterus refuses to act, and who, when she falls into labor is almost hysterical at the approach of suffering, I believe this method of twilight sleep, carried out with strictest details to minimize its dangers, will be a blessing.

Hirst says, in individual cases it is all right; as a routine practice, those of us with the most experience must condemn it.

E. P. Davis⁵ says the method needs a further and careful trial in comparison with other methods before its exact value can be determined.

Waintridge Williams, DeLee, Green, Hirst, Baer¹⁰ and others have tried twilight sleep, and abandoned it as having no advantage over the present methods, and so recorded themselves some time ago.

DeLee, in the 1914 edition of his book on obstetrics, condemns the method more emphatically than he did formerly. Arthur Dean Bevan¹¹ in the *A. M. A. Journal* of October 23, 1915, says the method should be rejected absolutely and finally as too dangerous and not efficient.

In this review of the literature I have so far tried to adhere to a strict neutrality. Personally I have had no experience with it, but with some men so enthusiastic in recommending it, and others, with equal spirit, condemning it, I think it safe to sound a word of warning to those less well equipped, to desist using the method until sufficient hospital data be given to be sure we are able to safeguard the babies, which is the *fundamental* end of pregnancy. "*We must look after the kiddies.*"

In order to discuss this subject, I will summarize what has been said:

1. The method is strictly one for hospitals.
2. The obstetrician must be thoroughly trained in the method, so he will understand the physiological and toxicological action of morphine and scopolamin when administered to a woman in labor, and also be able to detect the evil effect of the drugs on the unborn child. He must do more than this; he must be ready with assistants who are capable of

giving the child the proper treatment when born.

3. The obstetrician must be more than ordinarily skilled in the diagnosis of the normal as well as the abnormal conditions of labor, and the methods of correction. We have lost the usual signs of stage progress in an amnesic patient and have to rely on more frequent examinations, internally if you please, to tell what progress the case is making, and for this reason we may have more sepsis to deal with. Obstetricians are just now trying to preach attending cases without vaginal examinations, and this looks like a step backward. I do not believe rectal examinations are free from danger, nor will they give the information desired.

4. The method must be that of Kronig and Gauss to be successful; no other workers have attained the results reported by them. The scopolamin must be a standard stable solution (Straub or Hoffman-LaRoche); the memory tests must be taken every thirty minutes; the pulse of the mother and the heart of the child must be counted every fifteen minutes. Just here I would remark that if better babies and more of them are born under twilight sleep than without it, why is it so necessary to count the fetal so much oftener by this method than is recommended for other methods?

Pain must not be abolished or you have over-dosed, according to Gauss; you must not let the patient have any "iles of memory," or you have under-dosed, and she will declare that both doctor and the method are frauds.

5. Primiparae are the cases that give the best results, and they must not be given the treatment until the pains are five minutes apart, are regular, and some dilatation of the os has occurred to be sure that labor has really started. The uterus must be felt contracting to be sure that labor is progressing, and that it is not a false labor. To these cases relief of pain and memory will occur in from sixty to eighty per cent. Twenty to twenty-five per cent. of those whom we have promised relief will have to obtain it by the present methods. In women who have had children we cannot promise relief, as often they are too far advanced in labor when we first see them. If the second stage has begun in multiparae, the drug has but little effect on memory, as it

takes about two hours for the drugs to produce the amnesic condition.

6. The perineum must be watched as the child may be expelled without the knowledge of the attendant. If the child remains too long on the pelvic floor, it must be extracted with the forceps, under general anesthesia, though some report doing this work under the analgesic and amnesic condition.

A difference of opinion obtains in regard to the administration of the pituitary extract for the completion of delivery; some claim that it will cause more mechanical injury to the child, others that the child is already poisoned by two strong drugs, and another may be sufficient to terminate its life.

Lastly, we must consider the method, as suggested by Cragin and others, as an adjunct to the well-known methods, viz.: to shorten and lessen the pain of those tedious first stage labors, especially in the nervous, hysterical women.

"Be not the first by whom the new is tried, nor yet the last to lay the old aside."

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TUBERCULOSIS OF THE KIDNEY—NEPHRECTOMY—REPORT OF A CASE.*

By PAUL W. HOWLE, M. D., Richmond, Va.

My excuse for this paper is the report of a case, which, in my opinion, is not without interest because of the absence of striking symptoms, the early diagnosis, and the final proof of the disease with right nephrectomy and ultimate recovery of the patient. Clinical and surgical pathology of renal tuberculosis has advanced, and theories have been proven by operations and post-mortem findings with remarkable rapidity since the discovery of the tubercle

*Read before the Medical Society of Virginia at its forty-sixth annual meeting at Richmond, October 26-29, 1915.

bacilli in the urine by Conheim in 1892. Following soon after this, the cystoscope made its appearance and has proven invaluable as a diagnostic measure.

It was formerly believed and taught that tuberculosis of the kidney was always secondary to involvement of the bladder and was an ascending infection. At the present time, the converse is held; viz., that it is rarely, if ever, secondary to bladder involvement, but is secondary to a focus elsewhere in the body and the kidney becomes infected through the blood stream.

As may be expected, the lungs are the most frequent location of the primary focus. Walker reports 279 cases of genito-urinary tuberculosis in which he found the kidney involved first in 184. In none of these was the bladder the first to be attacked. Halle and Motz report 100 cases of their own and in none was the bladder the first to be involved. It is now generally conceded that tuberculosis of the bladder is secondary to infection of the kidney, prostate, or epididymis, and is almost never a primary focus.

In at least 50 per cent. of the cases, only one kidney is at first involved.

In studying the report of a number of cases, I am led to believe that from twenty to thirty per cent of all active cases of other types of tuberculosis have tuberculosis of the kidney. Kelley and Burnham have collected 12,688 autopsies done in five different hospitals, and in these tuberculosis of the kidney was found in 603 cases or 4.7 per cent. We find the predisposing causes not unlike those in other types of tuberculosis: viz., family history, lowered resistance, trauma, inflammatory conditions due to other causes, to which may be added renal calculus. It is a fact that the tubercle bacilli may pass through the kidneys and entire genito-urinary tract without causing infection, provided conditions are not favorable, just as we may and do breathe tubercle bacilli into our lungs from time to time and are able to throw them off. When infection occurs, it is usually the result of the bacilli reaching the kidney from the blood stream. They are then excreted with the urine and mechanically lodge in the niches of the calices, which are indifferently drained by the urine, and it is here they make their attack. It is doubtful if infection takes place in this locality through the lymph route, but the renal

blood and lymph do take part in spreading tuberculosis of the kidney to other structures.

It is an interesting fact that of the majority of cases of pulmonary tuberculosis, even in the earlier stages, twenty-five per cent. show albuminuria more or less constantly. It has been suggested that this is due to the irritating effect of the tubercle bacilli upon the kidney structure in the process of elimination. If this be true, it is more than probable that the mild nephritis thus established offers a suitable soil for the infection to fasten itself here. Since, as Cabot states, nephritis is usually unilateral in the beginning, it is therefore reasonable to conclude that this accounts for the fact that only one kidney is affected in fifty per cent. of the early cases. When bilateral, one kidney is always more extensively involved than the other. It is unquestionably true, however, that should the one most extensively involved be removed before the disease has advanced too far in the other kidney, the remaining one will usually clear up. It is a disease of adult life, with the largest number found between the ages of twenty and thirty; however, numbers of cases are reported in infants. Women are slightly more susceptible to this condition than men, which is probably due to the fact that the right kidney is slightly lower than the left with a resulting proximity to the pregnant uterus and Fallopian tubes. The right kidney is more frequently involved than the left.

Secondary infection may take place at any time and may enter from below or through the circulation, the type of infection being the colon bacillus, staphylococcus aureus or streptococcus.

There are two general types of tuberculosis of the kidney. First, the miliary; and second, the caseating. The miliary type is acute and usually accompanies a similar infection in other portions of the body, and is too rapid in its course to be of clinical importance from a surgical standpoint. Miliary tubercles may be seen scattered throughout the kidney substance and upon the surface beneath the capsule, and may be seen when the kidney is exposed to view.

The caseating type is chronic in its course, covering a period of from three to ten years or more. Here we find cheesy tubercles, surrounded by fibrous tissue, with slight nodular involvement of the organ. This process may be simple or multiple even to the extent of de-

stroying the entire structure. The tubercles usually show a tendency to caseation or calcification, in which event the progress may be slow, but there are usually fresh tubercles scattered through the periphery. Should the ureter become involved, the process is usually one of ulceration, deep or superficial, large or small, which may be filled in with cicatricial tissue, and if excessive, may entirely occlude the opening. The ureters may become plugged with lumps of caseous matter from the kidney, giving rise to symptoms which we will discuss later on. In this condition, secondary infection has usually taken place, and there may follow an extensive pyonephrosis, completely destroying the entire kidney substance.

The symptomatology of this disease is manifestly misleading, and in many early cases almost negative, so that one cannot emphasize too strongly the importance of this portion of the subject.

When a patient offers for advice on account of frequent or painful urination, it is not unusual for the physician to conclude that there is some slight irritation of the bladder, and, without further investigation, send him away with a prescription directed to relieve this condition, when a careful history and examination of the urine might reveal the presence of tubercle bacilli, pus or blood. The irritation referred to may be slight or so intense as to induce strangury. There may be a loss of control, incontinence, or enuresis in childhood. This is especially true if the disease has extended to the renal pelvis or upper the ureter. The pain may be worse at the beginning of urination, during or following it, and may extend through the entire length of the urethra.

Polynuria is usually present and is more marked from the affected kidney, with a low specific gravity, and if pus or blood are present the color will be cloudy.

Albumin is always present at some time during the course of the disease, and is usually one of the earliest manifestations.

Hematuria is often the first symptom, either microscopically or macroscopically and, when present, always demands a careful search for the cause. It is usually intermittent but may be constant in microscopical quantities. It is generally mixed with the urine and, when the

quantity is large, clots may be present, which sometimes assume the shape or cast of the ureter. Blood may be the only symptom in the early stage, and, like hemoptysis when it is the first indication of pulmonary phthisis, is almost never accompanied by any physical signs.

Pus is always present after secondary infection takes place, and may show itself during the early stage of the disease. If the urine containing pus is acid, and no organisms can be grown on ordinary media, Richardson thinks it is strongly suggestive of renal tuberculosis. The casts and albumin which may be found are usually due to the accompanying nephritis.

A frequent and painstaking search should be made in every suspicious case for the tubercle bacilli. It is generally conceded that they are difficult to find in the urine, but conservative authors claim that they should be found in 80 per cent. of all cases. Care should be taken to secure a catheterized specimen, since the smegma bacillus takes the same stain and is quite similar in appearance. In order to make their detection easier, one author suggests the use of potassium iodide beforehand, provided the lungs are not seriously involved. No liquids are given for several hours prior to examination, and the kidney is massaged. This is claimed to provoke an irritation which will increase the number of bacilli present in the specimen. Another gives large quantities of water, collects the specimen in a cone-shaped graduate, washes with sodium chloride solution, and after allowing it to stand for a time, centrifuges the sediment.

Pain may be entirely absent until the disease is far advanced, or it may be among the early symptoms. Squier says that disease of the kidney *per se* as with the affection of other glandular organs, is practically devoid of pain. When present, it is due to some increase in tension as a result of infection. When present, it is usually dull, aching in character, over the region of the kidney, or along the course of the ureter. Should there be a blocking of the ureter with caseous matter, the pain is usually severe and simulates renal colic. The kidney is usually tender upon deep palpation, and fist percussio may elicit intense pain.

The constitutional symptoms are loss

of weight and appetite, indigestion, anemia, increasing as the disease progresses, night sweats and chills and fever when secondary infection has taken place.

An early diagnosis is of first importance, and in no condition is a careful history taking more essential than in tuberculosis of the kidney. Should a patient present himself with a history of frequent and painful urination, loss of weight, vague pains in the back, digestive disturbances and blood or pus in the urine, we should first disprove tuberculosis of the kidney before assuming it to be absent. If the tubercle bacilli are found, we have ratified our suspicions, and then it would only remain to determine the extent of the involvement, and treatment to be given. If albumin is present without any other satisfactory reason, and there are present other signs which point to tuberculosis of the kidney, we are well on the road to a correct diagnosis, especially if pus is found.

The cystoscope is invaluable in the study of these cases, since much can be learned from the appearance of the bladder. If the mouth of the ureter is inflamed, edematous, dimpled or ulcerated, we may indict the kidney of that side. Considerable importance is attached to the dimpled or golf-hole appearance of the ureter, which is of itself a valuable diagnostic point. Berger has added to our list another method of diagnosis, which consists of the excision of a piece of edematous mucous membrane from the suspicious ureteral orifice or from the suspicious area of the bladder. Upon examination, he claims that this mucous membrane will be found to contain miliary tubercles at a time when no other positive evidence of the disease is at our disposal, thus rendering it possible to make a diagnosis before the bacilli make their appearance in the urine, with negative symptoms, and negative guinea-pig test.

There is a considerable difference of opinion as to the safety of introducing a catheter into a healthy ureter which must pass through an infected bladder provided the disease has only involved one kidney. When this is done, the bladder should be washed out carefully with some mild antiseptic or normal salt solution before the second ureter is invaded. Radiograms should be made of the kidney with X-ray catheters in position, both before and after

collargol injection. This will show the presence or absence of renal calculus and will bring out any cavities or enlargement which may be present in the kidney.

Kelley states that 60 per cent. of right-sided pain is due to some disturbance of the kidney or ureter, although we are aware that it is entirely absent in a large number of cases throughout the course of this disease. If it is present in a patient who has symptoms of cystitis and pus in the urine, there is not much doubt as to the diagnosis.

Before a nephrectomy is decided upon, it is very necessary to determine the functional activity of the healthy kidney or the one least involved, and this is done by the pthalein test. In no instance should a kidney be removed when the remaining kidney does not show at least one-third of healthy tissue.

In catheterization of the ureters, the specimens should be collected separately, and carefully examined for blood, pus and tubercle bacilli. If pus and blood are found, but no bacilli are present, then a portion of each should be injected into the peritoneal cavity of tuberculin tested guinea-pigs. Autopsies should be done at the expiration of three weeks, and if tubercle bacilli are present, we may safely assume the involvement of the kidney from which the specimen was taken.

Kelley emphasizes the thickened ureter which may be palpated in the female, which he thinks is of great value, especially if coupled with tubercle bacilli in the urine.

Tuberculin tests are used by some, but are absolutely worthless unless accurately given and temperature charts kept.

In every suspicious case, we must search carefully for the primary focus which is usually located in the lung. The blood should be examined for leucocytosis and the temperature should be carefully watched. Palpate the abdomen for enlargement, though this is rarely found except in pyonephrosis and perinephritic abscesses.

While the constitutional treatment should by no means be neglected, we know that the only rational procedure is prompt nephrectomy of the kidney most diseased, provided of course, the remaining one is capable of doing the work. Among the contra-indications to nephrectomy may be mentioned acute miliary tuberculosis, extensive pulmonary, peritoneal

or bone involvement. If slight infection only is present, then nephrectomy should be done.

It would appear from the number of cases I have studied, that 80 or 90 per cent. if seen early, may be cured by the removal of the kidney most involved. For some reason, it is claimed that better results are obtained in women than men. Should the ureter show marked disease, it should be removed throughout the affected portion or, after the method of Mayo, it should be injected with a few drops of pure carbolic acid.

I wish to call your attention to the following case:

Date, February 15, 1915. Mr. J. W., white, male, age 24, occupation, bookkeeper, single, weight 130 pounds, height 5 feet, 7 $\frac{3}{4}$ inches. His father and mother are living and in good health; he has four brothers and two sisters, all in good health. He has had the usual diseases of childhood. He claims to have had several short attacks of malarial fever prior to 1909. Since 1909 he has had indigestion from time to time, characterized by a fullness and discomfort after meals, but has never had any acute abdominal pain, so far as he can recall. Has always been inclined to constipation, more particularly during the last five years. When his bowels have been neglected, among the other symptoms of indigestion, he has had nausea occasionally, but has never vomited.

For the past six months, he has had to void once during the night, and there has been a slight increase in frequency during the day. The digestive disturbances have been more pronounced and constant for the past year, so that he has found it necessary to diet himself constantly; otherwise, there would be marked discomfort in the upper abdomen and chest. For the past year, he has noticed pains in the back, usually at bedtime, described as a dull, thumping sensation.

In July, 1914, the patient was examined for life insurance and was told that his urine contained albumin. About six months later he consulted me.

Physical examination showed a patient fairly well nourished, rather anemic, and of a nervous temperament. The heart and lungs were negative, pulse 80, blood pressure 118, temperature 98 $\frac{2}{5}$. The liver was enlarged but not tender, spleen normal in size. There was marked tenderness upon deep pressure

over McBurney's point, likewise over the region of the right kidney. No enlargement of the kidney could be determined. Urinalysis showed specific gravity 1,018, albumin decided trace, sugar none, acetone none, indican none, chlorides normal, casts none, pus quite a number of cells, blood occasional, tubercle bacilli none. The blood examination at this time was of negative interest except that hemoglobin was 75 per cent.

The diagnosis of chronic appendicitis with the possibility of calculus or tuberculosis of the kidney was made.

X-ray examination of the kidneys and ureters showed the following picture before and after collargol injection.

Before injection, both kidneys slightly larger than normal, and over the areas of both kidneys there were seen several tiny deposits the size of a pin head. Negative for calculus. The ureters and bladder also negative for calculus.

After injection, right kidney pelvis not abnormally enlarged. Calices showed slight irregularity. Left kidney not as large as the right; the calices showed slight irregularity also. Right ureter slightly tortuous in the upper portion. Left ureter straight.

CONCLUSIONS: The fine deposits which appeared to be in the kidney substance are thought to be due to an early tubercular infection of both kidneys, but to a lesser extent in the left.

Cystoscopic report: Bladder normal save for a slight congestion of the right ureteral os. Examination of specimen from right ureter showed a number of pus and red blood corpuscles, no tubercle bacilli. Twenty-four hour culture negative. Left ureter, moderate number of red blood corpuscles and pus cells. Twenty-four hour culture negative, no tubercle bacilli found.

Guinea-pigs were injected with urine from both kidneys into their peritoneal cavities. After three weeks, autopsies were done and the liver and peritoneum of the pig injected with a specimen from the right kidney showed the liver and the peritoneum studded with tubercles. The pig injected with the specimen from the left kidney showed no evidence of tuberclosis.

On April 10th, the phenolsulphonephthalein test was made. Right kidney, time of appear-

ance, 19 minutes, first hour excretion 7 drams, 15 per cent.; second hour, 2 drams, 2 per cent.; total 17 per cent. Left kidney, time of appearance, 9 minutes; first hour excretion 7 drams, 15 per cent.; second hour, 3 drams, 5 per cent.; total 20 per cent.

The above would suggest a very slight impairment of the right kidney, with the left showing a normal output.

The patient came to operation on April 13, 1915, with a diagnosis of chronic appendicitis and tuberculosis of the right kidney. The appendix was removed and was chronically inflamed, and contained a fecal enterolith one-fourth of an inch in diameter and three-fourths of an inch long, with no adhesions.

Right nephrectomy was performed, revealing a kidney very slightly larger than normal. The ureter, which appeared normal, was cauterized and dropped back into its bed. Upon examination, the kidney showed several small tubercles undergoing caseation calcification throughout the calices.

The patient had an even convalescence and upon leaving the hospital I advised a change of climate and rest. After two months he returned home, having gained about eleven pounds and feeling perfectly well. Since this time, he has been hard at work. Examination of his urine on October 21st showed a normal specimen, no albumin, blood, pus, tubercle bacilli or casts. The result appears to be all that could be hoped for.

1015 West Franklin Street.

DISCUSSION.

Dr. J. W. Hunter, Norfolk, condemned the promiscuous use of collargol injections into the ureters. The chances of doing harm to the kidney substance more than outweigh the advantages to be derived from it. He cited the case of a patient of whom a radiograph was unsuccessfully made after collargol injection. The patient was then brought to him with the request that he make an exposure without developing the plate. When the latter was developed elsewhere, a shadow showed; but upon operation, the kidney was found to be normal.

Experience has developed the fact that collargol injections are liable to give rise to infarcts, even in such distant parts as the lungs.

Dr. D. D. Talley, Richmond, said that collargol injections are not of much value in the early cases. A year ago, there were reported

a number of cases in which harm to the parenchyma had been produced by the injection method, but he has never seen any result from the gravity method.

Dr. Howle, closing the discussion, agreed that there was no question that the use of collargol is a dangerous procedure, but employing the gravity method with a fresh solution has not, so far as he knows, been attended with bad results.

Dr. Howle made his acknowledgements to Drs. D. D. Talley, S. W. Budd and L. T. Price for assistance rendered in the case he reported.

MALFORMATION OF FEMALE GENITALS— WITH REPORT OF CASE.

By W. S. SLICER, M. D., Roanoke, Va.

I have been stimulated to write this paper on malformation of the female genitals, because I have recently run across a case of double uterus.

The vagina may be absent, small or septate. There may be atresia because of imperforation of the hymen, or it may be due to congenital lack of development, or plastic adhesions following an early vulvo-vaginal inflammation.

Anatomical anomalies of the tubes and ovaries are rare, and are of little importance, being usually associated with defect of the uterus. Absence of both tubes and ovaries may occur on both sides in cases of absence of the uterus. More commonly the defect occurs in the Mullerian ducts alone, the tubes and uterus failing to develop, while the ovary is formed but remains rudimentary. When there is failure of development of Mullerian ducts, the tube may occur on one side alone, as in uterus unicornis. In such a case the ovary may or may not be present. In some instances, the tube may be represented by a solid cord, which simulates the round ligament. Occasionally accessory tubes are seen, but they are of no importance except as a possible starting point for tubal pregnancy. The ovaries usually retain their fetal characteristics in cases of infantile uterus, and may or may not contain functioning Graafian follicles.

Superfluous ovaries occasionally occur. They are divided into two classes. First, supernumerary, or those independent of the normal pair. Second, accessory, those that may become sepa-

*Read before the Medical Society of Virginia at its forty-sixth annual meeting at Richmond, October 26-29, 1915.

rated from the normal by disturbances of the fetal blood supply, or by inflammatory adhesions during post-fetal life.

Malformations of the uterus are fairly common, and result from failure or arrest of growth of one or more parts necessary for perfect development of the organs.

In order to clearly understand the production of the uterine malformations, it will be necessary to refer briefly to the embryo-genesis. The uterus is formed by the junction and fusion of the Muellerian ducts, which is accomplished in large part before the twelfth week of embryonal life. During the first four weeks of this period, these structures are but solid cords lying near the Wolffian ducts. Occasionally they are canalized in the parts which later appear as the fringed extremities of the Fallopian tubes. In the second and third months they become hollow, and blend in their lower parts to form the utero vaginal canal, the upper part remaining distinct as the Fallopian tubes. Until the twentieth week there remain evident traces of the fusion of the two ducts, as the uterus extends laterally toward the Fallopian tubes in the form of two cornua, and the uterus at this period is in consequence distinctly bicornuate. During the remainder of the fetal life the change in the uterus is one of gradual development and enlargement. The two cornua gradually become merged into the body of the organ, with the result that the antero-posterior sides of the fundus are first concaved, then flattened, and finally become convex with the development of the organ. After birth and up to the tenth year the infantile uterus is characterized by a greater development of the cervix than the body. Thereafter and up to the sixteenth year a gradual increase in the size of the uterus is noted, until finally the organ presents the characteristics of the adult virgin organ.

Malformations of the uterus vary in appearance in accordance with the pathological process which causes them and the period of life at which they are seen. The great majority result from disturbances during the first four months of intra-uterine development,—i. e., the embryonal period.—but they may occur later in fetal life, or even after birth before the complete development of the organ has been attained. In general, there are three types of pathological processes which cause them, and commonly more than one have operated in any given case.

Destruction of the Muellerian ducts on one or both sides gives rise to unilateral or bilateral plastic defects of various degrees and gravity. Hypoplasia of the ducts or of portions of them lead to rudimentary conditions of the genital tract or of some of its parts. Either of these pathological processes may occur before or after the fusion of the ducts. Imperfect fusion of the Muellerian ducts may cause a series of anomalies of development whose common feature is the duplicature of the genital tract in its uterine or its vaginal portions, or both. The majority of the known uterine malformations are due to imperfect fusion of the ducts, associated largely or only partially with hypoplasia of limited portions of them. Two classes of malformation due to imperfect fusion of the Muellerian duct may be distinguished. In the first class, there is no trace of external division, although internally the organ is divided more or less completely by a longitudinal septum. If this division is complete, the organ is termed uterus bilocularis or uterus septus duplex. An incomplete division limited to the cervix and the external os, or the fundus, constitutes uterus sub-septus. The second group of cases presents a division of the canal distinguishable externally. This division is usually situated at the uterine fundus, which presents cornua or resembles the shape of an anvil. Cases may occur, however, in which the division merely give rise to a slight in-curving of the middle of the fundus. When a septum extends in a uterine cavity from the fundus of a bicornuate uterus to the external os, the condition is termed uterus bicornis duplex, and if the septum is incomplete the organ is designated as uterus bicornis semi-duplex. In rare instances, the external duplication may be complete and there may exist two un-united uteri. The division may or may not extend into the vagina.

Complete absence of the uterus is a very rare condition, which has thus far been described only in monstrosities. It has been frequently noted in symphyseal fetuses and acardiac twins, and it is doubtful whether it ever exists in the adult woman. Absence can be recognized only at autopsy or operation, as the uterus may be present at least in part, although not recognizable by clinical means. When the uterus is absent, the bladder and rectum come into apposition. The vagina is either absent or but partially developed. The tubes may be absent,

rudimentary, or represented by solid cords. The ovaries also may be absent, rudimentary or of normal size. On the other hand, it is not uncommon to meet with adult patients in whom the uterus is present in a rudimentary state. The condition presents various findings, but the organ is frequently bipartite or bicornuate or appears as a mere cord connecting the two Fallopian tubes. Occasionally the undeveloped organ may contain a rudimentary cavity. The tubes and the vagina may be absent, or present; if present, usually in undeveloped condition. It is not unusual to find a well-formed vulva and even a short vestibular vagina, which has been enlarged by attempts at coitus. The symptoms vary with the presence or absence of the ovaries, and are first noted at puberty, and only in those cases in which the ovaries functionate. Menstrual molimina are met with and there may be a great deal of pelvic pain. There is no menstruation except vicarious. The secondary sexual characteristics are generally present, although the vulvar hair may be defective. The diagnosis may be extremely difficult, and cases in which either of these conditions is suspected should be examined under anesthesia by combined bladder, vaginal, rectal and abdominal examinations. The treatment is directed only to the symptoms, as the condition does not demand treatment, and, in fact, will not respond to it. When the pain at the menstrual period is so severe as to be a menace to health, the removal of the functioning ovaries is indicated and in the great mass of cases gives relief.

Uterus unicornis is the result of arrest of development of one of the Muellerian ducts with the subsequent formation of a uterus from the other duct.

Uterus septus is the common type of double uterus which presents no external signs of division, although internally there is a more or less complete septum which divides it into two cavities. Externally, the uterus is more globular than usual, and sometimes presents a slight grooving which corresponds to the site of the internal septum. The two cavities of the uterus are usually situated side by side, and the septum may or may not extend as far down as the cervix—uterus septus, and sub-septus, respectively. There may or may not be indications of duplicature in the cervix or vagina. The condition usually does not cause symptoms if

both halves of the divided uterus open into the cervical canal.

The diagnosis of a septate-uterus is usually made accidentally.

In uterus bicornis, the upper portion of the uterus is divided externally and the cavity is in consequence "Y"-shaped, as the lower uterus and cervix usually contain but a single cavity. Symptoms do not result unless one cavity is obstructed and causes interference with menstruation or pregnancy. The diagnosis is made accidentally. A bicornuate uterus with one horn closed and distended may be confused with a normal uterus associated with a fibroid, ectopic pregnancy, or some other pelvic swelling.

Uterus duplex is also termed uterus didelphys, or separatus, and is the most complete form of double uterus. It is much more rare than the bicornuate uterus, and it is impossible to distinguish the two by clinical means.

In fetal and infantile uterus, an undeveloped type of uterus persists, presenting a large conical cervix together with a small corpus. In the fetal type the cervix is usually much larger than the corpus, while in the infantile form the two are nearly equal in size. The os is frequently smaller than normal. The diagnosis can be made by the bimanual method of examination, aided in selected cases by the use of the sound. Treatment should be directed toward establishing the growth of the uterus. The smaller the uterus, the less is the chance of forcing development. Iron, arsenic, and nourishing foods may be useful, and in cases of obesity, gymnastics may be indicated. Various methods of local treatment are recommended, chief of which are massage, the periodic passing of the sound, and uterine faradization. Frequently a stem pessary inserted into the uterine canal after dilation of the cervix stimulates the organ's growth. It must be confessed that the results, as a rule, are disappointing, and prognosis must be guarded, although in certain instances the uterus has suddenly developed after having remained more or less rudimentary for years. These cases of delayed development, however, are unusual.

Minor malformations:—In addition to the marked deformities already described, the uterus may be the site of lesser anomalies. The most important of these from a clinical viewpoint, are those which alter the lumen of the cervical canal. Stenosis or narrowing of the

canal, may also be encountered. Abnormal folds in the cervix, forming a part of the second internal os, may be found in the cavity. The vaginal portions of the cervix may be rudimentary and small, but may also be elongated and conical.

Patient (Case No. 1063), M. W., age seventeen, was admitted to Shenandoah Hospital, September 12, 1915, being referred by Dr.

come to the hospital for treatment on account of these symptoms. Patient was fairly well nourished. Haemoglobin 70 per cent, temperature 99, pulse 100. Complained of a tenderness and pain on palpation of lower abdomen, and especially at McBurney's point. Digital examination, made when patient was on operating table, confirmed the diagnosis of retroflexion, but no mass could be outlined in pelvis. At this examination the double cervix was not detected, and we had decided to do an exploratory laparotomy.

At operation, which was performed September 13, 1915, there was found chronic appendicitis, with concretion in the club-like appendix, with numerous adhesions. This condition was removed. In addition, there were found double cystic ovaries and a double uterus with apparently two normal tubes. It was, of course, necessary to do a complete hysterectomy. Examination of the removed specimen shows the condition as will be noted from the accompanying photographs.

This girl's recovery was prolonged by reason of two facts,—first, the abdominal wound was soiled during operation, and at the expiration of ten days began draining; second, a kind friend conveyed the news to her a few days after operation that a complete hysterectomy was done, and she has brooded over this a good deal. I feel that the abdominal wound was soiled from the cervix uteri, as this was not closed before the hysterectomy was done.

There were several points of interest in this case:

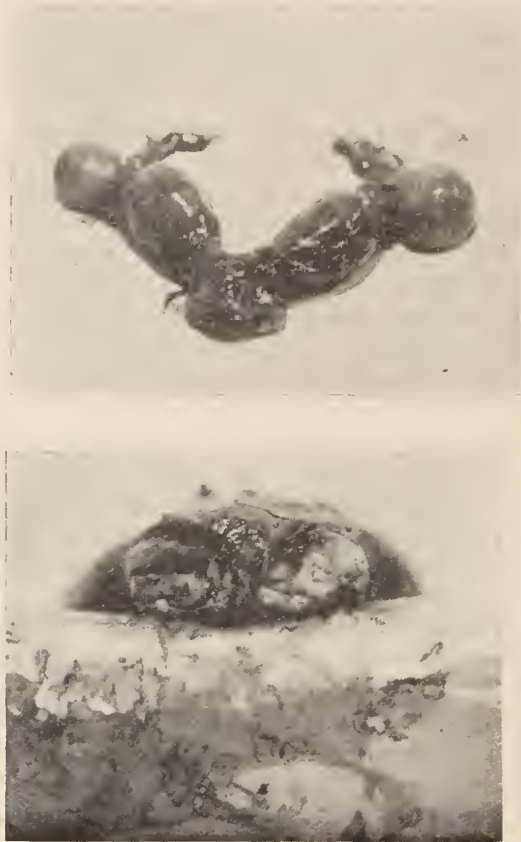
First, the unsatisfactory examination that can be made in young women.

Second, the length of time before surgical aid was sought.

Third, the necessity for complete hysterectomy caused by complete degeneration of both ovaries, associated with their anomalies described.

Fourth, the impression that this case has made upon me of having friends or relatives refrain from discussing the patient's condition with the patient.

Fifth, to impress early thorough examination and exploratory laparotomy in young women who start with a history similar to this case.



Dobyns, of Fries, Va., with a diagnosis of menorrhagia, dysmenorrhea and retroflexed uterus.

On account of the patient's age, the retroposition was diagnosed by rectal examination. Family history unimportant. Past history showed the usual diseases of childhood. Present illness began at the age of fifteen when her first menstruation appeared, which was excessive in amount and lasted for several days. Patient never had a normal menstruation, however, and her menstruation at each period gradually increased in amount, in number of days and pain, until finally she was forced to

A SIMPLE SPLINT FOR TREATING A BROKEN THIGH IN SMALL CHILDREN.*

By R. B. JAMES, M. D., Danville, Va.

Little children often break their thigh-bones, and they do not have to fall down stairs or be run over by a vehicle to accomplish this result. While playing around the room or running in the yard, they may topple over and break their thigh. I have seen three or four cases in the last few years with so serious a condition produced by such simple means.

Our text-books give most elaborate apparatus for treating this condition, confine the child to bed, flat on the back, for three or four weeks, or else use a plaster of Paris cast. Now, for a child four or five years old, plaster of Paris, properly applied, is simple, efficient and very satisfactory; but a younger child, though attended by a most careful nurse, will get a plaster of Paris cast very much soiled, producing foul odors, excoriations and ulcers on the legs and body. To change such a dressing is no easy task. To avoid this, I have used on some six cases an anterior triangular splint that has proved most satisfactory from every point of view. It is easily applied and easily removed if necessary; it is very light, and permits of the child being carried around or being held on the lap, or even to sit in a chair after a few days. The little patient can roll around in bed in comfort, and the trouble of handling these cases is reduced to a minimum. The contraction of the thigh muscles in setting a broken femur in a young child does not have to be taken into account as in adults.

So, the element of extension not entering the problem, a very simple apparatus will answer. To keep the broken ends approximated and the bone in proper alignment is all that is necessary, and the triangular splint is sufficient for this work. It is made, as you see, in the shape of an isosceles triangle, the base being broader than the other two sides. The base rests against the abdomen of the child, and is fastened in position by adhesive strips passing around the body of the child. The splint proper runs from the angle in the groin to the knee. This side is bound to the thigh by adhesive plaster also, then a bandage is applied around the thigh up to and around the body of the child.

The one precaution most necessary is to pad

the splint well at the angle resting in the groin. If not careful about this, you will get a sore at this point, which will complicate matters very much. You will note that this position of the leg gives ample opportunity for keeping the child clean, and only the most careless mother will allow the dressing to become soiled.

The first case I treated in this way developed a sore in the groin, caused by insufficient padding, but which was aggravated by pulling to secure extension before the bandage was applied, thus increasing pressure at the groin; this is not necessary. Make no attempt at extension, but be sure your alignment is correct and the ends approximated before applying the bandage, having the leg in a natural, therefore comfortable position.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Nervous Children—Prevention and Management. By BEVERLEY R. TUCKER, M. D., Physician to the Tucker Sanatorium, Richmond, Va., etc. Richard G. Badger, Publisher, Boston. 1916. 12mo. Cloth. Illustrated. 147 pages. Price, \$1.35, postpaid.

This book presents the reader with the fundamental principles underlying the rearing of children from a standpoint of their nervous and psychic development. Brief sketches are given of the anatomy, physiology and psychology of the nervous system, while eugenics, habit, personality, sex development, heredity and environment, feeble-mindedness, nervous and mental disturbances are considered in their various bearings on the subject of the text. The author, who is well and favorably known in this section as one of the leaders of his specialty, has designed the book for service by the medical profession in the course of every-day work, as well as to give to mothers, teachers, nurses, and those interested in child welfare, a concise and simply written presentation of the subject of prevention and care of nervous children. We bespeak for this unique and attractive little volume the favorable consideration and reception it deserves.

*Read before the South Piedmont Medical Society at Danville, Va., April 18, 1916.

The Practitioner's Medical Dictionary—Containing Words and Phrases Generally Used in Medicine and the Allied Sciences. By George M. Gould, A. M., M. D. Third edition, revised and enlarged by R. J. E. Scott, M. A., B. C. L., M. D. Based on recent medical literature; with many tables. Philadelphia: P. Blakiston's Son & Co. 1916. 8vo. 962 pages. Flexible bindings. Marbled edges and round corners. Price, cloth, \$2.75; leather, \$4. Indexed, 50 cents extra.

The chief feature of this third edition is the large number of new words, probably 20,000, numbering more than one-third of the total number defined—70,900 terms. The type has been reset throughout, and, while smaller than heretofore, is clear and of readable size. This was done with a view to reducing the size of the book, an effort that was made still further possible by the omission of nearly all illustrations, which are regarded as largely unnecessary.

Eponymic terms have been placed in alphabetical order, so that So-and-So's test, or symptom, or sign, etc., will be found indexed under the name and not under test, or symptom, and the like. In accord with present usage, proper names and their derivatives only have been capitalized in the title words. Definitions—concise, yet clear—are based upon the standard literature and authoritative text books of the day, and are not copied from the older vocabularies. The author states that he has made "an inventory of the words and their pronunciation as he finds them among the well-informed."

Dr. Gould is so well known as a medical lexicographer that this last edition would seem to need only the announcement of its publication. We recommend it as an excellent medical dictionary. The publisher deserves favorable comment for the neat style in which the volume is presented. A convenient feature of the binding is that the book may be laid open on a table without the pages turning.

Principles of General Physiology. By WILLIAM MADDOCK BAYLISS, M. A., D. Sc., FF. R. S., etc. Professor of General Physiology in University College, London. With 259 illustrations. 1915. Longmans, Green and Co., 4th Ave. and 30th St., New York.

In this most interesting work we do not find the conventional arrangement of material and the discussion of the latter from the standpoint of the generally adopted methods. The originality of the author is strikingly evident at first glance. The various subjects of general physiology are treated in a concise and at the

same time most complete manner. Newer and the latest facts acquired mostly through experimental studies are taken up *seriatim*. Chemistry and physics play a conspicuous role in the description of the biological phenomena discussed by the author. The Colloidal state, Electrolytes, Enzymes, Hormones—are a few of the most absorbing subjects analyzed in this work. In the chapter on Energetics the author shows a broad conception of physiological phenomena and he considers them with almost mathematical precision. He describes there the principles of energy, chemical energy, surface energy, animal temperature and its effect. The chapter on Nutrition with the inevitable problem of Metabolism is particularly instructive and enlightening. The chapter on the Nervous System is apparently the briefest of all. Nevertheless, the most important principles are set forth in a logical sequence so that after reading them a sound conception is formed of the function of this important system. The book ends with a description of the action of some important drugs. This is a very useful addition which is treated in a very clear manner.

The entire work of the distinguished author is a monumental demonstration of his ability as a teacher and as an original thinker. The text is clear and written in a very attractive literary style.

ALFRED GORDON, M. D.

Editorial.

Medical Fallacies.

"Knowledge comes, but wisdom lingers," says Tennyson, but we find that certain kinds of knowledge, at least, are tardy in coming. For instance, it may be quite a while before some of the laity are convinced that water-melons do not contain malarial germs during the dog days; that white potatoes carried in the pocket do not turn black from the absorption of the rheumatic poison; that tomatoes do not owe their virtues to calomel; that amber necklaces do not ward off pestilences; that tying up the hair in a knot on top of the head does not cure an elongated uvula; and that swallowing shot does not keep the "lights" from rising.

The victims of such beliefs will be disenthralled more readily as the dissemination of knowledge increases; but it may be a different matter with medical men who hold and teach views that are at variance with the pronouncements of science. Years ago we read in one of the magazines a poem entitled "Fever," the first stanza of which began thus:

"A cup of water, Nora;
What, do you call this cool?
It is like they used to give us
In summer days at school."

The young boy, tortured with the thirst of fever, was denied what every physician in this age would be ashamed to withhold—cool water in sufficient amounts. However, knowledge does not reach its climax by kangaroo jumps. The pendulum swings to both extremes for many years before it settles in the middle, and most of us are found hanging on to the extremes instead of seating ourselves rationally in the spot where Horace says we shall be safest.

We have heard a physician with whom we were riding exclaim, as he looked up to the full moon, "I'll soon be busy with labor cases;" and an intelligent nurse once remarked to us that when the moon was full the nurses of a large New York hospital would say, "Look out for the babies." Now, if what would have been a menstrual period is a factor in the onset of labor, it would appear that most babies are born on the full moon, because the majority of women menstruate at the same time. Yet Landois, in his *Physiology*, cites Strohl as asserting that "most women menstruate during the first quarter of the moon, and only a few at new and full moon."

It has been stated by reputable physicians that calomel is more apt to salivate when acids are taken; that it does not cause an increased output of bile; that it should never be given in nephritis; and that it does, or does not, do a good many other things which are claimed for this valuable drug. Do these critics ever stop to wonder why it is that calomel does not combine with hydrochloric acid in the stomach to form corrosive sublimate and kill the patient? Have they ever seen the orange or green colored stools of a "bilious" subject after a dose of calomel, and heard the patient express his sense of relief? Have they ever given the drug in threatened uraemia, and seen the

prompt response for the better as the bile flows out?

"Diuretics should never be administered in acute nephritis," say others. The kidneys are presumed to be blocked and unable to respond to stimulation; hence, the elimination must be effected by the bowels and skin. The terms of the conclusion are correct, but suppose the skin and the bowels do not accomplish what is desired? As a matter of fact, we have frequently given, with the happiest results, diuretics in partial or complete suppression of urine.

Germane to this subject is the assertion, which we have read, that the retention of urea does not cause toxæmia, because the injection of it into the system is harmless. All very well provided the injected subject has sound kidneys; yet, we imagine that there are few experimenters who would not face about quickly after injecting urea into a patient suffering from chronic nephritis. Starvation for awhile, or the use of carbohydrate food, in nephritis, teaches us the harmlessness of urea when it is absent or reduced to a minimum.

We are informed by some high authorities that the free use of vegetable and fruit acids is indicated in gout and rheumatic fever. Indeed, we have seen it stated by a German physician that tomatoes will cure the gout. *Quod est demonstrandum*. It is true that vegetable acids help to maintain the alkalinity of the blood, and it may be true that a person free of uric acid excess could drink lemon juice, or eat tomatoes exclusively, without developing gout or rheumatism; but take the average eater—especially the imprudent eater—and give him a large amount of fruit acids. In a number of instances the therapist will be forced to change his remedies, or the patient will change his doctor. We have seen subjects into whom an orange, apple, or other fruit could not be smuggled without the speedy production of pain in the toe, head, or other portion of the body. Sweeping assertions oftentimes need to be swept.

"I never give sweet milk in typhoid fever," said an intelligent doctor. "It ferments and is so much poison." Said another, "Sweet milk is my main food in typhoid fever." Both are wrong, it may be. Milk does not always ferment, nor, on the other hand, is it alone the

ideal food for a fever patient. But it is a very valuable article of diet in many cases when it is given with common sense and good judgment.

All of us doctors should go up to the grindstone once in a while and have our wits whetted, for there is no doctor who may not hold and apply erroneous opinions, to the detriment of those whom he is trying to relieve. By sharpening our intellects we may find that much of our so-called knowledge is ignorance or prejudice. We may even come to the belief that blisters can do good in pneumonia, as well as in pleuritis, despite the assertion by the savants that in the former disease they are painful, dirty and useless, and that they interfere with physical diagnosis. Painful they are in a measure, but not as much so, when properly used, as the pain which they relieve. Dirty—perhaps; for flies, living or dead, can hardly be called clean. Yet they are no dirtier than the microbes and the result of their activities in a pneumonic lung. The stethoscope, also, can readily be used over a blister. Useless—it may be; but whatever the *modus operandi* they mitigate suffering and assist in relieving hyperaemia by acting upon practically the same blood supply in the lung as in the pleura.

Let us sit down occasionally and do a little earnest thinking—if we can find the time. It may dawn upon us that olive oil will not sneak up the common bile duct, drop into the gall-bladder, and dissolve gallstones; that we should not withhold or condemn a valuable drug because we have had one unpleasant experience with it; that the idiosyncrasies which some patients claim to have may not exist; that insanity is not more apt to affect geniuses or very clever people than the rank and file; and that the whole truth may not lurk in the pages of the text-book or medical journal. Fortunate is the doctor who has learned to re-arrange one-third of what he has read and heard, to part with another third, and to place a very modest estimate on what remains.

WM. S. GORDON, M. D.

The South Piedmont Medical Society

Met in Danville, Va., April 18, Dr. C. D. Barksdale, of Sutherlin, presiding and reading a fine address. In addition to this, there were twelve papers on the program, most of which were read at the two sessions. It was

the largest meeting held by this society, the attendance being 54. Officers elected for the coming year are as follows: President, Dr. W. L. Williams, Brookneal; vice presidents, Drs. J. B. Bailey, Keysville; J. A. Owen, Turbeville; W. E. Jennings, Danville, and H. W. Dew, Lynchburg; secretary, Dr. George A. Stover, and treasurer, Dr. T. E. Armstrong, both of the latter of South Boston, and re-elected.

The Augusta County (Va.) Medical Society

Held its regular quarterly meeting in Staunton April 29, with a large attendance of physicians from Augusta and adjoining counties. Dr. W. F. Hartman, of Swoope, presided. Dr. Joseph C. Bloodgood, of Baltimore, gave an illustrated lecture on Cancer, and Dr. Stephen Watts, of the University of Virginia, lectured on Blood Transfusion. Following the addresses there was a general discussion and interesting facts and opinions were cited by members of the local association. The occasion was one of unusual interest owing to the subjects discussed and the prominence of the speakers.

Dr. Robert C. Bryan,

Of this city, has accepted an invitation for three months' service in hospital work in France, and sailed April 29 on the Rochambeau for Bordeaux. Dr. Bryan will be associated with Mrs. Harry Payne Whitney's American Hospital at Jouilly, in which a number of prominent American surgeons have given their services. During his absence, his associate, Dr. H. Stuart MacLean, will have charge of his practice at Grace Hospital. As we go to press, we are advised that Dr. Bryan has arrived safely at Bordeaux.

Dr. J. N. Barney,

Secretary of the Medical Examining Board of Virginia, was appointed in April to succeed the late Dr. A. C. Doggett, as coroner of Fredericksburg, Va. Dr. Doggett had held the position for thirty-one years.

The Warren, Rappahannock and Page Counties Medical Society

Held its regular meeting at Front Royal, Va., April 11, at which time an interesting program was enjoyed by those in attendance. Papers were read by Drs. Lawrence T. Price and J. McCaw Tompkins, of Richmond; Stephen H. Watts, of University, and Dr. Richard E. Venning, of Charlestown, W. Va. Drs.

W. L. Hudson and Geo. H. Long, both of Luray, are president and secretary, respectively, of this Association.

The Medical Society of Northern Virginia and District of Columbia

Will hold its regular semi-annual meeting at Herndon, Va., May 17, Dr. S. B. Moore, of Alexandria, presiding. As this is the meeting for the election of officers and an interesting program has been prepared, a good attendance is anticipated.

Dr. G. W. Brown,

Superintendent of the Eastern State Hospital, Williamsburg, Va., was among those from this State who attended the annual meeting of the American Medico-Psychological Association in New Orleans, in April. The Eastern State Hospital's exhibition in the diversional occupation exhibit, won the first prize.

Address on Pellagra.

Dr. Joseph Goldberger, of the United States Public Health Service, gave a public address on pellagra in this city May 4. He was introduced by State Health Commissioner, Dr. Emmon G. Williams who briefly told of the research work done by Dr. Goldberger in typhus fever and measles as well as pellagra. The subject was of unusual interest, as the disease is increasing, especially in the South, and more than 7,000 people died of pellagra in the United States last year, 332 of these being in Virginia.

Dr. Goldberger claimed that pellagra is a dietary disease, non-communicable, preventable and curable. He said that the diet necessary for both cure and prevention consists of plenty of fresh eggs and meats, milk, peas and beans. It seems that women in the same family and under apparently the same conditions suffer worse than men, though he offered several plausible explanations for this. Recurrence of the disease is not unusual where dietary conditions are not adhered to after a seeming cure. The address was both instructive and interesting throughout.

Acting Dean, Medical Department, U. Va.

Dr. Theodore Hough, professor of physiology, at the April meeting of the Board of Visitors of the University of Virginia, was designated dean of the medical department, to fill the vacancy caused by the death of Dr. Richard H. Whitehead. He was also appointed

a committee to draft resolutions concerning the loss to the University, caused by Dr. Whitehead's death.

Dr. W. A. Brumfield.

Of the State Board of Health, addressed the board of supervisors of Halifax County, at a meeting in Houston, Va., the latter part of April, in regard to a health campaign covering the county. He stated that the State Board would give \$900 if the county would appropriate \$300, the fund to be used for the services of an expert in making examinations and giving information on the prevention of disease. The supervisors would not, however, make the appropriation at this time.

Dr. Landon D. Walker

Returned to his home at Unionville, Va., about the middle of April, after doing post-graduate work in New York for some time.

The Study of the Internal Secretions.

It has been suggested recently by several American physicians that it might be well to form an Association for the Study of the Internal Secretions, and it is desired to know whether there is sufficient interest in this matter to warrant its further consideration. A few of the prospective advantages of such an association would be (1) the assembling of those with a mutual fellowship of interest in this subject; (2) facilitating the exchange of ideas, inquiries and reprints on the internal secretions; (3) enabling those who are interested, but do not have the facilities, to be kept in touch with the articles that are appearing on this subject so frequently, but in such scattered and inaccessible periodicals—perhaps a monthly list of these articles with a brief resume of their contents eventually might be prepared; (4) facilitating concerted clinical study of the subject and the measures being brought forward in organotherapy. While no effort has yet been made to form such an association, physicians who are interested and would welcome the establishment of a community of interest embracing some or all of the above points, as well as others which cannot be enumerated for lack of space, are requested to send their names and addresses on a postcard to Dr. Henry R. Harrower, 715-19 Baker Detwiler Building, Los Angeles, Cal.

Dr. Peter Winston.

Farmville, Va., has been named by Governor

Stuart as a member of the State Board of Charities and Corrections, for a term of five years.

Dr. M. O. Burke,

Of this city, has left for the North, to spend some time in study.

The Norfolk & Western Railway Surgeons' Association

Will hold its next annual meeting at Old Point Comfort, Va., June 7 and 8, Dr. W. L. Hudson, of Luray, Va., presiding. Dr. T. D. Armistead, of Roanoke, Va., is secretary. Arrangements have been made to have Dr. Joseph C. Bloodgood, of Baltimore, and Asst. Surgeon-Gen., W. C. Rucker, of the U. S. Public Health Service, address the Association on the subject of "First Aid and the Standardization of First Aid Methods."

Married—

Dr. James Alfred Martin, a graduate from the Medical College of Virginia in 1915, and Miss Mary Jones, of this city, April 24. They will make their home at Lumberton, N. C.

Dr. R. J. Wilkinson, of the C. & O. Hospital, Huntington, W. Va., who was formerly associated with Dr. C. C. Coleman, of this city, and Miss Elizabeth Richmond, Richmond, Va., April 6.

Dr. H. Gilbert Leigh,

A prominent physician of Petersburg, Va., and city coroner, who has been quite sick at his home, is stated to be much improved.

State Board of Medical Examiners After United Doctors.

Joseph D. Rosenberg, manager of the United Doctors, in Richmond, was fined \$50 by a jury in the Hustings Court, last month, for practicing medicine without a certificate from the State Board of Medical Examiners. Motion to set aside the verdict was continued. The testimony showed that Rosenberg employed regularly certified physicians at specified salaries and that he as manager apparently received half of the net profits. Dr. J. E. Warinner, representing the Board of Examiners, testified that Rosenberg did not have a certificate to practice medicine in Virginia.

Memorial Hospital to be Enlarged.

Memorial Hospital, Richmond, has started on a campaign to raise \$250,000 for extensions and improvements, with the hope of making what is now the largest hospital in the State

the largest in the South. It is planned to add a large building for the use of the colored people, a nurses' home and a contagious disease building. These will probably be erected on property owned by the Medical College of Virginia on Fourteenth street, between Marshall and Broad. The actual money-raising campaign will begin in June at which time it is hoped to have a thousand people assist in the project. Headquarters for the advertising of the plan have been established in the heart of the business section of the city.

Sanatorium for Negro Consumptives.

A farm comprising 226 acres and located in Southampton county, near Ivor, is to be purchased by the State Board of Health for \$12,000, as a tuberculosis sanatorium for colored people and will be known as the Ivor Farm Sanatorium. As this property has been used recently by the Norfolk and Western Railway as a demonstration farm, most of the land is cleared and in a high state of cultivation. It is estimated that the buildings on the property, all of which may be used, are worth \$5,000. The necessary pavilions and sun parlors will be erected shortly. An appropriation was made by the last General Assembly for the purchase of this sanatorium. It will fill a much needed want, as the only institutions for colored consumptives in Virginia at this time are at the colored insane hospital and the penitentiary.

Dr. Patrick H. Casey,

Formerly of Lynchburg, Va., is now located in Petersburg, for the practice of his profession.

The Medical Society of the State of North Carolina

Met in Durham April 18 to 20, with a large attendance, there being well over four hundred members present. Dr. M. H. Fletcher, of Asheville, presided and delivered the president's address. Dr. William J. Mayo, Rochester, Minn., was among the invited guests. Among Virginia doctors noted at the meeting were Drs. Southgate Leigh and R. L. Payne, of Norfolk, and J. Allison Hodges, of Richmond. The next meeting is to be held in Asheville in April, 1917, and the following officers were elected for that meeting: President, Dr. Charles O'H. Laughinghouse, Greenville; vice-presidents, Drs. David J. Hill, Lexington;

Joseph L. Spruill, Columbia, and J. H. Shuford, Hickory; secretary, Dr. Benjamin K. Hays, Oxford.

St. Elizabeth's Hospital to be Enlarged.

Owing to the crowded accommodation of St. Elizabeth's Hospital, this city, for the past months, it was decided to make an addition to the hospital, construction of which is now under way. The addition is in the shape of an "L," adding eighteen beds, making a total capacity of forty-eight beds. It will be fire-proof in construction as was the original building and will be run along the same lines as at present for the surgical and gynecological work of Dr. J. Shelton Horsley.

Dr. R. C. Carnal

Has returned to his home at Ballsville, Va., after a visit to Georgetown, S. C.

Leprosarium Bill up to Senate.

Advice has been received from Representative Montague, by the Richmond Health Department, that the bill to establish a Federal leprosarium has been passed by the House of Representatives and has gone to the Senate, where it is believed it will be acted upon at an early date.

Dr. Tom A. Williams,

Washington, D. C., has accepted an invitation to address the Medical Society of the State of New York, at Saratoga Springs, May 18. His subject will be, "The Differentiation of Functional and Nervous Disorders as Shown by Cases."

Little Damage to the Abbott Laboratories.

A small fire with explosion of gases occurred April 21 on the top floor of one of the buildings of the Abbott Laboratories. Newspaper reports of the extent and character of this accident were grossly exaggerated. The damage was very small, consisting mainly of broken window panes and cracking of temporary partitions. The plant and machinery were injured but slightly, and the entire force went to work the next morning as usual. The Abbott Laboratories have issued a statement positively denying the newspaper reports that this firm is or has been engaged in the manufacture of ammunition or explosives.

Memorial to Dr. Ashton.

Mrs. Nannie Ashton, widow of Dr. Lawrence Ashton, formerly of Fredericksburg, Va., after making a bequest of \$2,000 to the Mary Wash-

ington Hospital, in Fredericksburg, provided in her will for a memorial window to be erected in St. George's Episcopal Church, also of that city, in memory of her husband. The Ashtons moved to Dallas, Texas, about 1890, and he was an honorary member of the Medical Society of Virginia for a number of years prior to his death.

Dr. and Mrs. E. W. Peery,

Of Lynchburg, Va., went to New York City, the first of this month, for a two weeks' visit.

Richmond Academy of Medicine and Surgery.

At the regular meeting of the Academy, April 25, after the report of the Judiciary Committee had been read, papers were presented by Dr. W. H. Higgins, on "The Psychological Clinic—Its Functions and Obligations," and by Dr. H. S. MacLean, on "Suggestions in the Treatment of Goitre."

Dr. Joseph D. Rogers,

Washington, D. C., who was sick at a local hospital last month, has recovered and has resumed his professional work.

Board of Pharmacy of Virginia.

At the examination held in this city, April 18 and 19, there were 37 who appeared for examination as registered pharmacist. Of this number the following were successful and given certificates as registered pharmacists: A. B. Garber, N. Emporia; Harold Thornton, Brookneal; O. H. Preston, Richmond; C. T. Marrow, Jr., Danville; Fred E. Willis, Richmond; H. B. Harris, Richmond; H. A. Moore, Richmond; T. M. Roberts, Richmond; C. E. Jones, Norfolk; B. A. Krusniewski, Baltimore, Md.; Elias G. Pipinos, Hopewell; C. W. Powers, Roanoke; D. R. Armentrout, Charlottesville; W. H. Morriss, Norfolk; J. A. Coffield, Portsmouth; P. D. Hale, Blacksburg; E. P. Berlin, Richmond; J. H. Patterson, Richmond; W. A. Thomson, Lynchburg; A. F. Waltzinger, Jr., Baltimore, Md.; H. C. Hisey, Shenandoah, and A. A. Robinson, Richmond.

The following were given the registered assistant certificate: E. S. Haney, Jr., Richmond; G. W. Reed, Roanoke, and F. Oaklander, Richmond.

Of 15 who appeared for the registered assistant pharmacist examination, the following were successful: W. T. Van Pelt, L. R. Shadwell, R. S. Hopkins, S. E. Geiger, R. M. Callis, J. R. Hawthorne, Jr., J. G. Repass, Marcellus

Miller and C. D. Wightman, all of Richmond.

The following were registered by reciprocity: C. E. Hall, Alderson, W. Va.; C. V. Kimball, Richmond; A. B. Brown, Richmond, and E. S. Habel, Highland Springs, Va.

Examinations are held by this Board in Richmond on the third Tuesday and Wednesday of January, April, July and October. All applications should be filed with the Secretary, Mr. E. L. Brandis, at least ten days prior to examination date.

The Norfolk (Va.) Department of Health

Has issued a Baby Bulletin, giving a number of "Don'ts" to be observed by mothers, which, if followed, should be the means of conserving to a large degree, infant life. Stress is laid on the fact that "ten bottle-fed babies die to every one that dies where the mother nurses the baby." It is stated that twenty-five years ago about one-half the babies born died the first year, while now 15 per cent. die the first year. The Bulletin is one that might prove helpful to every mother with a young child.

The South Carolina Medical Association,

At its annual meeting held in April at Charleston, selected Spartanburg for its 1917 sessions, and elected the following officers: President, Dr. Curran B. Earle, Greenville; vice-presidents, Drs. Charles R. May, Bennettsville, and Clarence L. Kibler, Columbia; secretary-treasurer, Dr. E. A. Hines, Seneca, re-elected.

Dr. and Mrs. R. H. Tatum

Have returned to their home in Clifton Forge, Va., after a brief visit to Randolph Macon Woman's College, Lynchburg.

Dr. and Mrs. E. D. Davis,

Harrisonburg, Va., were visitors in Washington, D. C., the latter part of April.

Dr. William W. Olive,

Durham, N. C., has returned home after a short visit to Florence, S. C.

Health Officer for Greenville County.

Dr. E. L. Flanagan, a graduate of the Medical College of Virginia, who has been with the Virginia Board of Health for two years, has been employed by Emporia and Greenville County as a whole-time health officer, his work having begun in May. This is the first county in Virginia to have a whole-time health officer and it is believed to be a movement

which will be quickly followed by other counties.

No Race Suicide in Virginia.

Figures just compiled for 1915 show that there were 59,020 births in Virginia during the year. Of these 34,870 were reported by physicians, 23,313 by midwives and 843 had unknown or unspecified attendant. Physicians reported 1,220 births more than during 1914. A total of 232 physicians reported no births during the year and 666 reported only from one to five births each, making the average number reported by physicians 14.2. As it is believed that many physicians are still inattentive to the provisions of the law and do not report all births occurring in their practice, mothers of children three months old who have not received birth cards are urged to notify the state bureau of vital statistics that the interests of their children may be safeguarded.

A Richmond man reported 211 births—the largest number for the year—an Augusta County man 117, a Roanoke City man 109, and two Carroll County men 111 and 100 each.

Lt. Albert W. Metcalf, Jr.,

Of the Medical Reserve Corps, U. S. A., has been on temporary duty at Ft. Myer, Va., since April 30, 1916.

Dr. Junius F. Lynch,

Surgeon-General of the Virginia Volunteers, with the rank of lieutenant colonel, has been authorized to attend with the Field Hospital Corps, the camp of instruction for sanitary troops, to be held this summer at Tobyhanna, Pa., from July 20 to 30.

Dr. George C. Callaway,

Of Norwood, Va., was a visitor to Charlottesville, the middle of last month.

Dr. Rufus L. Allen,

Waynesville, N. C., was elected grand regent of the Grand Lodge, Royal Arcanum of North Carolina, at the annual session held in Salisbury, April 26-27.

Dr. Charles U. Gravatt,

Port Royal, Va., was in Richmond on business for several days during the latter part of April.

The Richmond Health Department,

In its annual report, announced 2,922 deaths, of which 268 were non-residents, and 3,473 births. The report shows a great decrease in

the number of deaths from typhoid fever, as also from malaria. The latter reduction was attributed to the fact that in the past a number of deaths had been reported from malaria which should have been assigned to other causes.

Dr. Ramon D. Garcin,

A member of the Richmond Board of Health, is out again after being confined to his house by sickness, for several days the latter part of April.

Dr. J. Wood Jordan,

Of Ashland, Va., is visiting his sister on the Eastern Shore of Virginia.

Y. M. C. A. Probable at Medical College of Va.

A meeting was held on the evening of May 3, looking to the establishment of a branch Young Men's Christian Association at the Medical College of Virginia. Dr. Ennion G. Williams presided and Governor Stuart was among the speakers. While no definite action was taken at this meeting, it is probable that a branch association will shortly be established at the college, as a considerable amount of money has already been raised toward defraying the necessary expenses.

Dr. and Mrs. James T. Leftwich,

Of Harvey, W. Va., have been recent visitors in Richmond.

Dr. J. R. Parker,

Formerly of Goldsboro, N. C., is now located at Burlington, N. C.

The U. S. Civil Service Commission

Announces an open competitive examination for assistant epidemiologist, for men only, June 6, to fill vacancies in this position in the Public Health Service at salaries ranging from \$2,000 to \$2,500 per annum. Applicants should be citizens of the United States and must have reached their twenty-third but not their fortieth birthday on the date of examination. The duties of this position will be to make epidemiologic and sanitary surveys to determine the prevalence and causation of disease, to conduct laboratory studies in relation thereto, and to recommend measures to prevent and control outbreaks of disease.

An open competitive examination will also be held June 7 for medical interne, open to men and women, to fill vacancies in this position in the Government Hospital for the Insane, Washington, D. C., at \$900 per annum

and maintenance. This position is tenable for a year, after which promotion may be made upon passing satisfactory examination. The government hospital has over 3,000 patients and 800 employees, so that, in addition to the general medical practice offered, the scientific opportunities in neurology and psychiatry are unsurpassed. Applicants must be unmarried and 20 years of age or over on date of examination. They must not have graduated prior to 1914, unless they have been continuously engaged in hospital, laboratory or research work along the lines of neurology or psychiatry since graduation.

For full information in regard to either of these examinations, address the above named Commission, Washington, D. C.

The Kansas Medical Society

Held its fiftieth anniversary meeting in Topeka, May 3-5, Dr. O. D. Walker, of Salina, presiding. Dr. Charles S. Huffman, of Columbus, is the efficient secretary of this society. The program gave a list of about thirty-five papers on a number of interesting subjects.

Dr. E. R. Turnbull,

Of Lawrenceville, Va., and family, motored to Petersburg for a short visit, early this month.

Nurses Graduate.

The Virginia Hospital Training School for Nurses, of this city, held its commencement exercises May 1, at which time two nurses were graduated. Dr. McGuire Newton presided and Dr. Frank M. Reade delivered the address. Diplomas were presented by Dr. J. Garnett Nelson and the Florence Nightingale oath administered by Dr. Manfred Call.

At the commencement exercises of the Johnston-Willis Sanatorium, of this city, May 3, nine nurses were awarded diplomas of graduation. The address was delivered by George L. Browning and diplomas by Dr. George Ben Johnston.

Lecture on Oral Surgery.

Dr. Morris I. Schamberg, professor of oral surgery at the New York Post-Graduate Hospital and College of Medicine, delivered an address at the Medical College of Virginia, April 20, on "Oral Surgery in Its Widest Application." The lecture was illustrated with lant-

ern slides and elicited much discussion from dentists and a few physicians.

American Medico-Psychological Association.

Dr. Charles G. Wagner, Binghamton, N. Y., was elected president of this Association at its annual meeting in New Orleans, last month, and Dr. Henry C. Eymann, Massillon, O., was re-elected secretary-treasurer.

Typhus Epidemic in Central Mexico.

The middle of April, there were said to be 4,000 to 5,000 cases of typhus fever in Aguas Calientes, and a similar proportion in nearly every city of importance in Central Mexico. The military and political situation in that section was said to be of minor importance in comparison with the ravages of the disease.

Measles in Richmond.

Through April 26 there had been 3,559 cases of measles reported in this city since the first of the year, with eleven deaths. The disease did not, however, assume epidemic proportions until March, when 967 cases were reported. Although more than 2,000 cases were reported in April, the situation is not regarded as alarming and the disease is expected to shortly subside.

Women Longer Lived Than Men.

Tables compiled by Director Samuel Rogers, of the Census Bureau, state that the expectation of life at birth for males is 49.9 years and for females, 53.2 years. A part of this difference is due to the greater number of violent deaths among men, nearly four-fifths of the violent deaths—those by accident, homicide and suicide—being of males. The death rate for boys during the first year of life is about twenty per cent. higher than for girls. In rural localities, the expectation of life for both males and females is higher than in urban communities.

British Birth Rate Greatly Decreased.

The Birmingham, England, Maternity Hospital has made the statement that, as a result of the war, there were between 4,000 and 5,000 fewer births in Birmingham last year and at the same time the infant mortality rate advanced. Should this state of affairs continue,

it is considered alarming for the future of the British Empire.

The Board of Pharmacy of Virginia

Held its annual meeting April 24. The term of Mr. C. P. Kearfott, of Martinsville, having expired March 1, 1916, Mr. C. D. Fox, of Roanoke, was appointed by the Governor to succeed him. Mr. Fox presented his credentials and was seated as a member of this Board. Mr. H. S. Arrington, of Norfolk, was re-elected president. The office of field secretary was combined with the office of secretary and treasurer and E. L. Brandis, of Richmond, who has been field secretary for the past eight years, was elected secretary and treasurer to succeed T. A. Miller. The office of the secretary is in the Capitol building, this city.

Obituary Record.

Dr. Thomas S. Gibson,

A well known physician of Alexandria, Va., died early on the morning of April 26, as the result of a stroke of paralysis which he suffered while answering a telephone call. He was fifty-six years of age and had made his home in Alexandria since he was one year of age, when his parents moved to that city from Paris, Ill. His medical education was received at the University of Maryland, Baltimore, from which he obtained his degree in 1887. He was unmarried but is survived by a large family connection.

Dr. James William White,

Noted as surgeon and author, died at his home in Philadelphia, April 24, at the age of 66 years. The cause of death was pneumonia, although he had been in bad health since his return from France, last September, where he served as chairman of the Philadelphia committee at the American Ambulance Hospital at Neuilly-Sur-Seine. He was graduated from the University of Pennsylvania in 1871, and, at the time of his death, was emeritus professor of surgery and a trustee of that University.

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SOME NEGLECTED ASPECTS OF COMMON COLDS.*

By FRANK P. SMART, M. D., Norfolk, Va.

It would be hard to find an ailment more omnipresent and full of the direst potentialities, that is more universally neglected by the profession as well as the laity, than the common cold in the head. I believe if head colds were more of a rarity, they would receive more efficient, or certainly more careful treatment. I do not propose to advance any new theory or advocate any new line of treatment, but I do want to show how we are almost daily allowing acute processes to become chronic, how we are fertilizing the ground for the reception of seeds of untold misery, not through inefficiency or ignorance, both of which might be excused, but through carelessness and indifference.

Although all colds are bacterial invasions, we can recognize at least two types: first, infectious colds, and, second, what we will call vaso-motor colds for want of a better name.

The infectious colds are those that start in one member of a family and all the other members catch it sooner or later. It is caused by the presence of some unusually virulent micro-organism which lights on a nasal mucosa that may have its resistance up to normal, but normal resistance is insufficient in the fight against these potent germs. Thus it is a truly infectious cold, definitely bacterial in origin, and is not dependent primarily on the decreased resisting powers of its victim.

Vaso-motor colds, on the other hand, are those colds caused primarily by exposure,

especially unequal exposure of different parts of the body, or by anything that lowers the local resistance in the head. When the resisting powers are up to normal, the germs that lead a saprophytic existence in the nasal mucosa give us no trouble, but when those powers are lowered, they immediately take on a parasitic existence, start their invasion and produce the familiar symptoms of a cold. That this type is not due to the introduction of some new germ by inhalation is easily proven by the following experiment.

Choose a cold winter day when you feel fine and have no sign of a cold whatever; sit down in your room and let it become overheated; take off your shoes, open a window and arrange for the feet to become chilled without the rest of the body getting uncomfortable. At first there will be no particular discomfort; later the nose will feel patulous and uncomfortably dry; still later it will begin to stop up and become very uncomfortable and a rather profuse discharge will appear, which will reveal on examination, clumps of actively multiplying bacteria, manifestly derived from the germs that were already in the nose but giving no trouble. Just how this unequal exposure decreases the local resistance in the nose, I am unable to state. Some think it due to the fact that the cilia of the Schneiderian membrane lose their activity and fail to remove the waste products of the bacteria that are leading a harmless, saprophytic existence, and that the accumulation of these waste products stops the activities of the cells of the mucosa which normally protect us from invasion by these saprophytes. Once these protective activities are stopped, the germ flourishes and meets no hindrance to its invasion and multiplication.

This theory has as yet little practical value and seems only to push the darkness of our

*Read before the Seaboard Medical Association of Virginia and North Carolina, at Norfolk, Va., December, 1915.

ignorance one degree further back, still leaving the question to be solved—why does a draft on the feet stop the movements of the cilia of the Schneiderian membrane?—which question has never had an answer proposed for its solution so far as I know. Most authorities, however, think that this type of cold is a purely vaso-motor phenomenon in the beginning, that the stopping up of the nose is due to a swelling of the turbinates on account of a constriction of the veins and not a dilatation of the arteries, a true passive congestion, and the sluggishness of the circulation impairs the resistance of the nasal mucosa to the relatively mild germs.

However that may be, the tendency is for the respirations to be very shallow, the thoracic wall being held rather rigid. If while in this condition you get up and force yourself to take several deep respirations in rapid succession, or, better still, if you take some rather violent exercise, the nose clears up almost immediately. This is the first neglected point which I would mention, the neglect being on the part of the laity, but the duty of informing them lies at our door, namely, when you feel that you are taking a fresh cold, the simplest and often the best preventive is to engage in a little vigorous exercise, or, if this is not possible, to go through with some respiratory gymnastics.

After the vaso-motor cold has gained a firm footing (and the physician rarely sees the patient until long after it has done so), it presents to us the same features and dangers, aside from contagion, as the infectious cold, and hence we will disregard this distinction in the remainder of the paper.

The nasal mucosa is rather extensive, lining as it does the floor, septum, roof, turbinates and lateral walls of the nasal cavity, and all of this is manifestly affected in a bad cold, but if this were all, our task would be comparatively simple. It is inconceivable to me that the huge amounts of purulent discharge that we frequently see arise solely from that area of mucous membrane. As a matter of fact, the nasal mucosa is pouched out so as to line the interior of the frontal, anterior and posterior ethmoidal, sphenoidal, and maxillary sinuses and the naso-lachrymal duct, and the infection in spreading over the nasal mucosa finds no unusual barrier at the orifices of these

sinuses, but continues its way so that it is the rule rather than the exception, for one or more of these sinuses to be involved in an acute catarrhal process whenever such a condition prevails in the nose proper, and any rational local treatment of a cold must take this fact into consideration.

These facts do not alter our constitutional treatment, which is wholly eliminative in character. Urotropin in large doses, frequently repeated for a day or two, has been advocated, the idea being that it is broken down into formaldehyde, part of which is excreted through the nasal mucosa. I have succeeded a few times in aborting a cold by using this treatment, but I do not advise it as a routine measure, for such a small percentage of the urotropin ingested is excreted through the nose that very large doses have to be given to obtain any marked result, and, in spite of large quantities of water taken, severe bladder symptoms are usually induced before the treatment has been kept up long enough to produce the desired effects.

Probably the best constitutional treatment is the old standard one of a brisk purge, hot mustard foot-bath at night, a glass of hot lemonade, ten grains of Dover's powder, keep well covered, and sleep late in the morning. This is all eliminative, tending to stimulate into activity the bowels, kidneys and skin, and is not at all new.

The place where I think physicians are particularly negligent is in their indifference to a well established cold. The patient is usually told something like this: "If you had come to me when it was first coming on I might have been able to help you, but it is too late now to do any good; the cold will just have to run its course." Now, I recognize the fact that a cold is generally a self-limited disease; also that, after it has gone on some time, very little can be done to cut it short, and I would not take exception to what was told the patient if we would only add: "Come in once a week and let me see that it does not turn into chronic catarrh." The chief point that I want to make in this paper is that these same patients should be watched. We would hardly dismiss them so lightly if we saw in each one of them a probable case of acute ethmoiditis, and recognized the possible results if it should develop into a chronic purulent ethmoiditis.

A brief survey of some of the possible sequelae may serve to impress on us the importance of watching all such cases.

The optic nerve is in intimate contact with the outer wall of the posterior ethmoidal cells and the sphenoidal sinus. Toxins and even bacteria can penetrate this thin bony partition, and as a result the nerve and extrinsic muscles of the eye may become involved. I have seen acute optic neuritis ending in atrophy and permanent blindness, irido-cyclitis or iritis causing months of suffering and great impairment of vision, dacryo-cystitis, otitis media, mastoiditis, orbital abscess, cerebral and cerebellar abscess, and death, all of which I believe could have been avoided if the initial cold had been carefully watched and appropriate measures resorted to at the proper time. This list includes only some of the extra-nasal complications. Within the nose and pharynx we may have hypertrophied and infected adenoids and tonsils, chronic nasal catarrh, polypoid degeneration, atrophy with ozena, and various hypertrophies, which in some cases are thought to cause asthma and even epilepsy. Surely the physician who turns his patient away to face alone such an array of conditions is not treating him with all the care that he might.

The question naturally arises, how can the general practitioner treat a cold that is well developed so as to give the patient the best chances of escaping these sequelae? Of course, the general eliminative treatment mentioned above will do much in this direction, but it will be far more efficacious if appropriate local treatment is also instituted. As far as I have been able to judge from experience and from reading, the key to the whole situation is this: establish and maintain free drainage and ventilation of the sinuses, and provide for the removal of irritative waste products. Early in the cold the mucosa swells, tending to close the small mouths of the sinuses, which are mostly situated up under the middle turbinate. Clearly the indication is to prescribe something to shrink the mucosa sufficiently to maintain the patency of the sinus mouths, and to use a non-irritating wash, preferably alkaline, to remove the irritating secretions.

Of course, the surgical conditions, such as marked deviation of the septum, true hyper-

trophies, bony cells in the turbinates which obstruct the sinus mouths, do not properly belong to this discussion.

Just a few practical considerations:

In order to shrink the mucosa, dilute solutions of adrenalin are very useful for an office examination, but should rarely be prescribed as the effect is very transitory; it is often very unpleasant to the patient, causing paroxysms of sneezing, frequently followed by headache; it produces so violent an ischemia that the infection is directly favored by the absence of blood, and it is followed by a marked hyperemia, which we are trying to avoid.

Alkaline sprays, as a means of removing the secretions, leave much to be desired, especially where the secretions are thick and purulent.

Syringes used carelessly and with undue force are dangerous, inasmuch as they are liable to carry infectious material into heretofore uninvolved sinuses or through the Eustachian tube into the middle ear.

The routine that I follow in cases in which I have reason to fear sinus trouble is, in addition to the constitutional treatment, to prescribe a powder containing 1 grain of menthol, 2 grains of bicarbonate of soda, 3 grains of light magnesium carbonate, 4 grains of cocaine hydrochloride, and a drachm and a half of milk sugar. A little of this is to be snuffed up each nostril often enough to keep it open and clear, but in no case oftener than once every two hours. There is little danger of contracting a fondness for the cocaine as most of it is washed out in the secretions. I have prescribed it a number of times and have never known of a patient's using more than a half bottle in the course of one cold (except in hay fever), so that they get only about two grains of cocaine in the whole treatment.

I also have them irrigate the nose with a teaspoonful each of salt and soda in a quart of warm water two or three times a day, using a fountain syringe placed not over two feet above the head. This gives a safe and fairly satisfactory pressure.

Another thing that I have found valuable for increasing the comfort of the patient as well as lessening the secretions, is the administration of tablets containing atropine and camphor, the so-called rhinitis or coryza tablets. Personally, I prefer the formula of Dr.

S. MacCuen Smith, which contains 1-600 of a grain of atropine and 1-4 of a grain of camphor, beside several other ingredients of less importance. I have them take two every three hours until they notice an uncomfortable dryness in the throat or a palpitation of the heart.

Another thing that we are not careful enough about is instructing our patients how to blow the nose and how not to blow it. Of course we all know the dangers of trying to blow while holding both nostrils tight, but the average patient does not realize them, and he seems to take pride in the volume of sound produced, blissfully ignorant of the risk he is running of infecting his ears.

To summarize:

Every case of a cold is a potential case of serious sinus or ear trouble.

Early recognition and treatment of these complications is of the utmost importance.

As the onset of these complications is often very insidious, it is highly improbable that a patient left to his own devices will recognize the presence of any serious trouble until the time has passed when the disease would be most amenable to appropriate treatment.

Therefore, the physician, even though he may not deem it necessary to treat the primary cold, is not fulfilling his whole duty if he fail to keep him under observation until the cold is a thing of the past.

380 Withers Building.

THE MASSIVE DOSE METHOD OF ROENTGEN THERAPY.*

By A. L. GRAY, M. D., Richmond, Va.

Roentgen therapy has been so completely revolutionized within the past few years that I have thought it might not be without interest to this body to discuss its rationale, technique, and scope as viewed and practiced by the modern Roentgen therapeutists.

The remarkable results achieved in the treatment of superficial epithelial new growths and hypertrophies caused the Roentgen rays to be employed also for the treatment of all forms of malignancy without reference to its location. By the earlier methods an occasional case of recovery was reported, but so seldom were results satisfactory that with few excep-

tions the better men abandoned the treatment of lesions beneath the skin except in cases that were manifestly hopeless, and this for the mental effect rather than for a contemplated physical improvement.

A better acquaintance with the properties of the rays as emitted by the ordinary forms of Roentgen ray tubes led to the discovery that they were not homogeneous but, like the radium emanations, possessed markedly different properties and possessed a spectrum of their own. Shortly after Roentgen's discovery it was ascertained that certain materials, though of a considerable density, would transmit the chemically active rays with great facility and produce reduction of the silver salts on a sensitized plate almost as readily as if the material were not interposed. It was observed that decided protection against burns was offered by the clothing of the operator. The primary reaction rarely appeared above the wrists of the early operators, many of whom have since given their lives as a toll.

Experiments in filtration made by Pfahler, of Philadelphia, and others led to the establishment of the fact that by interposing filters of different kinds, rays of certain characteristics could be absorbed without material impedence to rays of other characteristics; for example, aluminum will absorb the rays that produce the well-known skin reaction, permitting the penetrating rays to pass with very slight comparative interference. On the other hand, silver greatly obstructs penetrating rays while permitting an easy passage of those so markedly potent in skin effect.

It was further ascertained that the skin, and even wet leather, possessed the same absorbing power of the so-called soft rays that is possessed by aluminum. Considering the curative effects on the surface, it was reasonable to suppose that, if the same quantity of physiologically active rays could be delivered to cells deeply seated, the effect upon them would be similar to those on the surface. The problem that confronted the Roentgenologist was how would it be possible to apply a sufficient quantity of therapeutic rays to a structure deep in the tissue without producing the dreaded skin effect? The filtration experiment referred to had elicited the fact that the rays destructive of malignant cells were not those

*Read before the Tri-State Medical Society of the Carolinas and Virginia, at Richmond, Va., February 16-17, 1916.

that are absorbed by the skin and produce the skin reaction commonly known as "X-ray burn."

Further experiments with Roentgen ray meters of various kinds showed that it was possible to administer the same quantity of penetrating rays through a large mass of tissue that can be applied to the surface, the element of time alone being the factor. This is in marked contrast to the emanations from radium, which, according to Newcomet, are effective for a distance of only two or three centimeters. There are now many forms of Roentgen ray meters, none of which are absolutely satisfactory, but which enable us to determine fairly well the quantity of rays administered and to repeat at will the operation with a fair amount of accuracy.

With the foregoing facts established, the aim, at present, in deep therapy is to approach the site of the neoplasm from as many directions as possible, focusing the "lines of fire" so that they will cross at the point of disease, thereby massing the curative effects of the various exposures in a more or less limited area within the tissues. If we possessed materials that were perfect filters for the "soft rays," it would, of course, be necessary to direct the rays only through a single field. Thus far, however, it has not been possible to generate rays of sufficient hardness to penetrate filters thick enough to absorb all the "soft rays" without materially absorbing the penetrating rays. Again, as the intensity of the Roentgen rays varies inversely as the square of the distance from its source, it is obvious that a tumor of considerable size would obtain a proportionately greater dose on the side proximal to the tube than would be administered to it on the distal surface.

These facts have led to the attempt to approach the seat of disease from all possible directions that will enable a new aspect of the diseased area to be reached without entering the rays through the same skin field twice in the same series.

To the Roentgenologist who was supplied with a great number of tubes of high penetration, so that he could change them the moment the heating effect of the current caused a drop in the vacuum and a consequent loss of penetrating rays, this method of treating deep-seated lesions has been possible for a number of years. It has been

just a little over two years since a tube was exhibited that would stand the passage through it of very heavy currents for an indefinite time without appreciable change in the properties of the rays. It was with the advent of this tube that the "cross-fire" method was rendered practicable.

The tube was invented by Dr. W. D. Coolidge, of the Research Laboratory of the General Electric Company, and marked a new era in Roentgen therapy. Within the past year another tube considerably less expensive has been placed on the market, which is perhaps the nearest approach to the Coolidge tube in its capacity and output that has yet been devised. It, too, will admit of the passage of heavy currents for a considerable time without change in the quality of the rays emitted. The tube referred to is the Snook-Hydrogen tube, which is provided with a system of regulators that enables the operator to adjust the vacuum so that he can obtain any degree of penetration desired and the tube maintains itself constant. The acquirement of apparatus with these possibilities has brought into the field of Roentgen therapy a number of conditions that were formerly considered entirely beyond its scope. Aside from the treatment of deep-seated malignant neoplasms, fibroid tumors, uterine hemorrhages due to pathological conditions in the mucosa, body of the uterus and adnexa, thymic disease, Graves' disease, bone tuberculosis, and certain diseases of the blood-forming mechanism have been reported symptomatically cured in very many instances by the new method of treatment.

The massive dose method of Roentgen therapy presents many problems that require the most careful and accurate technique. It is of material advantage to both operator and patient to be able to give in a single treatment the dosage necessary to produce the same result that was formerly acquired in weeks or months of doses repeated every day or two. The interference with business, the expense, and inconvenience entailed by prolonged and repeated visits can be appreciated only by those who have experienced them.

When a small superficial lesion is to be treated, a full dose carefully guarded by meters is administered; the patient is allowed to return to his or her home and instructed to come again in three or four weeks for a second

or after treatment. In the multiple massive dose method applied to deep lesions the series which embraces the administration of the rays through as many new fields of skin surface as is practicable is usually divided so that three or four areas are treated daily until the entire number of ports of entry have been covered. The reason for limiting the number of areas thus treated is that occasionally unpleasant after-effects resembling a form of toxemia have been reported when excessive dosage has been employed at a single sitting. The condition has been variously attributed to the effects of the gases produced by the action of the high tension electric current on the atmosphere, by the liberation of toxins in the tissues and by the production of an acidosis. In my personal experience I have had none of these characteristic unpleasant results, though occasionally indefinite and diversified complaints are the natural consequence of the fright, strain on the nervous system and imagination of patients undergoing so mysterious an ordeal.

The results obtained in deep therapy in my own practice have, in some cases, been most gratifying; others have failed to respond to my best efforts. Having employed the cross-fire method for only eighteen months, I cannot, of course, foretell the permanency of the improvement or symptomatic cures I have obtained.

312 East Franklin Street.

SYMPTOMS NOTED IN TWO THOUSAND CASES OF REFRACTION. ABOVE EIGHT AND UNDER FORTY YEARS OF AGE.*

By JOHN F. WOODWARD, M. D., Norfolk, Va.

In this report I have tabulated the findings in 2,000 cases of refraction, not with the hope of fixing any new or special manner of procedure, for every oculist refracts in his own peculiar way, but with a firm desire to help fix something of a symptom index in refraction.

For twenty-two years I have been watching certain symptoms obtained directly from the patient at the time of the examination, in the hope of sooner or later arriving at a point where I could say almost without exception, this patient has thus and so—one of the many varieties of refraction errors.

I am fully aware that there is a rising tendency to trust nothing to subjective examinations—and therein lies a germ of trouble. All of us have our patients return dissatisfied at times because we did not see or recognize something at the first examination. Absolute correction of an organ that is as capable and critical as the human eye is next to impossible; ergo, you had as well use all the means at hand, whether objective or subjective.

We speak of certain symptoms as pathognomonic of malaria, pneumonia or brain involvement; should not we by rights find a symptom or a combination of symptoms as pathognomonic of hyperopic astigmatism? Of course, there are headaches, neuralgia and migraines having other conditions for a cause—such as frontal headache from sinusitis and localized headache from brain tumor; but these would not puzzle one very long if he studied symptomatology at all.

I hope to prove to you that when a patient comes in your office with palpebral narrowing or “squinting” eyes, with or without headache, you may look for high-grade myopic or hyperopic astigmatism and with the axis regular. But if that same patient complains of blepharitis, frontal and supraorbital pain, photophobia and burning lids, look out for the same condition with irregular axis and perhaps imbalance. The number of the glass he requires will not be written on his forehead, however, but the symptoms noted will help in the final prescription. When a child ten or twelve years old is brought to you claiming she cannot see, but says nothing about eye pain nor headache, you may expect uncomplicated myopia. Another child, same age, who can see but is more or less stupid and a headache sufferer, will show high-grade hyperopia. Thus it is you will find each error of refraction having symptoms peculiar to itself, and when not complicated with irregularities and imbalances, rather easy to differentiate.

My tests have been made with patients from eight to forty years of age. I have not separated the children from the adults because they are both well within the accommodation period. If proper allowance is made for personal and occupational conditions the physical symptoms will be about the same.

About the only marked difference between children and adults is found in the imbalances.

*Read before the Medical Society of Virginia at its forty-sixth annual meeting at Richmond, October 26-29, 1915.

Muscle errors are found in children, but they do not make the same impression as upon older people.

Some children as well as adults, are wonderfully free from symptoms in rather complicated cases, and on the other hand, they go to pieces over the simplest errors. Herein enters the personal element and often makes differentiation difficult. Therefore, in trying to study out a working model of refractive indices it is necessary to utilize every condition that enters into the symptomatology of refraction. The personal and family history should be known and muscular imbalances must be taken into consideration. Dr. John R. Newcomb, of Indianapolis, reported in October, 1914, a series of examinations that are unique and very instructive and along the same line that I have been working for years. I have followed rather closely his manner of tabulating, which I think excellent. In many places we vary greatly, however, and I think that it is partly because he has not considered the refractive errors and muscle imbalances separately. He gives, say, compound hyperopic astigmatism and ignores the axis, whether regular or irregular, or fails to note the condition of the muscle in said case. They all have symptoms peculiarly their own, and modified when combined; therefore, of a necessity, if you want to differentiate, you must give each error credit for its sins.

Get your subjective evidence first and then go after your objective, but do not make the mistake of forgetting that the patient has a very important part to perform. Personally, I have been up against some superior intelligences in skiascopy and had to go back to my old glasses. I use every means I ever heard of and then have trouble, and am frank to say that in many of these cases I floundered because I did not give the patient sufficient chance to help work out his own salvation. There will never be arranged a symptom index that will completely take the place of the test case, skiascopy, mydriatics and the astigmometer—that would be ideal and utopian. We will have done well when, after a long and trying research, we have established a refractive symptomatology that will throw more intelligent light upon that most trying and annoying of all eye work refraction.

It is not enough to know that your patient has, and generally does have a headache, that

he or she cannot do certain kinds of work without paying a heavy penalty for it—you must know the location of said headache, whether fleeting or constant, coming on before or after eye work, where it begins, and where it ends; also the patient's physical index.

These 2,000 cases were all private, which should be proof enough that they received my best attention. In no case was a cycloplegic used in manifest myopia of over two degrees, nor in any other case till a test case and astigmometer reading had been made. I use regularly homatropia, grain 1 to one dram pure water, and reserve the atropia for control in obstinate cases. Cocaine is never added simply because it is unnecessary, and in many cases its influence upon the corneal epithelium is noticeable and the patient often gets a false mental attitude as to the use of his eyes during the examination. The former is especially true if you rely entirely upon skiascopy and the latter when you rely upon any or all of the other means of measurement. I use the homatropine two to three drops put into each eye every ten minutes till there is complete suspension of accommodation. The desired result is usually obtained in from sixty to eighty minutes. Give the drug ample time and you will not have to complain of its work.

I am convinced that there is no such thing as a perfect eye. Most every eye has some astigmatism and it is surprising how often it is overlooked on the first examination. A simple glass is often given with perfect comfort which lasts for months, then the headaches return and a second examination will reveal some astigmatism that is responsible for the trouble. It was there at the first examination. I have tabulated 190 cases as simple hyperopia simply because they did not show any signs of astigmatism on examination.

No report of refraction work is complete that does not include muscular imbalances for, to my mind they, in combination with irregular astigmatism, give the most marked differential symptom indices of any errors of refraction. I seldom ever use a myotic after drop examination. If the eyes are in urgent need of cycloplegic examination, the rest obtained by the suspended accommodation justifies one in letting that muscle come back into activity gradually.

TOTALS IN THE 2,000 CASES REFRACTED.

Hyperopia	190
Myopia	55
Simple hyperopic astigmatia—regular.....	60
Simple hyperopic astigmatia—irregular....	330
Simple myopic astigmatia—regular	30
Simple myopic astigmatia—irregular.....	175
Compound hyperopic astigmatia—regular...	110
Compound hyperopic astigmatia—irregular..	535
Compound myopic astigmatia—regular....	25
Compound myopic astigmatia—irregular...	150
Mixed astigmatia	70
Anisometropia	270

PERCENTAGE OF MUSCLE IMBALANCE.

Hyperopia	23
Myopia	8
Simple hyperopic astigmatia—regular.....	12
Simple hyperopic astigmatia—irregular....	47
Simple myopic astigmatia—regular	11
Simple myopic astigmatia—irregular	28
Compound hyperopic astigmatia—regular...	16
Compound hyperopic astigmatia—irregular..	69
Compound myopic astigmatia—regular	6
Compound myopic astigmatia—irregular....	18
Mixed astigmatia	14
Anisometropia	96

Anisometropia seems to be the right name in a fairly large per cent, of our most annoying cases. Asthenopia, diplopia with the different kinds of muscular imbalance from unequal strength lenses, difficult binocular vision and practically one-sided blindness are found with alarming frequency.

In looking over these charts you can easily see why it is necessary to separate the regular and the irregular astigmias, and as well the muscular imbalances, and give to each one its place in the symptom columns.

Below you will find the most common symptoms and the special symptom or symptoms found in each error. The indefinite term, "headache," is found in all cases, and is the term used by the patient to describe his condition regardless of the nature of the headache. Hence, I will record only the different kinds of head discomfort:

No. 1. HYPEROPIA—SIMPLE.

Symptoms.

- Discomfort during and after eye work.
- Pain and pressure on top of head.
- Occipital pain.
- Often get tired and sleepy after eye work.

Psychic symptoms marked at times in very high grade.

Have seen two cases of lassitude simulating dementia.

Pain in eye balls.

Vision generally good.

HYPEROPIA—WITH IMBALANCE.

All symptoms seen in simple hyperopia intensified.

Temporo-nasal pain at times.

Dread of eye work.

There are found in simple hyperopia, with or without imbalance, three symptoms that are characteristic but modified according to the amount of error,—pain located in top of head, occipital pain and pain in eyeballs with dread of work. Other gross symptoms are noted, but are in no way diagnostic. These cases are generally free from discomfort till they attempt to do regular eye work, and then they have a chain of symptoms that is about pathognomonic. In three cases seen with hyperopia above 5 D., psychoses of marked degree were found,—one patient very loquacious and unreliable and the other two much depressed with mental lassitude marked. Where the muscles are involved the symptoms are exaggerated with a temporo-nasal discomfort. Nausea and vertigo have not been found except in very high degrees, or with marked muscle imbalance. Palpebral irritation and photophobia seldom observed.

No. 2. MYOPIA—SIMPLE.

Symptoms.

Vision bad.

Headaches uncommon.

Photophobia only where there is retinal irritation.

Psychic involvement almost nil.

Ocular pain occasionally.

Tremor of lids without a real squint in many cases.

Facial expression (effort to see) characteristic.

MYOPIA—WITH IMBALANCE.

Other symptoms exaggerated.

Ocular pain intermittent.

An indefinite headache.

Temporal after eye work.

Lacrimation and blepharitis uncommon.

Vertigo seldom seen except in hyperphoria. Psychoses occasionally.

In myopia simple we find less eye discomfort than in any other error. Exophoria and hyperphoria are the most common muscular complications, and account for the combined temporal discomfort. Taken as a whole, their chief complaint is inability to see.

No. 3. HYPEROPIC ASTIGMIA—REGULAR.

Symptoms.

Frontal pain.
Vision generally good.
"Squinting" in high grade.
Psychoses not common.
Nausea and vertigo seldom seen.
Palpebral irritation sometimes.

HYPEROPIC ASTIGMIA—IRREGULAR.

Frontal and supraorbital.
Eyes burn and sting.
Blepharitis common.
Photophobia and "squinting" in high grade.
Nuchal pain seen in high grade.

HYPEROPIC ASTIGMIA—IMBALANCE.

Other symptoms intensified.
Psychoses more manifest.
Burning in inner canthi.
Vertigo when hyperphoria present.
Fronto-temporal headaches.

The frontal headache of simple hyperopic astigmatism is diagnostic. When you find irregular astigmatism, with or without imbalance, the other symptoms become more prominent. Photophobia, blepharitis, vertigo, acute stabbing pains, palpebral narrowing, or what is called the "squinting" eye. These symptoms are common in such cases, and their intensity depends upon the degree of error.

No. 4. MYOPIC ASTIGMIA—SIMPLE.

Symptoms.

Frontal pain.
Average vision very good.
Psychic manifestations generally wanting.
The "squinting" eye in high grade.
Nausea and vertigo not common.
Palpebral irritation sometimes.

MYOPIC ASTIGMIA—IRREGULAR.

Symptoms.

Frontal and supraorbital.
Nuchal in high grade.
Eyes burn and sting.
Photophobia.
Blepharitis.

MYOPIC ASTIGMIA—WITH IMBALANCE.

Other symptoms exaggerated.

Vertigo more or less common if hyperphoria present.

Nervous symptoms increased.

You will find in myopic astigmatism symptoms very similar to those found in hyperopic. Frontal headache is more persistent and its tendency is to become general, especially when the axis is irregular. Where there is imbalance the symptoms are more acute and vertigo is often seen. Frontal combined with supra-orbital most common headache.

No. 5. COMPOUND HYPEROPIC ASTIGMIA—REGULAR.

Symptoms.

Ocular and frontal.
Nuchal and occipital.
Eye strain, winding up with general headache.
Prolonged work unsatisfactory.
Physical depression.

COMPOUND HYPEROPIC ASTIGMIA—IRREGULAR.

Other symptoms exaggerated.
Eyes burn and sting.
Attacks of migraine and photophobia.
Nausea sometimes.
Psychoses.
Blepharitis with chronic conjunctivitis.
Pain starting in eyes and radiating to top and back of head.

COMPOUND HYPEROPIC ASTIGMIA—WITH IMBALANCE.

The above symptoms intensified.
Nuchal or "check rein" tension. Vertigo with hyperphoria.
Frontal and supraorbital as a climax.

In the compound hyperopias we have nearly the same symptoms, varied, however, according to the amount of irregularity and imbalance; these complications produce more intense symptoms which radiate over the whole head, starting with ocular, then nuchal, culminating in what is called migraine. The patient has often said, "Why, doctor, my eyes get hot, burn and sting and feel like they will jump out of my head."

Compound hyperopic astigmatism—irregular—is by far the most common error found in the eye.

NO. 6. COMPOUND MYOPIC ASTIGMIA—REGULAR.

Symptoms.

Vision generally poor.
 Frontal.
 Supraorbital not constant.
 Nuchal and occipital occasionally.
 Psychoses not common.
 Nausea and vertigo uncommon.
 Palpebral irritation sometimes.

COMPOUND MYOPIC ASTIGMIA—IRREGULAR.

Frontal more marked.
 Headache more general.
 Ocular fatigue prompt.
 Burning and stinging persistent in many

cases. Chronic conjunctivitis.

Psychoses common.
 Nausea and vertigo not common.

COMPOUND MYOPIC ASTIGMIA—WITH IMBALANCE.

Symptoms increased.
 Temporo-frontal.
 Photophobia.
 Palpebral irritation.
 Vertigo with hyperphoria.
 Nuchal pain common.

Here we find some symptoms in common with compound hyperopic astigmatia—regular and irregular—but the symptoms are more acute and do not involve the vertical and occipital as frequently. Vision is not as good, and there is a tendency to narrow the lids in the light, and show by facial expression that there is acute discomfort. The “check rein,” or nuchal pain, along with the frontal, are the most common symptoms in compound myopic astigmatia with imbalance and irregular astigmatism.

NO. 7. MIXED ASTIGMIA—REGULAR.

Symptoms.

Vision often poor.
 Blepharitis.
 Photophobia.
 Supraorbital pain nuchal.
 Psychoses.

MIXED ASTIGMIA—IRREGULAR.

Combined nuchal and supraorbital most common.

Vertigo.
 Nervousness.
 Blepharitis.
 Nuchal.

MIXED ASTIGMIA—WITH IMBALANCE.

Other symptoms exaggerated.
 Acute nervous symptoms.
 Vertigo not uncommon.

In this error we have very marked and specific pains. The supraorbital combined with nuchal and temporal where the muscles are wrong, give a picture that is noteworthy. Acute nervous conditions are frequent. Chronic conjunctivitis and red lids are common, with the conjunctivitis corresponding to the palpebral slit, or horizontally.

NO. 8. ANISOMETROPIA—REGULAR AND IRREGULAR.

Symptoms.

Rapid eye fatigue with confusion of letters.
 Vision generally bad in one eye.
 Photophobia and blepharitis sometimes.
 Psychoses.
 Unilateral headache common.
 Vertigo with imbalance.
 Supraorbital unilateral pain common.
 Instability of eyesight.

In this condition we can have any of the following symptoms: frontal, supraorbital, temporal, nuchal, occipital, vertical, and unilateral headaches. Inability to do any sustained eye work very common symptom. Blurring of vision from muscular imbalance after a short attempt at eye work gives much distress, and the kind of error will show its corresponding discomfort. The marked difference in the sight of the two eyes gives confusion, and rapidly brings about muscle imbalance. In these cases more than in any other we get the one-sided headache, and the pain is generally in the better eye. The different phorias are common and follow tenaciously the symptom index laid down for the different forms of muscular imbalance. You will find a myopic eye hitched up with a hyperopic astigmatic compound one, with regular or irregular astigmatia showing a heterophoric imbalance. There is no end of combinations and symptoms, but when you analyze them you will find that they are true to the symptoms in the previous charts.

It can thus be shown that certain errors of refraction and muscular imbalance follow so closely certain well-defined lines that it is possible to establish symptom indices giving more or less correct information even before the eyes are refracted. There are manifold diffi-

culties to overcome along the line of differentiation,—but is not this true in the diagnosis of any of the obscure diseases? Appendicular symptoms may fool the most astute diagnostician at times. Eyeglasses are often prescribed and the patient told that frontal, supraorbital or nuchal pain will stop, when later some one finds a sinusitis. You told the patient that, however, because you unconsciously recognized that that symptom had been relieved many times by correcting just that error.

If you will tabulate the symptoms and then write the error found opposite, you will be surprised how often they tally.

I have not given percentages, simply the numbers. Too many numbers are confusing. The symptoms are given just as I have seen and recorded them from day to day, and accurately enough, I hope, to help others to establish some day that great desideratum—a symptom index for errors of refraction.

I have recorded the number of muscle errors found under each division and not of the total number of cases. And when a case is recorded as muscle imbalance, it means muscular errors that will not show improvement or disappear after correcting the refractive error.

A DIAGNOSTIC SUMMARY.

Hyperopia—Simple.

Ocular.
Vertical.
Occipital.
Vision usually good.

Hyperopia—Imbalance.

Blurring of vision on eye work.
Other symptoms exaggerated.

Myopia—Simple.

Vision bad.
Facial expression.
Absence of headaches.

Myopia—Imbalance.

Ocular pain occasionally.
Indefinite headache.
Vertigo sometimes.

Hyperopic Astigmatia—Regular.

Frontal headache.

Hyperopic Astigmatia—Irregular.

Frontal.
Ocular occasionally.
“Squinting” in high grade.
Blepharitis frequently.

Hyperopic Astigmatia—Imbalance.

Frontal and supraorbital.
Nervousness.
Vertigo sometimes.
Other symptoms increased.

Myopic Astigmatia—Simple.

Frontal.
“Squinting” in high grade.

Myopic Astigmatia—Irregular.

Frontal.
Supraorbital occasionally.
Photophobia.
Blepharitis.

Myopic Astigmatia—Imbalance.

Frontal and temporal.
Vertigo sometimes.
Blepharitis.
Psychoses.

Compound Hyperopic Astigmatia—Regular.

Ocular and frontal.
Occipital, becoming general.
Nuchal.
Vision usually good.

Compound Hyperopic Astigmatia—Irregular.

Ocular, frontal.
Nuchal, migraine.
Blepharitis.
Nervous irritability.

Compound Hyperopic Astigmatia—Imbalance.

Above symptoms exaggerated.
Burning and stinging of lids.
Eyes feel hot and bulging.
Chronic conjunctivitis.
Vertigo occasionally.

Compound Myopic Astigmatia—Regular.

Vision generally poor.
Frontal.
Supraorbital.

Compound Myopic Astigmatia—Irregular.

Vision bad.
Frontal, sometimes ocular, becoming general.
Palpebral irritation.
Photophobia.
Nervousness.

Compound Myopic Astigmatia—Imbalance.

Frontal and supraorbital increased.
Vertigo common.
Psychoses.
Chronic conjunctivitis.

Mixed Astigmia—Regular.

Vision unsatisfactory.
Supraorbital diagnostic.
Blepharitis.
Photophobia.

Mixed Astigmia—Irregular.

Combined, supraorbital, and nuchal.
Other symptoms exaggerated.
Symptoms acute.
Nervousness common.

Mixed Astigmia—Imbalance.

Supraorbital, sometimes combined with temporal.
Nuchal.
Blepharitis.
Acute nervous spells.
Vertigo.

Anisometropia—Regular, Irregular, and Imbalance.

Supraorbital, unilateral.
Rapid eye fatigue.
Blurring of vision.
Bad vision in one eye.
Nausea and vertigo with imbalance.
Diplopia sometimes.
Palpebral irritation uncommon.

In this diagnostic summary I have reduced the symptoms to the minimum number and placed them as nearly where they belong as possible.

As you readily see, ocular, occipital and vertical discomfort, with vision generally good, stands for simple hyperopia. If you get these symptoms with blurring and rapid eye fatigue, there is usually imbalance as a complication.

Bad vision, with slight narrowing of lids the myopic expression, free from headache,—as a rule, look out for simple myopia. If you will notice these cases closely you will find that the narrowing of the lids is often accompanied by a slight nictitation of the lids. These same symptoms seen with an indefinite headache and perhaps a little temporal discomfort mean imbalance.

Frontal headache is the chief symptom of hyperopic astigmia, and is sometimes noticed in high grade nervousness. The "squinting" patient will usually show hyperopic or myopic (high grade) astigmia with regular or irregular axis. These patients are much given to blepharitis and photophobia. When im-

balance is found, the supraorbital headache complicates and vertigo is often found.

Simple myopic astigmia in all of its phases gives about the same symptoms as simple hyperopic astigmia. The vision is not quite as good, perhaps, and the symptoms seem more acute. Inability to open the eyes wide, or the "squinting" eyes are very common in this trouble in high grade.

In compound hyperopic astigmia, ocular, frontal and supraorbital pains start in the eye, radiate backward, and are not isolated as in hypermetropia. When the astigmia is irregular nuchal, or "check rein" pull, blepharitis, nervousness, hot, bulging feeling and inability to use eyes are found. If imbalance complicates, these symptoms are increased and vertigo is often found if hyperphoria predominates. Chronic conjunctivitis is often seen with the line of irritation corresponding to the palpebral slit. However, the combined frontal and supraorbital headache with the nuchal pull are the most diagnostic symptoms.

The different forms of compound myopic astigmia show vision poor and the symptoms very similar to compound hyperopic astigmia. Though the combined frontal and supraorbital symptom is not as constant as in the hyperopic, I have found vertigo more common when the imbalance is hyperphoric.

In mixed astigmia, I accord with Dr. Newcomb in the irregular variety, for supraorbital and nuchal pain are certainly diagnostic. It is not as marked in the regular form. While the irregular, accompanied by imbalance, increases the headache and palpebral irritation, nervousness, photophobia and eye fatigue.

Frontal and supraorbital headache, when unilateral, are about diagnostic of anisometropia. Rapid eye fatigue, diplopia, blurring of vision, bad vision in one eye and high degrees of imbalance, are usually found in this condition. Photophobia and palpebral irritation are uncommon.

I have found nervous conditions following very high degrees of hyperopia, but mixed astigmia and the different varieties of hyperopic astigmia give the highest percentage of nervous manifestations. The profession at large is inclined to minimize the importance of hunting for psychoses amongst the different errors of refraction. Headache is only a symptom, and, like neuralgia, it has been a mantle

of charity in apologizing for ignorance. And chronic stomach headache is a fetish of the past beyond the possibility of a decent explanation. Quacks are growing fat and impudent upon the victims of such ignorance. I am not foolish enough to think that every headache, every nervous spell, every migraine, or every petit mal is caused by errors of refraction, but I do say that when one has studied a case of chronic headache carefully, it is a crime to continue to punish the liver and the stomach and fill private and public hospitals with tilting wombs and offending ovaries.

I have in mind a young lady who toured Europe after having tried the patience of scores of doctors in this country—she was blessed in this world's goods and was kept on the go till by accident she came under my care. Backache and general breakdown of all her nervous system seemed to be the line of argument. I prescribed, as anyone else could have done, an astigmatic glass with axis irregular and against the rule. In a month she was perfectly well, and is now a happy and well woman.

Nausea I consider a negligible quantity in errors of refraction, as I have seen it so seldom.

Vertigo, however, is of great importance. Several of these patients suffered greatly from car sickness (trolley and railway). In every instance there was regular or irregular astigmatism with hyperphoria, and frequently one of the other phorias was present.

Palpebral irritation and photophobia were found most frequently in the irregular astigmatias.

Simple errors of every kind give most persistent eye discomfort. There were six cases in this list who had astigmatism ranging from 3.50 D. to 6 D., with irregular axis, without ever having complained of headache. But they were all backward in their school work, and thought to be subnormal children. After correction their parents remarked upon their improvement in school work.

It may be true that children, who are ever ready for play, do not complain as often of headaches, but their physical and nervous systems particularly will show the results of eye strain, if you watch them closely.

I find very few cases after the age of eight or nine whose refractive errors have made a

material change. That it will happen is a fact nevertheless. I find, however, equally as many adults in whom the astigmatic axis has changed from year to year. After muscle corrections, there is often decided change in the astigmatism. Perhaps change of occupation or closer application of eyes to book work may be the cause in those when such changes are found.

As this paper has a specific purpose—that of helping to establish a symptom index of refraction,—I shall not go more into the finer points of eye-strain.

I shall be more than pleased if my work helps others, co-workers in refraction, to say positively that this or that head symptom points to a certain error of refraction instead of taking a long shot at the stomach, gall bladder, appendix or female genitalia.

Taylor Building.

TREATMENT OF GONORRHEA.

By THOS. E. LEONARD, M. D., Richmond, Va.

The treatment of gonorrhoea is less standardized than that of any other disease. In the text-books we are offered a great variety of remedies which is an indication of our ignorance in regard to it. After some study of the disease, I want to suggest a standardization of those remedies which most satisfactorily meet the indications.

When I begin, I am confused because the protean manifestations of gonorrhoea run before my mind's eye, and I realize the possibility of misconstruing the symptoms.

I undertake an abdominal operation with far less trepidation than I do the treatment of a complicated case of posterior urethritis; still there are men who dismiss a patient with a prescription for a balsamic, not knowing nor caring whether the man has a simple anterior urethritis or involvement of the entire genito-urinary tract.

There are others who want to give the impression of doing something, who proceed to irrigate or sound every discharging urethra. Both of these practices are manifestly wrong when done without exact knowledge of the pathology.

Passing over general measures, rest, diet, local cleanliness, avoidance of infection, and other directions which every case must adhere to, I come to the internal treatment of gonorrhoea. To begin with, I believe blenorhagics

are never indicated. My reason for this is that the discharge and the other evidences of inflammation are not caused by the gonococcus directly, but are due to the defensive forces exerting their efforts to expel the invading germ. So, any remedy that opposes the congestion and consequent discharge is a curtailment of the natural forces against the infection. I have repeatedly seen this demonstrated in patients who have been treated internally, so that I have come to regard blenorrhagias as very harmful. Their action is not antiseptic to the degree of killing the germs or retarding their growth, so that there is no sound principle that would justify their use. Urinary antiseptics are beneficial in rendering the urine bland, and I have found the preparation of compound methylene blue useful for this purpose. The santal oil which it contains is undoubtedly the cause of its beneficial action and I use it invariably as an internal medicant. So much for internal treatment which can be summed up in the one prescription that I have mentioned.

Now we come to the difficult part in the management of gonorrhoea—the local treatment of its numerous manifestations. I have heard Dr. Ramon Guiteras say upon this subject: "There is no disease the diagnosis and treatment of which require more patience or skill." Indeed, it is useless to speak of the treatment of gonorrhoea unless the diagnosis and pathology have been mastered. So I would change Dr. Guiteras' remark to read this way: There is no disease the diagnosis of which require more skill, and the treatment of which requires more patience. For it has been my experience that if one possesses skill in diagnosis and sufficient patience, the treatment is simple enough.

While the subject of diagnosis must be reserved for another paper, I cannot intelligently speak upon treatment without touching briefly upon diagnosis. Accordingly, I will mention the routine examination of a patient suspected of having gonorrhoea:

First—History as to previous attacks, treatment received, effect of treatment, present symptoms, time of onset and interval between onset and last cohabitation.

After obtaining this brief history, we make a visual examination of the meatus and note the character of the discharge. If the dis-

charge is very profuse, we omit a microscopic examination for cocci. If the discharge is scant or of unusual color or consistency, we invariably look for gonococci in the pus cells. If the inflammation is acute, we conclude the examination with gentle palpation of the epididymis and testicles and an attempt to learn the condition of the prostate and vesicles per rectum.

Finally, the patient is required to pass urine into two or three glasses, according to whether we are dealing with an acute or chronic condition, this having been ascertained by the examination up to this point. Also, it is decided whether or not it is permissible to use instrumentation, which must not be done in acute affections or in the presence of complications. Without going into the interpretation of these findings, I will presume that we have before us a case of acute anterior urethritis. What is the treatment? Answer: Do nothing for five or seven days.

It is permissible, if you feel that you must do something, to write a prescription for compound methylene blue capsules—to be taken one three times a day. At the end of the fifth to seventh day, use an injection of one ounce of solution of nitrate of silver, one-eighth grain to the ounce, to be increased gradually one-eighth grain a day, until five or seven grains to the ounce of water is used daily. If the first or succeeding injections cause inflammation, let two or three days intervene before next injection, then give same strength as on the preceding day. In this way, your patient will be well in six or eight weeks unless he has violated all common sense and decency by intercourse or drunkenness during the course of the disease. Only the one remedy is needed. It is acknowledged the best. Why use inferior and more expensive ones!

Suppose the posterior urethra has been involved. The treatment then consists in washing out the anterior urethra with warm water or boric solution and then proceed to instil the same strength solution of silver nitrate beyond the cut-off muscle. This is best done with a small sterile catheter attached to a hand syringe. From this position it will readily be diffused over the entire canal. In case of strangury or terminal bleeding, all treatment is suspended. If it is persistent, very weak solutions of permanganate may be tried

with extreme caution. The safest plan is to relieve the pain and wait until tenesmus has subsided, when the silver nitrate solution, one-eighth grain to the ounce, can be resumed. This treatment is to be continued until a cure is effected, which, under ordinary conditions, should not be longer than three months.

So much for acute urethritis, but a word in regard to its complications. If any of the ducts opening into the posterior urethra have been infected, we have to deal with a patient ill and painful indeed. The ejaculatory ducts carry the infection to the vesicles or vas, the latter in turn involve the epididymis or testicle by continuity. If the cocci find their way into the prostatic ducts we have an acutely inflamed prostate more tender than a boil.

The treatment of all these conditions is absolute rest in bed, together with hot and cold applications and in accessible regions the applications of absorbable unguents and lotions.

Sometimes a leech is very helpful. Of course, pain and tenesmus, which are prominent symptoms of these complications, require opium. When used per rectum, by means of suppositories, they are most effective. Cystitis or disease of the upper urinary tract are so rarely gonorrheal that I will not touch upon their treatment here.

Our examination may have revealed a gonorrheal affection which has persisted for years. Then we are confronted with a chronic condition, the treatment of which will tax the knowledge of the best men. To cure an impassable stricture of the urethra implies the very acme of surgical ability—no operation being more difficult than external urethrotomy without a guide. Fortunately, chronic gonorrhea is of varying degrees and is divided for study into two stages, that of soft infiltration and the stage of hard infiltration of the first, second or third degree.

Only in the third degree, in which the urethra is so constricted as not to permit the passage of a filiform, is operative intervention required; for we then have a condition of hypertrophied and strained bladder walls and all the symptoms of back pressure of long standing. Besides, these patients are uroseptic, which greatly increases the operative risk. Even infiltrations of the first and second degree are often difficult to cure, and follicular abscesses, periurethritis, or abscesses of the

prostate, require external urethrotomy for drainage. It is useless to lance an abscess due to periurethritis. It only prolongs the patient's suffering and he must be cured of the stricture which causes it before he can be relieved.

I have digressed somewhat, but to return to the general subject of chronic gonorrhea, the rational treatment for both stages of this disease is gradual dilatation, preceded and followed by irrigations of silver nitrate of varying strengths.

In case bleeding or burning on urination results from this treatment, it must be stopped until all reaction has disappeared. Then it is to be resumed, using a slightly weaker solution until we are able to repeat the treatments every third or fourth day without ill effect.

In hard infiltrations which have not contracted smaller than number 23 of the Charriere scale, gradual dilation with a Kollman dilator No. 28, will finally effect a cure. Only the complications of chronic gonorrhea need operation. In most of these cases where a tunnelled sound can be made to enter the stricture on a filiform, the Kollman treatment gives a good result.

In conclusion, the use of gonorrhoeal vaccines, phylacogens or bacterins have been of doubtful benefit, save in cases of arthritis. In this condition they have been of great service. I believe that they are useless, perhaps harmful, in any acute gonorrhoeal affection, and I know they are of no advantage in diminishing the discharge of urethritis. This is as would be expected when we remember that the discharge, swelling and other inflammatory symptoms are not due directly to the gonococcus, but to the effort of nature to rid the system of its presence. In other words, it is a reaction on the part of the resisting powers of the body to offset the invasion and expel the invader.

I purposely omit the treatment of gonorrhoeal affections in the female. They come under the care of the gynecologist. Nevertheless, you all have seen the direful effects of the gonococcus on the female genital organs and know the great suffering and expense as a result thereof.

I submit the simplified treatment of gonorrhea in the male for your consideration and I believe that a strict adherence to the remedies mentioned, without experimentation with

doubtful and untried methods, will finally reduce the frequency of the disease and the danger of contagion.

300 *Travelers' Building*.

SOME REMARKS ON THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

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If I were asked what in my opinion was the most important thing in making an early diagnosis of tuberculosis, I would unhesitatingly say study your patient. I am firmly of the opinion that a great majority of us are not spending enough time in trying to make an accurate diagnosis of the cases that consult us. The blame for this can justly be attributed to our text-books. In looking over four of the standard authors on the Practice of Medicine, I find the symptoms and signs of early tuberculosis conspicuous by their absence, while differential diagnosis is barely mentioned. Cases are cited that could be diagnosed by any layman with average intelligence. The text-books consume pages in describing the tubercle bacillus and how it may be found in the sputum; not a line do they give in describing an atypical case and how it may be differentiated from other diseases that cause similar symptoms.

In this connection entirely too much stress is put on sputum examination and too much consideration is given a negative result. I pay scarcely any attention to sputum examination. I believe it should be examined when it can be obtained. A positive result confirms our diagnosis. A negative result should be discarded only to ask for *another specimen*. We should not let a negative result mislead us in making a diagnosis. The majority of cases should be diagnosed before there is any breaking down of tissue or ulceration, as one of these must take place before the germ appears in the sputum.

In order to make an early diagnosis of tuberculosis, we must not wait too long for classical symptoms, as cough, expectoration, hemoptysis, night sweats, emaciation, etc. These are not found in early cases—only in advanced cases. An early case comes to the doctor with the following symptoms: The patient is "run down,"

gives a history of feeling tired, especially in the morning, sleep does not refresh him, he is nervous, irritable, and has dyspepsia; he thinks he needs a tonic. The doctor asks a few questions, gives him a simple tonic, and out he goes. In two or three weeks the patient returns with the same symptoms, probably a little worse; another prescription, and he is off again. This continues for a month or two, or if he takes a rest he may improve for a year or more. He finally returns to his physician for an examination. He has developed classical symptoms, made his own diagnosis, and goes to his doctor for a verdict. His chance for recovery is lost. We are letting too many of our patients make their own diagnoses. As a result, twenty-three cases by examination were refused admission to Catawba Sanatorium last year, and many others were refused who, from their history, were obviously too sick before applying. The Virginia State Board of Health reports 3,304 deaths during 1914 from pulmonary tuberculosis alone. Many of these could have been saved had an early diagnosis been made.

Let us go back to our patient's first visit. Had we obtained a careful clinical history, our method of procedure, in all probability, would have been different. I wish to emphasize the importance of going into the history thoroughly and systematically. It is from this we draw our conclusions and make our diagnosis in early cases. We may briefly outline a procedure, as follows: Inquire into early life, whether exposed to tuberculosis through parent or otherwise; history of childhood to fourteen years of age—diseases, duration and recovery from each; the character of health in general, home conditions and regularity at school.

It has been proven by tubercular tests that 75 per cent. of children of non-tuberculous parents are infected with tuberculosis by the time they are fourteen years of age, and 83.79 per cent. of tuberculous parents are infected at that age. However, only a small per cent. succumb to the disease. Inquire into the habits of life, after fourteen, at school, work or play. Ask what diseases he has had, the duration of and recovery from each, whether prompt and complete, or slow and partial. *When did the patient last feel perfectly well?* (This usually marks the beginning of the last attack.) A history of pain in the chest, slight cough or

*Read before the Medical Society of Virginia at its forty-sixth annual meeting at Richmond, October 26-29, 1915.

simple clearing of the throat in the morning, sputum yellow or streaked with blood; tires easily on exertion, complains of tired feeling in back of neck and between shoulders—all of these are suggestive symptoms. Also commonly noted may be impaired digestion, appetite poor, pain or fullness in stomach after eating, palpitation and shortness of breath. Along with these we usually find an accelerated pulse, temperature slightly above 99, weight from 5 to 15 pounds below normal. From this history we get an idea of the duration of the patient's illness and his powers of resistance, thus helping us not only in our diagnosis but prognosis. All cases do not give a clear history, some only two or three symptoms. In any event, a careful physical examination should be made.

In making an examination, I use the following method: Patient should be examined in a quiet room, the temperature and pulse to be taken after he has rested several minutes. Have him strip to the waist. If chest be hairy, it should be moistened or greased, as hair will produce abnormal and confusing sounds under the stethoscope. In early cases I get more information from auscultation, using a simple bell stethoscope with shallow cup. I first go over the chest on normal breathing, then on forced or deep breathing, and after cough. Every portion of the chest should be gone over in this manner, paying especial attention to the apices, subclavicular and subspinous regions and posterior borders of the lung.

A word of explanation should be made about examining after cough, as I consider this the most important part of auscultation. I have the patient to exhale, then to give a slight cough which forces out a good deal of residual air, allowing the linings of the air vesicles and bronchioles to approach each other, then this is immediately followed by a quick breath. In this manner moisture and rales are brought out, which otherwise would likely be overlooked. In this way I go over the entire chest with eyes closed while listening, for by so doing I believe my hearing to be keener and interpretation more accurate.

The pathological signs usually found in early cases of tuberculosis are lessened breathing or diminished inspiration, slight prolongation of expiration, and slight increase in whispered voice. A few fine rales may or may

not be present. No doubt if we were to examine every case that comes to us in the manner described, we would find pathological lesions or signs where systemic symptoms do not exist. According to Dr. Brown, these cases should be watched, while those showing systemic symptoms and no signs should have treatment. There may be a latent focus ready to flare up when the system becomes weakened. In the absence of chest signs, we are in doubt as to a positive diagnosis. The symptoms of tuberculosis are similar to those of many other diseases in their early stages.

It may not be a very serious mistake, from a professional standpoint, to send a patient who has not tuberculosis to a sanatorium, but from a social standpoint it becomes a grave and sad mistake on the patient's return home; it matters not how well he may be physically, it has become generally known that he is tuberculous. No one wants a consumptive around. A careful study should be given the case for a week or ten days, in bed and out of bed. The temperature and pulse should be recorded every two hours through the day during the entire period. If necessary, old tuberculin may be given subcutaneously, and watch for a systemic and focal reaction. Begin with one milligram and increase one milligram every third day until we get a reaction or no reaction to ten milligrams. Some repeat the ten milligram dose. This should be done *only by one who is familiar with the use of tuberculin*. The patient should be in a hospital or in the care of a nurse. A positive reaction does not necessarily mean that the patient has active clinical tuberculosis, but does mean that he is infected and needs treatment.

While ordinarily I do not believe in diagnosis by exclusion, we often have to resort to this means in early cases. Physicians in Tidewater Virginia probably have more difficulty in differentiating early tuberculosis from malaria than any other disease. Patients frequently consult us with symptoms, as cited above, with quick pulse, slight elevation of temperature, anemia, and chest negative. A blood picture should help to clear up the diagnosis, provided the patient has not taken quinine. In case he has had quinine, ten grains should be given every four hours for two or three days, the patient attending to his duties as usual. If the symptoms be due to malaria,

temperature will return to normal and patient will begin to improve. I believe the quinine test a good one anyway in malarial sections; it will not do harm, provided the large doses are not continued over two or three days. The following cases will illustrate this point:

Case I. Mr. J. A., white, male, age 25, farmer. Mother and father living and in good health. One sister died of diabetes; one brother died of tuberculosis in January, 1915. Patient came to me in July, 1915, giving the following history: Usual childhood diseases, but otherwise enjoyed good health until about two months ago. Began to feel weak and run down. He consulted a physician and according to his statement was treated for malaria. Took treatment about six weeks; did not improve as his physician thought he should and was advised to go to Norfolk for an examination. At that time he gave this history: Was tired and did not feel like working; appetite had been poor, but was better then; sleeping fair; digestion fair. No cough or expectoration; was about fifteen pounds below normal weight. Pulse 112, temperature 100.2-5. Examination of chest showed some dullness at right apex, front and back, exaggerated voice sounds, a few moist rales on forced breathing and after cough. Left apex, back, exaggerated voice sounds.

Case II. G. A., twin brother to case above, gave identically the same history as his brother except he felt a little nervous and exhausted after working; had had slight attacks of indigestion. Examination showed that the pulse was 104 and temperature 99.6; chest findings, right apex, front and back, exaggerated voice sounds and a few moist rales heard only after cough. Left apex, back, slight dullness, whispered voice exaggerated, moist rales heard on forced breathing and after cough.

My diagnosis of these cases was early so far as symptoms were concerned, but moderately advanced as to chest findings. I report these to show how difficult it was to make a diagnosis in the beginning.

Case III. Miss A., school teacher, age 23, family history negative. Had pneumonia when two years of age, and was quite sick; no other diseases to amount to anything. Entered school quite young and continued right through until she graduated at college at 22. She enjoyed very good health until spring of 1914.

her graduating year; then she began to feel tired and rundown. However, after school closed she improved and kept fairly well all summer. In September she began to teach. Had an attack of tonsillitis in December, 1914, was in bed a week, but recovery was slow. She had slight fever for about three weeks, and her physician told her he thought she had tuberculosis, advising her to take treatment. She then came to Norfolk, consulted a physician, who diagnosed the case malaria and put her to bed for three weeks. She improved some, and returned home after being advised to take rest treatment. She consulted me September 10, 1915, with this history: Had been feeling fairly well all summer, but had very little energy, and felt tired after least exertion, was very nervous, digestion only fair. She knew she had some fever every afternoon. Examination showed a pulse of 92, temperature 99.6. On examining the chest, one could very easily tell that there were some old healed lesions in the right upper back, with acute activity along the posterior border of right lung, right apex front, and left apex back. If this case had continued her work in school, as she had arranged to do, in all probability she would have broken down before the session was over, and chance for recovery, if not lost, would have been greatly impaired. All three of the above cited cases are in a sanatorium and doing well, and the diagnosis was confirmed by a very eminent chest specialist.

Mild cases of typhoid fever may very easily be mistaken for early cases of tuberculosis in the absence of chest signs. If the patient be put to bed, most likely the fever will return to normal in two or three days in tuberculosis; while in typhoid it will continue to run its course for two or three weeks or more. After ten days a Widal will help to clear up the diagnosis.

In cases of pleurisy we are always in doubt. Pleurisy with effusion, which is most often tuberculous, should be treated as such. Cases of dry pleurisy sooner or later give trouble. I believe that all cases of pleurisy that do not get well of symptoms in a reasonable time should be given rest and fresh air treatment, preferably at a sanatorium.

The following cases came under my observation recently:

Case I. Mr. D., age 23, large, robust,

athletic fellow, telephone linesman. Family history negative. Had an attack of grip in February, 1915, complicated with dry pleurisy which lasted about ten days. He returned to work apparently in good shape. In May he had a return of the pleurisy but not enough to stop him from work; he felt tired and lost some weight. He would stop in his doctor's office from time to time for him to take his temperature which ran from 99 to 102 in the afternoon over a period of two or three weeks. He was referred to me for examination on June 4th. I found dullness and rales on deep breathing over the lower half of right lung, front and back, and a few rales just outside of heart area on the left side. Most of this seemed to be pleuritic, but there must have been some involvement of lung tissue. He was advised to go to Catawba, and I understand he is getting in very good shape.

Case II. Mr. I., age 27, druggist, ten years inside work. Rather delicate, but gives no history of previous illness. In January, 1915, was taken with slight pain in region of right kidney, when he consulted a physician and was treated for gastric trouble; he did not improve. The Moro test for tuberculosis of the spine was given with negative result. He consulted another physician who diagnosed the case as pleurisy with effusion; he had been working every day until the effusion was so great he could scarcely breathe. He was aspirated and five pints of fluid were removed. He began to improve at once and returned to work against his physician's advice; however, he was not told that there was any danger of lung involvement. In August, patient had a recurrence in the left side, and slight effusion and inflammation spread over both lungs. He came to me for examination September 25, 1915, pulse 130, temperature 100. He was way below par; rales could be heard over both lungs, and there was some fluid in the left side. He is now taking treatment in a sanatorium. Had the condition been correctly diagnosed in the beginning and had he been told the gravity of the situation, he probably would be a well man today.

Syphilis may be misleading both in early and advanced cases of tuberculosis. Syphilis will not only produce systemic symptoms similar to those of tuberculosis, but will also cause characteristic chest signs. Often both

diseases occur synchronously, the one helping the other to destroy the human organism. Consequently, for improvement it becomes necessary to treat both diseases. A diagnosis is very difficult to make in these cases at times. Often we have to rely on the Wassermann test. I believe it is well to have a blood test made on all cases that do not show satisfactory improvement in a reasonable time.

Intestinal-stasis, usually caused by chronic appendicitis, often simulates tuberculosis. A careful clinical history, with a negative chest and two-hour temperature record, should make the diagnosis easy.

In handling cases of neurasthenia, we have all learned to look back for an underlying cause. In many instances, latent tuberculosis is found to be the primary cause.

There are many other conditions that might be mistaken for early tuberculosis, as hyperthyroidism, Hodgkin's disease, and pyorrhea alveolaris, but space will not permit their discussion here. However, I wish to emphasize one other condition, hemoptysis. Very often the first symptom to appear in tuberculosis is hemorrhage. It may be only a streak of blood, or it may be a pint. Early death has been the result in many cases on account of a mistaken diagnosis as to the origin of hemorrhage. Mistakes are most frequently made among women. The sad story runs thus: A woman spits up a good deal of blood, a pint or more. The doctor, being hurriedly called, asks a few questions, and learns that his patient is near her menstrual period. He makes a superficial examination over two or three thicknesses of clothing and diagnoses the case as vicarious menstruation. The patient's mind is relieved until the next month rolls around, when there is another hemorrhage, the same doctor and same diagnosis. This continues until the patient is in the last stage of consumption. I know of several cases that happened just in this way. One case I recall in which the family physician did not attempt to examine the chest until a few months before she died. Another case occurred in a girl of twelve, who began to bleed at the mouth once a month during the spring and early summer months, improving in the fall. Her physician diagnosed the case vicarious menstruation. At the end of the second summer she was brought to me for a chest examination. I found a good deal

of trouble all over the left upper lobe, front and back. I advised sanatorium treatment, but she went back to her physician, who insisted that she did not have lung trouble and advised against all I had said. He continued to treat her for nearly two years, at which time she was in such bad shape that he advised her to go to the mountains for her throat. I understand she is now in a sanatorium as a very far advanced case.

There is no excuse for such mistakes except criminal negligence. The public and the profession would be better off if the term vicarious menstruation had never been coined. There may be some real cases of vicarious menstruation, but they are rare.

All cases giving a history of spitting blood should be considered tuberculous until proven to the contrary.

There are three things that stand in the way of an early diagnosis of tuberculosis. First, people wait too long before consulting a doctor. Second, there are some of us who have not the moral courage to tell what we think. When a diagnosis of tuberculosis is made, the patient should be told so then and there. Do not wait until he is half dead and has infected a hundred children or more. His treatment should begin on that day. He should be told that the sanatorium is by far the best place to obtain the best results. The sooner he gets there, the better it will be for all parties concerned. A sanatorium is not the place for the last resort cases, except to prevent infection. Third, there are some who are not over zealous about their duty. When a patient consults us, he deserves a thorough examination and should demand it. After you have studied a case thoroughly and are still in doubt, say so and give your patient a chance to seek further information. This may not be the way to get the most dollars, but it will save a clear conscience and probably many lives.

In conclusion, I wish to emphasize the importance of getting a careful clinical history. Observe the temperature and pulse, especially the variation in morning and evening, as well as before and after exercise. Make a careful physical examination, going over the bared chest three times at a sitting, and repeating as often as necessary. Systemic symptoms without physical signs demand treatment; physical signs without symptoms should be watched. If these points are observed, we may

expect good results from our State Sanatorium. Without an early diagnosis good results are impossible.

311 Taylor Building.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Autoplastic Bone Surgery. By CHARLES DAVISON, M. D., F. A. C. S., Professor of Surgery and Clinical Surgery, University of Illinois, College of Medicine, and FRANKLIN D. SMITH, M. D., Clinical Pathologist to University Hospital, Chicago. Octavo, 369 pages, with 174 illustrations. Cloth, \$3.50, net.

Autoplastic bone transplantation within certain limitations is becoming more commonly recognized as a useful and dependable method, especially for the repair of skeletal defects of the human body. The work under consideration gives the results of the authors' practice and experimentation, but where these are at variance with other teachings of the day, they present in addition the subject from both viewpoints so that the reader may draw his own conclusions. Their opinions are based upon histopathological study and analysis of tissues removed from experimental animals at varying periods after operation, the experiments including not only problems dealing with the regeneration of osseous tissue, but also of technic, mechanics, and minor questions in this special field of surgery. The more practical part of the work has been done during the past two years directly in connection with its clinical application, and treats largely of the repair of intractable, recent, simple fractures by the autoplastic transplantation of bone.

The array of facts and theories are clearly and concisely presented, and these are supplemented by numerous illustrations from original photographs and roentgenograms. This book should be of especial interest to the surgeon who has to do with bone work.

Psychology of the Unconscious. By DR. C. C. YOUNG, of Turich. Authorized translation by BEATRICE M. HINKLE, M. D. Moffat, Yard & Company. New York, 1916.

Whatever opinion one may hold with regard to the newer psychology as viewed by Freud and his disciples, one cannot ignore the conscientious and profoundly philosophic work of

the latter. Young particularly stands in the foreground of the followers of Freud. Not only is he a follower but he supplements the radical ideas of his teacher.

In the present monumental work, Young has shown himself to possess a remarkable intellect. He throws in it a penetrating light on the meaning of life, on its relation to the universe, and thus gives a better and broader understanding of human activities. To accomplish this, he submits to a psychologic analysis the mysterious mythological data, the production of the ancient mind. He shows with great force the common desires and longing among all peoples, ancient and modern. The most conspicuous conception around which all other considerations are focused is that of "libido." The genetic idea and the transformation of libido are the chief elements of this interesting work. The author endeavors to prove that the problem of libido is a searching and penetrating psychology which pervades all realms of thought and which sheds a new light upon human life, its motives and its possibilities.

The book is most instructive and the translation is excellent. ALFRED GORDON, M. D.

Editorial.

Health Insurance

Is a plan which has been suggested to provide medical, surgical, nursing and hospital care, besides necessary drugs and appliances, for the wage earner who makes less than a \$100 a month and who frequently is unable to afford the services of a physician. In addition to the above, it also provides cash benefits during the period of disability. Medical care for the family of the insured and obstetrical aid in confinement cases are likewise included.

The method contemplates the payment of certain small sums as a premium in varying percentages from the employer, employee, and the State, all moneys to be governed and dispensed by Social Insurance Commissions or Societies. To be effective, the insurance will be compulsory and under strict government supervision.

Provision for medical aid is to be made by means of (1) a panel of physicians to which all legally qualified physicians shall have the right to belong and from among whom the patients shall have free choice, subject to the

physician's right to refuse patients on grounds specified under certain conditions: (2) salaried physicians in the employ of the commissions; (3) district medical officers employed for prescribed areas; or (4) a combination of the above methods.

Bills embodying drafts of health insurance plans with the objects above outlined in view have recently been presented to the Legislatures of a number of States—Massachusetts, New York, New Jersey, and Congress, while California already has an official commission actively at work and the movement is strong in Ohio.

The question of health insurance is regarded as an important step in the direction of disease prevention and improvement of the health of the community, and the matter has been regarded by the American Medical Association as of sufficient importance to recently organize a committee of Social Insurance, with Drs. Alexander Lambert and I. M. Rubinow, both of New York city, as chairman and executive secretary, respectively. As the latter states: "The matter also concerns the medical profession because of the possibility of far-reaching changes in its relation to the community at large."

European experience, where the law is mostly compulsory, shows that no country in which health insurance has been introduced has abandoned it, because it seems to be the "only method to reach the poorest paid and the most improvident workers, who obviously most need the benefits offered by an insurance scheme."

The Virginia Public Health Association

Held its annual convention in Newport News, May 8-10, there being an attendance of fifty delegates on the opening evening. Dr. J. W. H. Pollard, of Washington and Lee University, presided. Several social affairs added to the pleasure of those attending. Possibly the feature of the meeting was the address on "Control of Malaria" by Assistant Surgeon-General Henry R. Carter, U. S. Public Health Service. The lecture and discussion which followed dealt exhaustively with every phase of the malaria question.

Lynchburg was selected as the next place of meeting and the following officers were elected: President, Dr. Ennion G. Williams, Richmond; vice presidents, Drs. C. C. Hudson,

Danville, and W. H. Heck, University of Virginia; secretary-treasurer, Dr. W. Brownley Foster, Roanoke, and assistant secretary-treasurer, Dr. R. K. Flannagan, Richmond. Members elected to the executive committee are Drs. Sherwood Dix, Port Norfolk; B. E. Summers, Richmond; Peter Winston, Farmville; R. A. Moore, Phenix, and F. M. Brooks, Swetnam.

The Medical College of Virginia

Will hold its commencement exercises in the City Auditorium on the evening of June 6, on which occasion Dr. W. L. Poteat, of Wake Forest College, North Carolina, will make the literary address. Dr. J. P. Mumroe, of Charlotte, will be present to deliver diplomas to members of the North Carolina Medical College, who graduate on this occasion. Following these exercises there will be a class reunion supper at the Masonic Temple. Dr. William H. Taylor, emeritus professor of chemistry, will address the alumni society on the evening of June 5, after which will follow a smoker. The alumni will hold their scientific session on Tuesday morning at 10 o'clock and clinics and demonstrations will be given at Memorial Hospital from 11 to 1 o'clock. Dr. Lewis C. Bisher, of this city, is president of the alumni society.

Ellen Wilson Homes.

Plans have just been completed for the erection of a series of model homes in the city of Washington for the purpose of demonstrating to the nation the relationship between good housing and good health. These are to be known as the Ellen Wilson homes, and are not in the nature of an experiment, but are intended as a demonstration to the entire United States.

The intimate connection between bad housing and bad health and good housing and good health has long been clearly recognized in Washington in the alley dwellings. Although the alleys have been paved, sewers and water mains laid in them, and they have been lighted and cleaned as are the streets, yet they have kept their old lead over the streets when it comes to totaling the figures for disease and death.

In this, Washington's experience has been like that of Liverpool and other European cities which tried unsuccessfully to make badly

situated dwellings wholesome by cleaning and fumigating. After thirty-three years of unavailing effort to improve that which was fundamentally bad, Liverpool finally decided that the only hope lay in wiping out its unsanitary areas. It demolished the old houses by the acre and in place of them built new houses, opening upon wide spaces which provided light and air. Immediately sickness and death decreased, and with them vice and crime.

Other cities in Europe have done the same and with the same results, but what makes Liverpool's figures of unusual value is that the new houses are occupied by the same people who occupied the old ones. In some cases the population on a given area in the new dwellings is 99 per cent. the same as that which lived on the area in the old buildings. So here the effect of housing is not complicated by questions of different occupants, of better food or clothing or a generally higher standard of living. The housing only has been changed and the results are striking.

Washington is attempting much the same work, though in a less dramatic manner. Congress has enacted a law which goes into effect on July 1, 1918, according to which all the alley dwellings in the District of Columbia must cease to be used for dwelling purposes. Meanwhile, in order that there may be accommodation for those who will be forced to seek new homes in street houses, there has been organized a limited dividend company which is to build houses that will be not only sanitary and provide an abundance of light and air, but houses attractive architecturally, home-like in their arrangements and containing bathrooms and provisions for hot water in place of the old out-door closets and hydrants.

Such houses as these cannot, of course, yield the return upon the investment that the old houses did. In fact Congress in its act incorporating the Ellen Wilson Homes, limited its dividends to five per cent. net. But they will yield to their stockholders a dividend in the form of satisfaction because of a needed work well done. To their tenants they will give relief from preventable sickness and death and an increase in the joy of living.

Hopewell (Va.) Medical Society.

Dr. James H. Hargrave, City Point, and Benjamin L. Naiman, Hopewell, have been elected president and secretary-treasurer, re-

spectively, of the recently organized medical society in Hopewell, Va.

The American Medical Association,

For the fourth time in its history, meets in Detroit, Mich., June 12-16. Headquarters will be at Hotel Statler. Ideally located, Detroit has long since come to be known as one of the beautiful cities of the United States. In addition to the usual interesting scientific programs of the various sections, much handsome entertaining will be done for the visiting members and those of their families accompanying them. Hotel reservations should be made promptly through the chairman of the subcommittee on hotels, Dr. Rolland Parmeter, 33 East High Street, Detroit.

Drs. McGuire and Mayo Honored.

At the recent meeting of the Medical Society of the State of North Carolina, held in Durham, Drs. Stuart McGuire, Richmond, Va., and William J. Mayo, Rochester, Minn., were unanimously elected to honorary membership. This is an especial honor in view of the fact that this Society has within the past thirty years elected less than half a dozen honorary members and they, with a single exception, were Carolina doctors removed to other States.

Alienists and Neurologists of the U. S.

Will hold their fifth annual conference in Chicago, June 19-23, under the auspices of the Chicago Medical Society. Information in regard to this conference may be obtained of Dr. W. T. Mefford, secretary, 2159 Madison street, Chicago.

The Roanoke (Va.) Academy of Medicine

Held an interesting meeting on April 17, on which occasion Dr. John Rogers, of the Cornell University Medical Faculty of New York City, gave a delightful talk on his reasearch work in connection with Cornell Staff, on glands—thyroid, thymus, etc. A buffet supper was served after the meeting. As with a number of other medical societies, the Academy suspends its meetings during July, August and September.

Dr. and Mrs. C. E. Conger

Have returned to their home in Rockingham, Va., after a motor trip to Alexandria, Va., and Baltimore.

Dr. J. Thomson Booth,

Who has been associated with the State

Board of Health for some time, located at Parnassus, Va., about the middle of May for the practice of his profession.

Hospital Zones in Richmond.

Within the next sixty days forty-two hospital zone signs will be placed near fourteen hospitals in this city as a means of prohibiting unnecessary noises in those localities. An appropriation of \$500 was made by the City Council for this purpose.

The Southside Virginia Medical Association

Will hold its next quarterly meeting in Suffolk, June 13. Any information may be obtained of the secretary, Dr. E. F. Reese, Jr., of Courtland.

Dr. William J. Innes,

Recently of Brookneal, R. F. D. 1, Va., is now located at Mt. Sidney, Va. Dr. Innes has for fourteen years practiced his profession in Charlotte and Campbell Counties.

The North Carolina Health Officers' Association,

At its annual meeting in Durham, in April, elected Dr. Archibald Cheatham, Durham, president, and Dr. G. M. Cooper, Raleigh, secretary-treasurer.

New City Physicians for Petersburg.

At a joint meeting of the Council and Board of Aldermen of Petersburg, Va., held May 7, Drs. J. B. Halligan and W. C. Powell were elected city physicians to fill the vacancies caused by the recent resignations of Drs. W. P. Hoy and C. T. Jones.

Dr. E. G. Hall,

Of Cootes Store, Va., suffered a broken leg when his automobile turned over on the afternoon of May 7, and had to be carried to the hospital in Harrisonburg for treatment. Mrs. Hall, who was with him, was pinned under the car and was badly bruised and scratched, while their baby was only slightly hurt.

Dr. George A. Stover,

Of South Boston, Va., recently visited this city on professional business.

Memorial Hospital.

Much interest is being manifested in the campaign for the raising of funds for the enlargement of Memorial Hospital, this city. A

large number of prominent citizens have already indicated their willingness to assist in this campaign for funds, which will open with a banquet on the evening of June 5, after which will follow a two weeks' whirlwind campaign.

Dr. Ivan W. McDowell,

Who graduated from the Medical College of Virginia in 1908 and has for some time been connected with the Mayo Clinic in Rochester, Minn., will shortly return to Virginia and locate in Petersburg to practice his profession.

Dr. W. C. Powell,

Of Petersburg, Va., was among the representatives from the A. P. Hill Camp, Sons of Veterans, who attended the Confederate reunion in Birmingham, Ala., this month.

Dr. H. C. Smith,

Crewe, Va., was recently called to Vinton, Va., by the death of his brother.

Tuberculosis Claims Many Victims.

We note from the Associated Press that tuberculosis is playing a big part in the ravages among the European soldiers. This has been evidenced in the exchange of disabled prisoners being conducted between Russia and Austria, through Sweden. Three trains are now running weekly in each direction exchanging prisoners who, from various causes, will be unfit for further military service. On one of these trains containing 230 Austrian prisoners there were 80 cases of tubercenlosis.

Dr. M. J. Payne

Has been elected vice president of the Country Club of Staunton, Va.

Dr. H. G. Leigh,

Of Petersburg, Va., who was recently quite sick, went for a visit to Atlantic City early this month. He was accompanied by his wife and children.

Dr. Carl Shaffer,

Who graduated from the Medical Department of the University of Virginia in 1915, has returned to his work as resident physician at the Michael Reese Hospital, Chicago, Ill., after a short vacation at his home in Woodstock, Va.

The New Quarantine Station

At New Orleans, La., will cost approximately

\$500,000. This covers the buildings only, as New Orleans proposes to donate the site.

Married—

Dr. Cary T. Grayson, President Wilson's naval aide and physician, and Miss Alice Gertrude Gordon, of New York city, May 24.

Dr. Robert C. Bryan,

Of this city, who is at present engaged in hospital work in France, has been nominated by President Wilson as a first lieutenant in the medical reserve corps of the U. S. army.

C. & O. Hospital.

Excavating for the new Che-apeake and Ohio Railway Company Hospital at Clifton Forge, Va., is being done and the work of building will begin shortly. It is planned that the hospital shall have accommodations for sixty-five patients in addition to apartments for physicians, nurses and attendants.

Doctors Among Delegates to Democratic Convention.

In addition to the physicians we have previously mentioned as delegates to the State Democratic Convention in Roanoke next month, we note that the following have also been appointed as delegates from their counties: Drs. J. M. Burke, Petersburg; B. A. Middleton, Emmerton; C. H. Rolsten, Mt. Clinton; A. S. Kemper, Port Republic; J. E. Lincoln, Lacey Spring; R. H. Fuller, Clover; Richard P. Thornton, Republican Grove; S. T. A. Kent, Ingram; S. R. Jordan, Virginia; C. D. Barksdale, Sutherlin; J. F. Ragland, Centralia, and A. J. Hurt, Chester.

Dr. Thomas D. Merrick

Returned to his home in this city the middle of May after a stay in Philadelphia.

Dr. Hugh H. Young,

Baltimore, Md., was among the special speakers at the banquet given in Washington, D. C., May 12, by the District of Columbia Chapter of the University of Virginia Alumni. The banquet was given in honor of the entire faculty of the University.

Dr. A. M. Showalter

Has returned to his home at Cambria, Va., after a short stay in Baltimore.

Dr. Hunter Spencer,

Of Staunton, Va., has returned home after

attending the International Young Men's Christian Association Convention in Cleveland, Ohio.

Dr. W. J. Coleman,

Mineral, Va., accompanied by his son and a friend, have recently been enjoying a motor trip in North Carolina.

Retreat for Sick, Richmond, May Rebuild.

The large number of patients in the Retreat during the past few months and the increasing demand for rooms caused the lady board of managers, at a recent meeting, to discuss the advisability of enlarging or rebuilding that hospital. A meeting of the board and physicians connected with the hospital will be held very shortly to more fully discuss this question.

Army Medical Corps Examinations.

The surgeon general of the United States army announces that preliminary examinations for the appointment of first lieutenants in the Army Medical Corps will be held on July 17, 1916, and August 14, 1916, at points to be hereafter designated.

Full information concerning these examinations can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, between 22 and 30 years of age, a graduate of a medical school legally authorized to confer the degree of Doctor of Medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training as an interne after graduation. The examinations will be held simultaneously throughout the country at points where boards can be convened.

In order to perfect all necessary arrangements for the examination, applications must be completed and in possession of the adjutant general at least three weeks before the date of examination. Early attention is, therefore, enjoined upon all intending applicants. There will be more than one hundred vacancies to be filled after July 1st, when the bill for the reorganization of the army becomes a law.

Dr. Henry M. DeJarnette,

Of Fredericksburg, Va., recently paid a short visit to relatives in Orange, Va.

Dr. H. A. Burke,

Petersburg, Va., was elected first vice presi-

dent of the Professional and Business Mens' Club of that city at its meeting held this month.

Camps of Instruction to Be Abandoned.

It has just been announced that owing to the withdrawal of troops from their regular stations for duty on the Mexican border, the War Department has been compelled to abandon the camps of instruction for officers of the Medical Reserve Corps that were to have been held during the coming summer.

Object to Sanatorium.

Citizens of Ivor, Va., have held two mass meetings and adopted resolutions protesting against the establishment of the proposed State tuberculosis sanatorium for negroes within the limits of the village. The State Board of Health agreed to purchase for \$12,000 the Norfolk and Western test farm at this place, and we are not yet informed what will be the outcome of the matter.

Dr. Andrew S. Ellett,

Of Christiansburg, Va., recently made a short visit to Bluefield, W. Va.

Dr. Arthur W. Calloway,

Of Asheville, N. C., took a short vacation at Hot Springs, N. C., early this month.

"Safety First" Train.

The New York Medical Journal states that the U. S. Government's "safety first" train left Washington, May 1, for Philadelphia, from which place it was to continue on an educational tour to all parts of the United States. The train consisted of twelve cars containing numerous exhibits illustrating methods employed by the government in saving human life and property.

Nurses Graduate.

The Nurses' Training School of the Retreat for the Sick, Richmond, held its commencement exercises May 16, at which time six nurses received diplomas of graduation. Drs. W. T. Oppenheimer and B. M. Rosebro presented the class pins and diplomas.

Dr. Robert F. Williams,

Physician to Woodberry Forest School, Orange, Va., who has been sick at the Johnston-Willis Sanatorium, this city, for the past two months, is reported as slowly recovering.

N. C. State Hospital for Insane to Have New Building.

Plans have been approved for the new building for women at the Morganton, N. C., State Hospital for Insane, and work will be started at once. There will be accommodations for 100 women.

Dr. E. C. Levy,

Chief health officer of Richmond, went to New York the middle of this month to attend the bi-annual meeting of the National Commission on Milk Standards, in which he is chairman of the committee on standards.

Among Virginia Doctors

Noted at the annual meeting of the American Laryngological, Rhinological and Otological Society, in session at White Sulphur Springs, W. Va., early this month, were Drs. Joseph A. White, Clifton M. Miller and William F. Mercer, Richmond; Clarence Porter Jones, Newport News, and H. S. Hedges, Charlottesville.

Dr. Thomas W. M. Long,

Of Roanoke Rapids, N. C., at a meeting held in Emporia, Va., this month, gave an account of conditions in his section before and after the campaign against malaria and typhoid fever.

Tuberculosis Sanatorium.

Mrs. D. B. Safford, Hot Springs, N. C., has donated to the Southern Sociologic Congress a tract of land of 700 acres, near Asheville, N. C., and \$20,000 in cash, as the nucleus of a great tuberculosis sanatorium. It is hoped to secure further assistance from Congress and the various Southern States to help in this project.

Dr. Charles H. Moncure,

Of Orange, Va., accompanied by his daughters, made a visit to Washington, D. C., the middle of May.

Dr. and Mrs. Robert Martin,

Petersburg, Va., visited Lawrenceville, this State, the middle of May.

Yale to Adopt Full Time Teaching in Medicine.

We note from the *Long Island Medical Journal* that Yale is to adopt the full time instruction in medicine, whereby the medical and surgical teaching staffs avoid private practice

and give their entire time to teaching and to hospital work. This makes the third medical school to adopt this plan, the other two being Johns Hopkins and Washington Universities.

Do You Know That

Bad teeth and bad tonsils may be the cause of rheumatism?

Whooping cough annually kills over ten thousand Americans?

The United States Public Health Service maintains a loan library of stereopticon slides?

Walking is the best exercise and the cheapest?

The public cigar-cutter is a health menace?

Fresh air, food, rest—these three combat tuberculosis?

The U. S. Public Health Service has reduced typhoid fever 80 per cent. in some communities?

Overeating, constipation, lack of exercise, foul air, eye strain, may produce headache?

Obituary Record.

Dr. Henry A. Moody,

Managing editor of the *Southern Medical Journal*, died at his home at Mobile, April 16, aged seventy-four years. After serving the Confederacy throughout the war between the states he studied medicine at the University of Louisville, Ky., from which he graduated in 1866. Since 1895 he had been professor of materia medica and therapeutics in the Medical Department of the University of Alabama. He was president of the Medical Association of the State of Alabama in 1899 and had long been one of the leaders of the medical profession in that State.

Mr. Charles B. Fleet,

A native of King and Queen County, Virginia, but for many years a resident of Lynchburg, Va., died at his home in that city May 12, after a lingering illness. He was seventy-two years of age and had for many years been a prominent manufacturing chemist in that section. For twenty-three years he served as secretary of the Virginia Pharmaceutical Association and was a member of the State Board of Pharmacy for twelve years. His widow and four children survive him.

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Original Communications.

IMPRESSIONS GAINED FROM A CLINICAL OBSERVATION OF CANCER.*

By W. LOWNDES PEPLE, M. D., F. A. C. S.,
Richmond, Va.

Associate Professor of Clinical Surgery, Medical
College of Virginia.

The cancer problem is one that has interested me intensely since the year of my graduation. By reason of my hospital connections, as well as my association with a fairly large public clinic for the past eighteen years, I have had the opportunity of seeing and studying quite a number of cancer cases.

Certain types and certain cases have impressed themselves very deeply on me, and perhaps a review of them may not be without interest, even though my statements lack the definiteness of assertions backed by carefully and laboriously prepared statistics.

I vividly recall the case of a slate-quarryman, about forty years of age, stricken suddenly, while at his work, with symptoms indicative of an acute abdominal crisis. There were pain, tenderness, rigidity and elevation of temperature. He was hurried to the hospital with a diagnosis of acute appendicitis. The trouble, however, seemed to be in the upper right quadrant; so he was opened over the liver, which was found studded with nodules. Microscopic examination showed it to be duct-cell carcinoma. He lived but a few weeks. I would that I could picture him as he lay curled up in bed like a squirrel in his nest, drowsy, stupid, overwhelmed by some toxic agent, that dulled and numbed all his faculties.

Now, did certain cells of the slater's liver, after forty years of even, uniform, good behavior, suddenly lose all self-control and turn

on their owner and devour him? Or, did something outside of the slater get inside, and play hob with him? I am not arguing, but I obtained a very definite impression that some agent, very like an infection, got into him from the outside and killed him.

There was also a very strong, handsome, robust woman of forty-two or forty-three, the mother of three or four children. She noticed a small nodule in her breast. It grew rapidly, and an early radical operation was done. In two or three months the other breast became involved, and this, too, was removed. There was quick, wide-spread recurrence. In a few months, the new growth had completely encircled her trunk, typical cancer, "en cuirass."

There was a thick, brawny mass, from her clavicles down to below her costal margin, completely belting her. It looked and felt as though some plastic mass had been infiltrated into the tissues of her skin. The surface was an angry red, almost like erysipelas. The arms were huge. Her suffering was frightful, and she died miserably, overwhelmed by something that went through the lymphatics of her skin like St. Anthony's fire.

The whole pitiable tragedy was over in fourteen months from its inception. If ever I saw a picture of infection with no resistance, no barrier raised to stay its progress, it was this poor woman's case.

Thrown into sharp contrast with the cases cited, two others stand out most vividly in my memory. The one was a poor little dress-maker; unmarried; not over thirty—young for cancer. The other, a woman of fifty or fifty-two, surrounded by every comfort that money could buy. Each had a cancer of the breast, discovered fairly early and radically removed.

There was recurrence, a nodule here, a small superficial gland there. Sometimes these could

*Read before the Richmond Academy of Medicine and Surgery, March 28, 1916.

be removed with cocaine; sometimes a general anaesthetic was needed. Year after year, the two sufferers returned, sometimes in a month, sometimes two or three; but back they came on their sad pilgrimages, hoping, fighting for their lives.

The dress-maker lasted nine years, and the other, ten. In the end, both died wretchedly, in great pain, with recurrence inside the chest; their very resistance seeming to add to and prolong their misery.

Here was a picture of heroic tissue resistance, which needed just a little help, just a little something, to turn the scale that had been tilting first this way, then that, for ten long years.

The diagnosis of cancer of the breast is not easy. It is one of the most difficult problems with which we have to deal. Inoperable cancer of the breast will diagnose itself. Operable, or, better, curable cancer of the breast is by no means so simple. If the breast is lactating—and this complication is not infrequent—the task is doubly difficult.

Curable cancers of the stomach are diagnosed by the microscope in ulcers that have been excised. We have a better chance at the breast if we will only recognize our macroscopic inability, and use the microscope and the frozen section on the very little lumps. Who can say, with his eyes and hands alone, that this or that little nodule in the breast is or is not cancer?

There is just one point bearing on the prognosis that I have not seen emphasized, and that is the importance of the location of the nodule. A growth in the upper, inner quadrant of the breast is usually extremely difficult to handle and is prone to return. Radicalism is anatomically blocked. One can not go deeper than the ribs.

Cancer in the Negro.—The cases that come to our public clinic are about equally divided between the two races.

I have been struck with the very rapid relative increase of cancer in the negro. Twenty years ago, it was very uncommon among them. Now, they are affected about as often as the whites.

It occurs most frequently in the breast, uterus, and ovary, in the order named. Mulattoes have it oftener than the pure blacks. I

do not recall a case of cancer of the stomach or intestines in a negro, and I have never seen a frank epithelioma in this race.

Cancer of the Ovary.—It has been by observation, both in clinics and in private practice, in colored and whites, that there is a steadily increasing number of ovarian cystomata of moderate size, showing cancerous change. So frequent have they become, that I think early operation for ovarian tumors should be insistently urged. It is imperative! A precancerous condition, a veritable menace! I cannot express myself too strongly—it is frightening!

The mortality has been high. Many have been just opened and closed as hopeless. There are, however, two of these cases that stand out as bright spots in this picture of pessimism. One of them has been done six years, and the other, three. In neither was it possible to do a macroscopically complete operation. The little particles shattered like dried seeds, and were washed to all parts of the abdomen by the free fluid present, infecting or implanting (as one chooses to view it), the peritoneum and the abdominal wound. Both are enjoying perfect health today, and one has gained over forty pounds in weight.

Cancer of the Cervix.—In cancers of the cervix, we have all been astonished at a few apparently miraculous recoveries following cauterization in certain seemingly inoperable cases. The cautery is still freely recommended for these hopelessly advanced cases. If it is good for the late, inoperable cases, one is tempted to believe that it may be better for the early, operable ones. Whether we should resort to hysterectomy after cauterization, is a question that has not been definitely settled. Too little time has elapsed, since the general substitution of the definite surgical procedure, given us by Percy, for the hap-hazard burning of the past, to settle this most important point, finally.

I recall a remark of a friend of mine, which seems to have a practical bearing on this question. He is a hard-headed man in whose common-sense and real wisdom I have great confidence. He said that when you took out the uterus for cancer, if you did not cure the patient you greatly curtailed her life, because you left nothing for the cancer to feed on, and it quickly ate into the bladder and rectum. This

blunt statement is, I believe, full of truth and justice. We have not only got to think of the small percentage of these cases that are cured, but we also must not be unmindful of the condition in which we leave the greater number who remain uncured. If the uncured cases live longer and suffer less after the cautery than after hysterectomy, this fact should always have weight in deciding the kind of operation one should perform.

The Treatment of Cancer.—Heat certainly seems to be the most effective agent against cancer that we have. Whether it is by the actual destruction of the less-resisting cancer cells, as claimed by Percy, or, by the sealing of lymph-channels, preventing metastasis, or, by the antagonism of the breast-work of leucocytes reared around the slough, we do not know. Pity it is that its range of application is necessarily so limited.

Until the cause of cancer is discovered we cannot hope for a cure. A specific is not going to be stumbled on like some hoard of hidden treasure. It will have to be worked out laboriously, patiently, scientifically.

Until that specific comes, the cases without resistance will go as they have always gone. Nothing seems to stay or stop them. But in the meantime, there is hope, a strong, intellectual hope, that some treatment or combination of treatments will be worked out that will be applicable to a class of cases numbered in thousands. It may be by artificial leucocytosis, by a more effective application of heat, by the use of the Coolidge-tube, or some still newer application of the Roentgen-Ray; or, by some wholly new method.

But come, it surely will, an effective treatment for that great throng of unfortunates, who, showing a marked resistance for years and years, fight on, and finally go down—that great group that needs just a little something that now we do not know, or have not got.

I have not dwelt upon the number of curable cases that were cured. That is as it should be. They need no comment.

I have been much interested in the apparently incurable cases that were cured; but, most of all, in that great throng who stand on the border-line incurable, but who ought to be cured, exhibiting for years a tissue resistance, a cellular self-help that is simply aston-

ishing, and needing just that little something to turn the scale, a something that for the present we do not know, or have not found.

1209 West Franklin Street.

REST AND GRADUATED EXERCISE IN THE TREATMENT OF PULMONARY TUBERCULOSIS.*

By EVERETT E. WATSON, M. D., Salem, Va.

For over two thousand years tuberculosis has run rampant, and during this time has exacted the highest toll in human life of any known disease, thus very fittingly acquiring the name "Great White Plague." Probably against no other disease has there been such a lavish expenditure of time, energy, and brains in the attempt to find a specific with which to halt its steady advance. As a reward for this great effort no drug has as yet been found, and in the field of sero-therapy, only tuberculin, which, while conceded to be of great value, is still far from being a specific, and merits only a secondary place in the treatment of pulmonary tuberculosis. However, much has been accomplished and wonderful advance has been made, both in the prevention and in the cure of this dreaded disease.

It is interesting to note that four hundred years before Christ, Hippocrates, the Father of Medicine, a man of acute perceptions and keen powers of observation, considered tuberculosis curable and treated it by hygienic methods. He advised his patients to "walk if they felt benefited thereby; if not, to rest as much as possible." Celsus, a Roman physician and writer (25 B. C. to 45 B. C.), says: "If there has been no fever, or if the fever has left, the patient should begin moderate physical exercise, walking, followed by gentle massage."

Following this came the middle ages with the downfall of Greek and Roman culture and the advance of Celtic and Teutonic barbarism, and not until the seventeenth century do we find any records of advancement in the treatment of tuberculosis. At this time Thomas Sydenham advised the use of fresh air in the bedrooms and horseback riding. He had few followers, however, and up to 1859 the treatment of tuberculosis was anything but rational or hygienic.

*Read before the Southwest Virginia Medical Society, at Bristol, December 16, 1915.

The first great step forward was the introduction of modern sanatorium treatment by Dr. Brehmer, of Gomersdorf, Germany. The latter had a few followers, notable among them being that great man, Edward L. Trudeau, who, in 1884, established America's first tuberculosis sanatorium at Saranac Lake, New York, and who only a few days ago, at the ripe age of sixty-seven, succumbed to the disease from which he had suffered for nearly half a century, and in the fight against which he had accomplished more than any living American. Since that time the forward progress along this line of therapy has been very rapid, and today pulmonary tuberculosis is recognized to be the most curable chronic disease.

The curability, of course, depends upon the stage of the disease. The vast majority of incipient cases respond very readily to treatment and, after a few months semi-invalidism, are able to resume their former life's work, while the percentage of "arrests" become less and less, as the disease advances beyond this stage. Even though a very far-advanced patient should have his case "arrested," or "apparently cured," there should be sufficient destruction of tissue to make him only able, in part, to assume his former duties and responsibilities. Thus we see that the greatest advance in the results of our treatment of tuberculosis will come from the early recognition of the disease, and the immediate institution of treatment.

Unfortunately, the medical profession in general is unable to diagnose early tuberculosis, chiefly by reason of its lack of appreciation of the early symptoms of the disease, and also by its failure to perfect itself in the physical diagnosis of diseases of the lungs. This is forcibly shown by the fact that the sanatoria which are supposed to accept only incipient cases, and which try to be very rigid in admitting patients, do well to show fifteen per cent incipient cases on their records. In the United States last year one million and five hundred thousand people died of tuberculosis; twice that number would probably be more correct. The major part of the responsibility for this awful calamity falls upon the physicians of this country, and not until they better equip themselves along this line will the death rate be lowered.

After the diagnosis of tuberculosis has been made our thought is now turned to the treatment, which consists of the following measures in the order of their efficacy: 1, rest; 2, good food; 3, outdoor life; 4, tuberculin; 5, climate. It is to the first—and by far the most important therapeutic agent, rest—that I now invite your attention.

As soon as the diagnosis of tuberculosis is obtained, regardless of the stage of the disease, whether it be incipient, moderately advanced, or advanced, and even though there be absolutely no rise of temperature, fast pulse, cough, or other symptoms, the patient should be put absolutely to bed, not only to allow the body to recuperate and store up potential energy, but also in order that the physician may better study the case; then, too, there is no other more effective way to impress the patient with the necessity of co-operation, obedience, attention to the minutiae, and the realization that he is up against the most serious business of his life—that of getting well. In probably no other disease does close attention to seemingly little things count for so much toward winning or losing the fight for life.

While we all realize the importance of moderate exercise for the body in perfect health we must also realize the importance of perfect rest for the body suffering from active tuberculosis. The reasons are both mechanical and physiological. Given an ulcer upon a finger-joint what could be more irrational than to advise continuous extreme flexion and extension of this finger? With a tuberculous hip, what could be more irrational than to advise walking? Just as the finger or hip needs immobilization and rest, just so does the diseased lung need immobilization and rest. In recent years we have been able to save many heretofore hopeless cases by artificial pneumothorax—or splinting the diseased lung with air or nitrogen. In suitable cases the results are no less than marvelous, because we can obtain complete immobilization and rest for the affected organ. The nearest approach to this is complete rest in bed so long as the disease is showing active symptoms. Exercise quickens and deepens the respiration and as fast as nature throws out granulation tissue around this lesion it is ruptured by the expansion of the lungs.

The constitutional symptoms of tuberculosis—fever, rapid pulse, malaise, anorexia, etc.—are the result of the absorption of certain poisons resulting from the activity of the tubercle bacilli. Also, we know that in health the organism is called upon to eliminate the poison resulting from katabolism, and that in excessive exercise it is often sufficient to have marked constitutional effect, as is shown by the fact that football players often leave the game with a temperature of 101 or 102, and are often days in completely eliminating these fatigue substances (carbonic acid, lactic acid, and probably other substances) which, in excessive quantities, are very poisonous. Not only does exercise, by increasing the lymphatic flow in the lungs, by stimulating respiration, and by causing more blood to circulate through the lungs, cause a greater absorption of poison from the diseased foci, but, as shown above, it causes more waste products of combustion to be thrown into the circulation, thus adding a greater load to an already overburdened body.

However, after sufficient rest, when the weight is normal and the process of repair has gone on for some time, there being no general symptoms, graduated exercise is indicated and in turn becomes a very valuable therapeutic agent, in that it offers recreation for the patient, often improves the mental attitude, hardens the muscles and tissues, thus getting the patient "in condition" to resume his future work.

In no disease is there greater necessity for careful individualization. Only through broad experience are we able to know when and how long a patient shall rest, or when and how much exercise he shall take, there being very few, if any, set rules by which to be guided. There are four positive indications for rest, which are, by the same token, contra-indications for exercise:

First—Rise of temperature.

Second—Fast pulse (persistently above 90 at rest).

Third—Blood in sputum.

Fourth—Persistent loss of weight.

Other symptoms, such as cyanosis, increased cough, excessive fatigue, digestive disturbances, etc., may occasionally make rest necessary.

When the patient is first seen he should be

put to bed out of doors. If he has a temperature of 101, or pulse over 120, he should be given absolute quiet, allowed no company, and only permitted to sit up to use the commode by his bed; if temperature is over 100 and under 101, or pulse over 100, he may make his toilet in bed, read, write, etc.; if temperature is not over 100, or pulse over 100, he may go to bathroom, make own toilet, shave, etc. After the temperature has been normal and the pulse under 90 for a week, he may be allowed to sit up a half hour twice daily, then one hour, then go to one meal for a few days, two meals, three meals, fifteen minutes' slow walking morning and afternoon, then thirty minutes, etc., until in a few months he may be walking two or three hours twice daily. Regardless of the amount of exercise and until the patient is able to resume his duties, he should rest a half hour after each meal; even then for the first year at least he should never neglect the after-dinner rest in bed.

Following a hemorrhage, absolute rest should be had for from ten days to several weeks, according to the severity of the bleeding and the general condition of the patient. Even the slightest streak means rest in bed for twenty-four hours.

A few suggestions as to exercise—which should be constantly kept before the patient—are as follows:

Exercise means walking.

Avoid exercise if blood is in sputum.

Never get out of breath.

Never get tired, for fatigue, when induced in persons having tuberculosis will certainly be followed by loss of appetite, fever and exhaustion.

Never take pulmonary or other gymnastic or deep breathing exercises.

Never dance or sing.

Exercise regularly and systematically, whether rain or shine.

Dr. John W. Flinn, of Arizona, in a recent paper on Rest, says: "So soon as manifest tuberculosis can be detected in any patient, that person should be confined absolutely in bed for at least one month, and in the great majority of cases for two, and this regardless of whether there be fever or not. This preliminary treatment of a month or two in bed will accomplish more than any other factor toward starting the patient on the road to per-

manent recovery. Rest in bed improves the appetite, aids the digestion and assimilation, increases the weight, decreases expectoration, allays nervous irritability, and conduces to natural sleep. Surely a therapeutic measure which will produce such results should be used in every case without exception."

Dr. Lawrason Brown, of Saranac Lake, says: "Rest in bed is essential, for some time, in all early cases, as well as for any patient who is not doing well. Rest harms no one even when carried on longer than necessary. Exercise is often fraught with danger and must be prescribed as carefully as arsenic or strychnine, for an overdose is no less deadly. Had I to begin treatment today for tuberculosis, knowing what I do, however little that may be, I would go to bed and remain there two months, whether symptoms were present or absent. Such, I feel is the importance of rest at the beginning of treatment."

While I thoroughly agree with these gentlemen that this is the ideal treatment, for economic and other reasons I have never carried rest to that point. As soon as there are no actual contra-indications for it, exercise then becomes a most important factor in the treatment. The time has passed when the patient is fattened like a hog and sent home without endurance, to break himself down again in a few weeks or months. The sanatorium is certainly the place to prepare the patient for his future work, whatever that may be, and, with this end in view, he should gradually be allowed to do more and more, always keeping a careful watch out for untoward symptoms. If he cannot stand up under it with the favorable environment of sanatorium life and skilled supervision, he most certainly will not at home.

There have sprung up two schools of thought in regard to exercise, one advocating rest with extremely guarded exercise; the other, headed by Dr. Paterson, of Fremley, England, and practiced in America, at Loomis Sanatorium, N. Y., promulgating the theory of auto-inoculation. When the patient, after the preliminary rest treatment, is able to exercise, instead of holding him back sufficiently to prevent any reaction, he is pushed until he has a temperature of from 101 to 102. He is then put absolutely to bed, "complete immobilization," until his temperature has returned to

normal. In other words, he is given an overdose of auto-tuberculin. While this method has given good results in the hands of Dr. Paterson and Dr. King, most authorities agree that it is fraught with grave dangers, and with it they have been able to obtain only disastrous results. I can recall dozens of cases in my sanatorium experience in which patients, with every prospect of permanent recovery, have either undone the result of six or eight months' rest or have lost their lives as a result of a few hours' over exercise. One patient who had been in the Sanatorium for nine months and who was on unlimited exercise (walking), sawed soft pine boards for three hours, and within twenty-four hours was taken down with high temperature, profuse expectoration, sweats, etc. The last time I saw him, which was four months later, he was hovering between life and death. Such is the danger of auto-inoculation.

The greatest temptation which the physician has in treating tuberculosis, is to over-indulge great husky looking men and women in the matter of exercise.

The best proof of the efficacy of rest is the results obtained by artificial pneumothorax, and the fact that the opposite lung, if even slightly diseased, will frequently break down as the result of the increased work thrown upon it.

In conclusion, I wish to say that the subject of this essay has been suggested to me by the increased realization that the importance of rest is too often overlooked; also, those endeavoring to prescribe it, too often have no conception of the real meaning of therapeutic rest, thinking that the cessation of active labor and going to the country with the advice "not to overdo" is sufficient.

This paper claims no originality. It embodies the latest teachings of the world's greatest authorities in the treatment of pulmonary tuberculosis. The satisfactory results, which I have personally seen obtained by some of these same men whom I have merely striven to emulate, are, I believe, principally due to the skillful and careful administration of the two useful and potent therapeutic measures—rest and exercise.

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FOREIGN BODIES IN THE BRONCHI.*

By J. J. BROWNSON, M. D., Dubuque, Iowa.

Tracheotomy is an old operation, and was generally performed for the removal of foreign bodies from the air passages. It seems strange that it is only of recent years it is used in cases of obstruction and for relief of suffocation. Munford says, "Probably one of the most eminent lives sacrificed through the neglect of tracheotomy was that of George Washington, who died from oedema of the larynx, and who could probably have been saved by timely operation."

In this connection, most of us can recall cases of membranous croup, especially before the days of antitoxin, and regret that we were forced to stand by and see countless children (and adults too for that matter) die from obstruction, when we might have at least relieved, and possibly saved many of them by a timely operation on the trachea.

In our study of this subject tonight it might be well to review briefly the anatomy of the respiratory apparatus involved in the mechanism of the normal and abnormal condition of air obstruction. As you are well aware, the air is inhaled through the nostrils, passes through the posterior nares, down through a portion of the pharynx, the epiglottis, through the larynx, trachea, bronchial tubes, bronchioles and ramifications, into the lungs. Now, anything that prevents the proper amount of air reaching the lungs, deprives the patient of sufficient oxygen, and it is only a question of a short time when death will ensue. It is to consider such pathological conditions in the respiratory apparatus that we desire to call your attention this evening.

The epiglottis is a fold of cartilage placed behind the tongue and in front of the superior opening of the larynx. It is the sentinel which guards the opening into the windpipe. In the act of swallowing the larynx is drawn up beneath the base of the tongue, and the epiglottis covers the opening, thus preventing

the entrance of food or foreign bodies into the air passages. The larynx, or voice box, consists of cartilage containing the vocal cords, the upper extremity of which, called the glottis, is opened and closed by the action of the vocal cords. Extending from the larynx is the trachea, or air tube. It is a cartilaginous and membranous cylindrical tube which extends from the lower part of the larynx, on a level with the fifth cervical vertebra to a point opposite the third dorsal vertebra, where it divides into two bronchi, the right and the left. The right bronchus is wider and shorter than the left, and has more of a horizontal direction (and it is this peculiarity to which I would call your attention), so that all solid bodies dropping into the trachea would naturally be directed into the right bronchus. The bronchus continues into the lungs with many ramifications, and still preserves the various qualities of fibre, elasticity, muscle and mucous membrane. It might be well to say in passing, that in front of this division of the bronchus, on a level with a junction of the first and second bones of the sternum, a stethoscope placed on a level with the third intercostal space would almost cover the bronchus, especially on the right side where it is near the chest wall.

Having now taken a hurried glance at the structure of the tissues, let us pass on to a consideration of the conditions that produce obstruction and pathological affections, and the means of diagnosing and determining such data, and then study the best known methods of remedying the same. Among the many diseases producing obstruction, we might first think of membranous croup, laryngeal diphtheria, oedema of the glottis, post-pharyngeal abscess, and many tumors and growths, both malignant and benign. In the way of accidents, we may note burns and scalds from inhaling steam, as well as wounds such as happened to two of my patients. In one case, a boy, playing with a hoop, fell down on the stick he was using and punctured the neck, causing great oedema and emphysema. The other case, a boy, riding a bicycle, was thrown off and the handle-bar punctured his neck, causing similar symptoms, and in both cases the obstruction was so great that tracheotomy had to be performed.

Lastly, we have the terrible results which

*Read before the Dubuque County Medical Society.

sometimes follow the inhaling of foreign bodies, which, passing the epiglottis, through the glottis, become wedged in the various portions of the respiratory apparatus. It is to this class of cases that I am particularly anxious to call your attention. In some of these cases, as we know now, we are able to give relief by a timely surgical operation. These accidents frequently happen to children while playing with corn, beans, peas, pebbles, and such articles, which frequently are drawn down into the windpipe. The penny whistle is a frequent source of trouble, and children should be carefully watched and warned about taking such things into the mouth.

Now, how are we to tell, or what are the symptoms of a foreign body in the air passages? The diagnosis will be helped somewhat by the history of the case; in children, it will be that of playing with some small object in the mouth, when suddenly they will complain of choking and coughing and difficult respiration. These attacks may subside when the foreign body passes out of the trachea into the bronchi and only come on at intervals. Physical signs may or may not help us. Small rales, heard on either side, may serve to point to the site of the obstruction, but in my experience, the physical signs have been almost nil. Now, what are we to expect of the X-ray in these cases? It is important to know what the X-ray will show, and what it will not show. If the substance is metallic—a tack or a pin that would cast a shadow—the diagnosis should easily be made by the fluoroscope or a skiagraph. In late years, since Killen's great work, we may be able to see and perhaps remove the foreign body by means of the bronchoscope. After employing all these means, it will sometimes tax us to make a diagnosis. The prognosis and consequences of foreign bodies in the air passages are very interesting. Sometimes a foreign body will be coughed out in the effort of expiration. Two cases are recorded where foreign bodies have remained for a time in the windpipe. A case is reported in which the hull of a bean excited gangrene in the lung. Two months and a half after the accident, a large quantity of blackish pus was expelled. Hectic fever and night sweats were present and the body was reduced to a mere skeleton. After a number of weeks, during a fit of coughing, the hull of the

bean was expectorated, followed for some time by fetid matter, and the case eventually recovered. In another case the foreign body ulcerated in the lung and formed a large abscess. Sometimes a foreign body, if not removed, may cause fatal hemorrhage. A case in point is related by Rokitansky in which a small dart, sucked down the trachea, was forced into the innominate artery and caused fatal hemorrhage. Another case is reported in which attacks of hemorrhage were excited by a percussion cap which was expelled from the trachea three years afterward. Occasionally there is almost an entire absence of symptoms. The foreign body may cause no inconvenience; thus, in a case reported where after the first few minutes, the patient did not experience any bad symptoms for a year. At the end of that time he coughed up a cherry stone and that was followed by such a copious expectoration that he died in three days.

No substance can remain for any length of time in the air passages without causing serious disturbance in the respiratory function. The patient may escape from immediate effects, but inflammation follows, which, if not promptly relieved, may spread and prove fatal. Of course, I think adults who are usually conscious of the time and means of such accidents, rarely fail to give a correct account of them.

Nature may sometimes spontaneously expel the substances, but the risk is so great that we hardly dare take the chance of leaving the case to Nature. The general mortality seems to be about one third, and depends considerably on the length of time elapsed and the location of the foreign body. The patient can get rid of a foreign body in the bronchi by one of three methods:—either *spontaneous expulsion*, which occurs in a fair number of cases, or the foreign body becomes *encysted in the bronchi*, or *ulcerates through into the chest wall* and later is coughed up, or its successful removal may be had by a difficult and dangerous surgical operation. The various chances in these instances have been previously related and many interesting cases have been tabulated. Perhaps one of the most interesting is that reported by Gross, in which four artificial teeth connected together by metal were retained for thirteen years, and on post-mortem were found in the right thoracic cavity into which they had passed by ulceration.

Now, how shall we remove these foreign bodies from the air passages? Where the foreign body is suspected to be in the larynx, it may be extracted by laryngoscopy. Where the foreign body is located in the trachea or the bronchus it can only be removed with bronchoscopy or through a tracheotomy. When the attempt is made early, before any inflammation takes place, and where an expert in the use of the bronchoscope can be had, it is permissible to try upper bronchoscopy by the Killen method. All these manipulations should be gently and carefully done. Failing in this, a tracheotomy should be performed, and lower bronchoscopy used in an endeavor to remove the foreign substance. This failing, if the substance should be metallic, a strong magnet may be of service and is worth a trial. Should all such attempts fail to remove the foreign body, the use of forceps or irritation of the bronchus with a feather or a probe, may produce expulsion during expiration. This happened in one of my cases which I will presently relate. Should all means fail to remove the foreign substance—supposing it should be deep in the bronchioles—it may be approached through the chest wall. The results of such operations are not very encouraging, but since the introduction of the pneumatic cabinet much may be expected in this class of cases. Where tracheotomy is performed for the relief of a suffocation from growths in the upper air passages, or from disease, it is best to put in a tube to be retained as the necessity of the case requires.

Having now gone over casually the various conditions that require tracheotomy, with your indulgence, I will demonstrate how this operation should be done. Whether we do a high or low tracheotomy, the main principles are the same. The patient is given the anesthetic, the head being thrown back and steadied by an assistant. An incision is made one and one-half inches long at the middle line just above the top of the sternum. The anterior jugular veins, thyroid veins, and branches of the middle thyroid arteries which often cross the trachea, should be kept in mind. The deep fascia is divided and the muscles and the veins separated from the front of the trachea with the handle of the knife. When the trachea is exposed, it should be opened from below upward, dividing two or three of the rings. It is a matter of greatest importance to stop all the hemorrhage

before the tube is opened. This is absolutely imperative. Otherwise, blood may pass into the trachea and suffocate the patient.

When the trachea is opened the patient apparently stops breathing. The assistant should now seize each side of the opened trachea with a forceps, holding open the wound. Very frequently you will be rewarded by the foreign body popping out with the first expulsive effort; otherwise you must use the bronchoscope, forceps, etc., and the various devices mentioned above, in your effort to get the foreign body. Failing to get the substance, it is best to leave the trachea wound open, taking care to place a moist piece of sterilized gauze over the same, to prevent the ingress of any foreign matter.

May I ask your indulgence for a few moments longer while I relate a case which came under my notice a short time ago? A little five-year-old son of Mr. John H., living near Epworth, Iowa, was playing with several other children, and, among other things, they had a lot of shelled corn, which they put into their mouths and blew the kernels at each other. Suddenly the little boy had a choking spell and commenced coughing continuously. The parents at once suspected that he had a grain of corn down his windpipe and immediately summoned Dr. McNeil, who found the boy cyanosed and with violent symptoms of coughing. He requested a consultation, and brought the boy to Dr. Boothby in this city. The latter confirmed the suspicion of the attending physician and family, and, ascertaining from the physical signs that the little patient had a foreign body in the right bronchus, sent the boy to me for surgical intervention. The father having requested an X-ray examination, I referred the case to Dr. Killeen, who made a skiagraph of the case. The plate showed no evidence of a foreign body and as the child had some good intervals, the father insisted on waiting and took the child home. The next night the child passed a bad night, with severe coughing and choking spells. Dr. McNeil, after remaining with the case half the night, insisted that the child be brought to the hospital in order that surgical means for its relief might be instituted. Accordingly, I saw the child in the hospital the next day. He had fits of coughing at short intervals, but with the exception of some small rales on the right side of the chest, there was then nothing in his physical condi-

tion to indicate a foreign body in the air passages. However, Dr. McNeil gave him chloroform and, with the assistance of Drs. Boothby, Dennison and Hanske, I did a lower tracheotomy. We were fortunate in being able to enter the trachea without bleeding. The edges of the wound being separated, we searched both bronchi carefully with a forceps, but found nothing. We then introduced a probe into the right bronchus. The child gave a violent expiration and in the mucus, I thought I saw a foreign body come up to the wound in the trachea. I requested Drs. Hanske and Dennison to spread the trachea wound so as to be ready at the next expiration, when fortunately, at the next expiration the grain of corn popped out of the wound and went half way across the room. To say we all felt delighted would be putting it mildly. After sponging the wound, I sewed up the trachea with fine catgut. The muscles and skin were brought together, a small drain being placed in the lower portion of the wound. I did this as a precaution should leakage of air take place, to prevent emphysema of the tissues and subsequent trouble. Dr. Boothby, who conducted the after-treatment of the case, tells me the child had no trouble. The drain was removed on the third day, and the wound healed by first intention, and the patient was permitted to go home at the end of the week. Dr. McNeil wrote me recently that the child is very well and everybody is happy.

I will not take up your time to relate more cases, but will say I hope the consideration of this subject will lead us to investigate promptly in cases of this character.

In conclusion, in cases of obstruction of the air passages from disease, try intubation: if this fails, tracheotomy with retention of the tube. In the case of foreign bodies in the air passages, determine by the history of the case, by laryngoscopy, bronchoscopy and X-ray examination. If a foreign body is found and an expert can be obtained, try upper bronchoscopy: this failing, lower tracheotomy. If the foreign body is not expelled during expiration, follow up with lower bronchoscopy. Should it be found impossible to remove foreign body by this means, the operation of opening through the chest wall should be considered. In cases of persistent hicough, after trying intubation, if it fails, try tracheotomy. After removal of

the foreign body the trachea may be sewed up tight; also, as a matter of precaution, leave a small drain for a few days to provide against emphysema.

In closing, I wish to thank you for your invitation to present this subject and to say further that I hope my remarks may stimulate you more fully to investigate the modern devices for relieving this class of sufferers.

TOXEMIA OF PREGNANCY AND ASSOCIATED PSYCHOSES.*

By JOHN Q. MYERS, M. D., Charlotte, N. C.

Chairman of Section on Obstetrics, Tri-State Medical Association of Carolinas and Virginia.

In recent years my experience with pregnancy and childbirth and the nervous depressions of the average mother has caused me to look more carefully into the study of the nervous system and the toxemias which might cause the numerous psychoses occurring during pregnancy, parturition, and lactation.

"Pregnancy, parturition, and lactation diminish the vitality of woman, debilitate her entire organism, induce a species of physiological commotion in her nervous system, and, in short, bring to bear a strain upon her which is, even under normal conditions, attended by emotional irritability, depression, morbid yearnings, etc. It is not strange, therefore, that the child-bearing period in woman with unstable nervous system should often be an exciting factor in the development of psychosis of various kinds." It is estimated that in from seven to ten per cent. of insane women the insanity has its origin during this period of life. Assuming that the title of this paper covers the entire child-bearing period, and as the individual psychoses vary to some extent with the period of development, I shall ask your indulgence while I discuss them *seriatim*. Allow me to preface my remarks by stating there is no form of insanity or psychosis peculiar to the child-bearing period of women. A psychosis developing assumes the clinical picture of one or more of the recognized psychoses. Often this period only serves to bring to the surface a previously latent psychosis.

According to the frequency of the development of psychoses, by far the most frequent period is the puerperium, the percentage of

*Read before the Tri-State Medical Association of Virginia and the Carolinas, at Richmond, Va., February 16-17, 1916.

cases being as follows: Puerperium, 55 to 57 per cent.; pregnancy, 20 to 22 per cent.; lactation, 17 to 19 per cent.; the remaining 4 to 6 per cent. includes those transitory states occurring during the stage of active labor.

Inasmuch, as stated above, the psychosis takes some recognized form, I will not discuss the symptomatology other than to make a few references to symptoms peculiar to this period.

Psychoses of Pregnancy—These psychoses begin sometimes with conception, but more frequently they begin about the middle of pregnancy, and do not necessarily terminate with delivery but continue throughout the puerperium. The causative factors are auto-intoxication, uremia, fright, and the normal compensatory hyperactivity of the thyroid is assumed by many to play an important role in the development of the psychoses, particularly if dementia præcox should make its appearance at this time.

During this stage psychoses most frequently encountered are choreic, uremic, depressive phase of manic depressive insanity, less frequently mania, paranoia, and dementia præcox. By far the most frequent is some form of manic depressive, usually the depressed type, and the severity may vary from a slight state of apprehension and anxiety to a severe grade of hypochondriasis with self-accusatory and suicidal ideas. The manic types also have wide variations. The chorea insaniens with its accompanying choreiform movements is also encountered. It is not the purpose of this paper to discuss therapy, but, before leaving the subject, I wish to state that abortion as a curative measure in the psychoses has not proven efficacious, with the possible exception of the choreic type, and even here the alleviation of symptoms is more pronounced in the physical sphere (tremors, etc.) than the mental.

During this period we sometimes see transitory disturbances of unconsciousness. They usually arise from a hysteric, epileptic, or uræmic basis. These factors being absent, psychic influences (illegitimate births, etc.) or violent pains may produce the condition.

Psychoses of Parturition—The psychoses arising at this period may proceed from one or more of many causes, and produce as many different phases.

First—Infection of any nature, prolonged and difficult labor, or severe hemorrhage may

give rise to an infective or exhaustive psychosis. The condition, if it develops, usually does so within from two to four days after delivery. The condition is always grave, the infective being the most fatal. The mental condition is more one of delirium, and death may supervene with astounding rapidity from acute delirium and exhaustion.

Second—Uræmia with eclampsia; morphinism and alcoholism. These conditions are too familiar to require discussion here.

Third—Where epilepsy or hysteria has existed a hysteric or epileptic psychosis may develop.

Fourth—Organic brain disease may give rise to the so-called organic psychosis.

Fifth—Where a psychopathic constitution or any predisposition exists, particularly if there is hereditary trait, anyone of the psychoses may appear. The most frequent, as in pregnancy, is one of the forms of manic depressive insanity, especially the depressed phase. Not infrequently a state analogous to hallucinatory delirium appears, and in youthful primiparæ a katatonic picture has developed. Dementia præcox has been reported to have appeared at this time, but the question arises, was it a coincidence? The same question may likewise be asked of paranoia.

With the exception noted above, the functional psychoses usually develop in primiparæ of advanced age, making their initial appearances in the first few days or week of the puerperium, and almost invariably accompany an afebrile puerperium. The onset may be insidious or sudden, usually the former. Therefore, it behooves us to consider seriously any manifestation of depression or exhilaration, however mild, occurring in the afebrile puerperium. Fortunately for our patients, excepting the exhaustive, infective, and organic psychoses, the prognosis is good, recovery taking place in from three to six months in a large majority. However, subsequent pregnancies may, and frequently do, reproduce a mental picture, not necessarily the same picture, but often an entirely different one, sometimes producing the wave of circular insanity. Of course, each succeeding attack leaves its mark; and when our patient once develops a psychosis, and is not advised against subsequent pregnancies, we do her an injustice, as

the residual impressions eventually lead to dementia, from which there is no bourn.

One could talk at length on the symptomatology of these conditions, but it would be only reiterating the descriptions of mental disease. However, I would warn you that careful watch be kept over the baby, for often these patients are victims of homicidal impulses toward their offspring. This statement is applicable especially to the phases of manic depressive psychoses.

Psychoses of Lactation—The psychoses occurring during this period are most frequently hallucinatory delirium, manic depressive, paranoia, the causative factors being exhaustion or psychic influences in those predisposed. The period of development is from the sixth to the eighth month after labor. The course pursued by the individual psychosis is similar to that developing under other conditions.

In conclusion, I wish to reiterate that there is no form of psychosis peculiar *per se* to the child-bearing period; that the excited and depressive types of manic depressive are by far the most frequently met with, and that the period of occurrence is in over half of the cases during the puerperium. Another significant fact which I wish to bring to your attention is that the existence of "fever" is not necessary for the production of a psychosis. To the contrary, the development of a functional psychosis (having no organic basis whatever) is peculiar in that its occurrence is associated with puerperiums free from fever or any other manifestation of infection. Those dependent upon infection are always grave and drastic supportive measures are necessitated.

In psychopathic patients, especially if there exist hereditary taints, we should always be on guard. Any manifestation of depression, any undue exhilaration, any departure from the normal conduct of life, any eccentricity should be viewed with alarm, and proper measures at once adopted. Woman, of necessity, must pay the debt of reproduction by physical pain. It behooves us to be ever on our guard lest this debt be increased by mental anguish. 204 North Tryon Street.

According to reports of the U. S. Public Health Service, the State of California has reduced its typhoid death rate 70 per cent. in the past ten years.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Reported by EMIL MAYER, M. D., New York, N. Y.

(Continued from page 47.)

Symposium: The Consideration of Pansinusitis Exclusive of External Operations—Etiology.

By J. GORDON WILSON, M. D., Chicago.

There are local anatomic and physiologic factors which explain why pansinusitis does not occur more frequently, factors which when they are defective or destroyed lead to its occurrence and persistence. Of great importance are the ciliated cells and the lymphatic system. The action of the cilia and the arrangement of the lymphatics are such that in each sinus there is an independent anatomic and physiologic mechanism of simple type, adapted to free the cavities from such local irritants as may arise during the normal life of the cells which line it, or may accidentally invade the sinuses during respiration; and an isolated lymph system giving protection against microbial invasion. On the other hand, the vasomotor mechanism is common to all.

During a rhinitis, as the local inflammation subsides the congestion in the sinuses disappears, the cilia rapidly recover, and the exudate which is not absorbed is cast out by the cilia movements, and the sinus recovers. If, however, the inflammation be so acute that the physiologic protectors and barriers are interfered with or no longer effective, the morbid processes are different. The result is an interference of ciliary action and a lymphatic stasis. In chronic pansinusitis the same processes are at work interfering with the removal of secretion, producing a lymph stasis and finally a bacterial invasion. Other factors may influence these processes, as, for example, narrowing or obstruction of the ostia or nasal cavity from mechanical causes; disease in the adjacent part of the nasal cavity which has resulted in destruction of the cilia; scar tissue, or tissue devoid of cilia, either from disease or from a nasal operation.

The chronic turgescence may be so gradual in onset as never to awaken suspicion. It may be so slight that it is beyond our diagnostic ken. It may be so slight that bacterial activities and toxin effects are counterbalanced by

tissue activities or antibodies within the limits of health. In such cases a slight increase in congestion may be enough to disturb the balance; or debilitating diseases and hematogenous infections set up a pansinusitis.

The writer sketched briefly the organisms found. He believed that the organism is most often an invader into an already damaged sinus. Since the same morphologic organism can vary so much in its virulence, until we know more about the cause of this variation we are not likely to get far in considering its etiologic significance.

A healthy sinus has great protective power against bacterial invasion and great recuperative power after the simple hyperemias which occur during a rhinitis. We have the potentialities of a pansinusitis in the chronic rhinitis with its constant or recurring circulatory disturbances, vascular and lymphatic, with the risk of excessive accumulation of foreign exudate, and a nasal cavity more or less infected.

The disturbance resulting from the first is such that there follows the failure of the second, which inevitably leads to the invasion of bacteria. It is well to remember the possibility of an accessory sinus being charged by the products of a low-grade inflammation which apparently show little or no local effects. The wise treatment will recognize why nature has broken down and aim as far as possible at compensation. It will aim at not leaving any one sinus so impaired that it acts as a source of danger. To replace epithelium in a dependent cavity by scar tissue is to replace it by tissue with no physiologic action. I cannot conceive of a healthy antrum ever existing after extensive curettement.

The teaching of nature is obvious. The mucous membrane of the accessory sinus is doing important work. We may aid by reducing chronic vascular and lymphatic engorgement. We may aid by assisting in the removal of excess of secretion. But if we do so at the expense of permanent damage to the ciliated walls, we may well go slow, and ask what compensation we offer for this loss.

The Non-Operative Treatment of the Accessory Sinuses.

By LEWIS A. COFFIN, M. D., New York City.

The writer has ceased to think of the cure

of the diseases of the accessory cavities of the nose by either operative or non-operative procedure, and is satisfied when he has accomplished a result sufficient that he may consider it as arrested.

Negative pressure in conjunction with autogenous vaccination has been followed by very satisfactory results.

By means of his special apparatus the writer applies suction, drawing mucus from the cavities, using in special instances a canula connected with the suction apparatus; following this, air is made to enter the vacuumized cavities under considerable pressure, medicated by a nebula of oil variously laden with remedial agents.

By using autogenous vaccines in conjunction with this procedure he has been able in two chronic cases to cause an entire cessation of discharge, in which suction alone in conjunction with the vaccines had failed entirely.

The negative pressure should be started low and gradually increased, while the nebula is thrown into the nose under a pressure of ten to fifteen pounds.

For medication he uses either an oil loaded with Bulgarian bacilli or an iodine preparation. A description of the apparatus followed.

Observations upon the Intranasal Exenteration of the Ethmoidal Labyrinth in Pansinusitis.

By HARRIS P. MOSHER, M. D., Boston.

The speaker detailed the fundamental points in the anatomy of the ethmoidal labyrinth, describing the anterior cells, the nasofrontal duct, the unciform cell, the posterior ethmoidal cells and the superior nasal spine.

After mentioning Hajek's and Ballenger's operation, he then described his own method, as follows:

The anterior end of the middle turbinate is first removed. The initial plunge of the curette into the ethmoidal labyrinth is best made by disregarding the agger nasi cell if it is present and going higher on the superior overhang—that is, the extreme upper part of the middle turbinate and a little further backward. If the curette does not readily break into the labyrinth, it should be carried a little higher and a little further back. Finding this point may bother the beginner. Once in the labyrinth the curette is turned and swept for-

ward until it strikes the posterior surface of the ascending process of the superior maxilla. Then it is turned so that it faces posteriorly, and by backward and downward sweeps the unciform process, the ethmoidal bulla and its cells are opened. The cavity so made in the anterior part of the ethmoidal labyrinth is cleared of fragments by using a small round tonsil punch. The operator is now ready to probe for the nasofrontal duct and to enlarge it by sounds, rasps and bur.

In a great majority of instances the ascending process of the superior maxilla is a guide to the nasofrontal duct so that a probe slipped upward along its posterior border finds the sinus. In the small percentage of cases where this fails the duct can be found by carrying the probe backward to the limit of the roof of the operated cavity and then bringing it forward with the point turned outward. Only as a last resort should the point be turned inward.

The second part of the operation. The head of the patient is held so that the cribriform plate is level, and it is kept so. The curette is now plunged through the attachment of the middle turbinate and carried backward to the outside of the middle and superior turbinates to the front wall of the sphenoidal sinus. This is firm and stops the instrument with a dull and sometimes with a sickening thud. The face of the curette is now turned downward and the bowl and shaft forced through the bottom of the ethmoidal labyrinth. This generally leaves the posterior half of the middle turbinate dislocated and hanging. The middle is removed by snare or conchotome.

The lower two-thirds of the inner wall have now been removed. The upper third of this wall is left as a prominent anteroposterior ridge, composed in front of the middle turbinate and behind of the superior turbinate. As much of the turbinate ridge as possible should be removed. The amount of the ridge left at the end of the operation determines the thoroughness of the exenteration. Whenever there is an appreciable ridge left there is a chance to remove the inner wall of one or more of the posterior cells. It is especially important to get this remaining portion of the inner wall of the labyrinth removed posteriorly, in order to do away with the inward bulging of the labyrinth which so obscures the

nasal face of the front wall of the sphenoidal sinus. For this purpose the round tonsil punch is very convenient. The sinus is now evulsed or laid bare as needed. Finally, the inner surface of the os planum is curetted from behind forward. Packing over night is advisable.

The writer does not consider that an ethmoidal case is ever free from the liability of a recurrence.

While the writer has had no deaths, such have been recorded, and there is always danger in ethmoidal operating.

The method of removal of the nasal spine appeals to the writer, provided the anterior ethmoidal cells are dealt with at the same time.

In all chronic cases of antral disease the writer prefers opening the canine fossa to the intranasal route.

The Frontal Sinus—Opening it Through the Nose.

By OTTO T. FREER, M. D., Chicago.

The intranasal frontal sinus operation has been developed in the last ten years, and principally by E. F. Ingals, Max Halle, Segura, Vacher, H. P. Mosher, P. Watson Williams and Herbert Tilley. Freer's article is based upon their work and original observations.

Anatomy.—The frontal sinus outlet or ostium is bounded in front by the crista nasalis interna, internally by the expanded portion of the anterior superior nasal spine of the frontal bone, externally by ethmoid cells lying between the ostium and the lacrimal bone, posteriorly by the anterior ethmoidal cells, which extend from the ostium posteriorly underneath the orbital process of the frontal bone and are completed and roofed by it. Removal of the ethmoidal cells thus forming the portion of the sinus floor behind and external to the ostium gives a space for drainage greater than that created by cutting away the internal nasal crest forward with rasp or bur, while the opening is more likely to remain permanent. It may, however, be necessary to cut away both the cells and the crest to open the sinus sufficiently.

The Operation.—This usually begins with severing the anterior attachment of the middle turbinate or with resection of its anterior half, if necessary. In some cases a projecting middle turbinate may be left intact. If needed the uncinat process is next cut away with the

Freer sharp septum elevators to expose the bulla ethmoidalis fully to view. With a ring curette whose edge is directed forward and obliquely upward and inward against the bottom of the bulla, the bulla is entered and the curette is made to sweep away the anterior ethmoid cells from the bulla forward and upward to the ascending process of the superior maxillary bone, and, if possible, to the sinus floor, breaking through the latter and entering the sinus behind the crista nasalis interna. If the sinus floor prove too hard to give way to the curette an especially devised probe curette is passed through the sinus ostium after the way through it has been found by an ordinary probe, and the probe curette is made to cut its way out of the sinus through the ethmoid cells under the orbital plate of the frontal bone, thus enlarging the ostium posteriorly so that a larger curette of the same form may be passed up into the sinus to clear away all of the cell remnants under the orbital plate and in the pathway down into the nose from the sinus, this pathway lying between the lamina papyracea of the ethmoid bone and its turbinal wall. If necessary the ostium is enlarged forward also with a straight bur driven by the dental engine. The preference is, however, given to posterior enlargement because of the tendency to the postoperative formation of obstructing cicatrices in the region of the crista nasalis interna.

It is unsafe to curette inward in enlarging the frontal sinus ostium, as there is danger of entering the cranial cavity through the wall of the fossa olfactoria, especially if a torus olfactorius, as described by L. Onodi, exists.

In cases where the suppuration continues in marked degree after the intranasal operation, while the sinus remains open for intranasal drainage, the external operation must be resorted to. Where great swelling of the lid, exophthalmos or cerebral symptoms indicate the existence of caries of the sinus wall and progress of the disease beyond it in the form of sinusitis frontalis exulcerans (Killian), the intranasal operation should not be attempted.

Explanatory illustrations accompany Dr. Freer's article.

Two Cases of Chronic Pansinusitis Associated with Systemic Infection.

By GEORGE E. SHAMBAUGH, M. D., Chicago.

Both cases occurred in young women. One

case was caused by a diseased tooth; the cause of the other case is not clear. In both, every accessory sinus on both sides was involved. Intranasal operations succeeded in curing the infection in all the sinuses except the frontal sinuses in one case, while in the other even the frontal sinuses are apparently healed. In one case an attack of acute articular rheumatism occurred, apparently from the focus in the sinuses. The opening of a large posterior ethmoid cell and the neighboring sphenoid sinus was followed by a disappearance of the rheumatism. In the other case a severe chronic arthritis, involving every joint in the body, occurred as the result of a severe acute articular rheumatism which followed an acute exacerbation of the long-standing sinusitis. This case was subject to recurring attacks of acute exacerbations, associated with fever and increased pain in the joints, until by persistent efforts apparently the last focus of pus in the sinuses was drained. Since the sinusitis has been cured there has been an absence of acute exacerbations, but the inflammatory process in the joints is undergoing fibrous changes, resulting in increased rigidity of the joints.

DISCUSSION ON SYMPOSIUM ON PANSINUITIS.

Dr. Harmon Smith, New York City: I have here an instrument which bears on the treatment of the conditions under discussion. It works along the line of creating a vacuum, and, while there is a vacuum, lactic acid bacilli are injected. The syringe is loaded with lactic acid bacilli in a solution of argyrol, enzymol, or any other preparation. By means of the syringe the solution is forced into the sinus. A bicycle pump may be employed to create the vacuum. The instrument can be used at home, and should be employed two or three times a day. Subacute and chronic cases have all improved under this method of treatment.

Dr. Thomas Hubbard, Toledo: Referring to Dr. Coffin's method, I have one criticism to offer concerning the actual amount of negative pressure used. The statement that he used so many pounds of negative pressure is absolutely incorrect, because the mucosa will stand not more than four or five pounds. This can be determined exactly if measured by a manometer. Three or four pounds is my experience. There is more or less hemorrhage from five pounds of negative pressure.

Dr. Henry L. Swain, New Haven, Conn.: The idea of Dr. Wilson's paper is in line with what I have always held. If the ciliated membrane of the cells can be preserved, better results will be obtained than would otherwise be possible. The less the traumatism the better.

I had the pleasure of seeing two of the cases mentioned by Dr. Coffin, and the exhibition of the method on the patient. I learned a great deal from the demonstration. I saw him treat a man into whose nose I could easily see. The patient had lost his septum and it was possible to see into the sphenoid sinus. Everything was very open and apparently clear. I could see no secretion at all, yet Dr. Coffin got out a tube half full of secretion. It was not only serous matter, but pus as well, and was colored with iodine which had been introduced two or three days before. In the case of the woman there was some pus along the floor. This was all sucked out. At the present time the right side of the face transilluminates better than the left. The effect of the Bulgarian bacillus will be proved by time. The applicability of the apparatus has been demonstrated.

I was called upon to treat a case of acute antrum disease in a man who had a round opening in his septum. By going in on the opposite side I could use small tubes or probes, and could flush out the antrum through the natural opening. I could look in through one nostril, put the tube in, and flush out perfectly well.

Dr. John F. Barnhill, Indianapolis: Two years ago I saw Dr. Mosher's specimens and his method of operating at that time, and I have employed the method since, with very good results. The limitations can be well marked out, and that is what makes Dr. Mosher's method safer than some of the others. The Ballenger operation is dangerous unless the bone is soft. Where the bone has been softened by the polypoid masses, and where the cells are filled with polypi, the Ballenger method is excellent. Until the posterior retaining wall is reached the operator is within the field of safety. So, then, we are working within a bony capsule, the limitations of which, unless too diseased, will give the sensation of where we are working. In the

absence of these limitations the Ballenger knife is useful.

Dr. Charles W. Richardson, Washington: In the Mosher operation I have met with one complication, which I am surprised that others have not met—the possibility of entering the antrum. There is danger unless one is very cautious in making the downward stroke.

Dr. E. Fletcher Ingals, Chicago: The Mosher operation for the ethmoid seems to me in every way desirable. However, it has not appealed to me to leave the middle turbinate until the end, unless the posterior cells are also involved. I prefer to take off the anterior portion of the middle turbinate, as it gives a better view. In acute cases of frontal sinusitis the Mosher method is admirable for opening up the sinus.

The intranasal method of opening the frontal sinus which I devised several years ago has answered my purpose better than any of the methods described, giving ninety per cent. better results in chronic suppurative frontal sinusitis. In acute cases I cannot get the probe in. The instrument which I use is six millimeters in diameter. I have had four or five cases in which I could not pass it the whole distance. I would get in half way, and be unable to go farther; I would then pass in the bur. The probe prevents one from doing any harm. If it is merely the frontal sinus that is diseased, this method gives all the opening that is necessary. In ninety per cent. of the cases the patients get well just as rapidly as they would from any of the more severe operations. There is no use, as a rule, in making an opening of more than two millimeters in diameter.

Dr. Lewis A. Coffin, New York City: I employ a method modified somewhat after that of Mosher. He goes in with a curette, I go in with a chisel. I know by a slight tap whether I am on solid ground. There is a big safety space of about half an inch. I make an up-and-down incision with the chisel, then bear upward toward the median line, and at that point introduce Luc's forceps. I take out all I can. Three bites and I am looking into the sphenoid. There is very little hemorrhage; I have never had to pack a case. It may be necessary to clean up with angular forceps and curette, but to me this is the easiest way.

Dr. William E. Casselberry, Chicago: In the earlier years I employed the Hajek method: of late I have adopted various methods. I have followed Mosher's plan, and I have used Coffin's method, except that in all these methods I first remove the anterior end of the middle turbinated body. That which is left of the turbinal is sufficient as a guide, without having the anterior end in the line of the light and shutting off the view. It has been stated by Watson Williams and others that the upper wall is so rich in lymphatics and blood vessels that there is danger of the communication of sepsis to the brain. That statement has deterred me several times from making my operation as complete and thorough as I wanted to make it in order to enter the sphenoid. I have also found this turbinal plate very hard and difficult to get through. In certain instances I have felt it almost impossible to get down on a level with the sphenoid wall in order to do the classical Hajek operation and the Mosher operation. I have thus been obliged to leave quite a ridge projecting down.

Dr. Wilson, closing the discussion: We do not know much about the lymphatic of the upper part of the nose; most of our knowledge is theoretic. If we inject the subarachnoid space of the brain we can pass dye into the olfactory nerve. We know that the olfactory nerve is surrounded by lymphatics, but we do not know that by injuring the olfactory nerve we will communicate sepsis to the brain. Anatomists teach that it is dangerous to subject the olfactory nerves which come out from the cribriform plate to injury; further than that they do not know.

Dr. Coffin, closing the discussion: Answering Dr. Hubbard's remarks about the amount of pressure; the gauge is graduated, but how I do not know.

Dr. Mosher, closing the discussion: I am sorry to have added to the nomenclature, but the term agger nasi seems to me to be better for the cell at the ensiform curve than lacrimal or infundibular.

The selection of a method of operating upon the ethmoidal labyrinth is a personal matter. The danger of working in the extreme upper and anterior part of the middle turbinal has been mentioned by Watson Williams, and also by Freer. The higher one goes the greater

the danger. Two patients died from meningitis, as I said in the paper.

I do not see why the rasp is more dangerous than the bur.

For the last year I have removed the anterior end of the middle turbinal, as a routine procedure.

As to opening the antrum, as suggested by Dr. Richardson: The amount of overhang varies greatly. In extreme cases the overhang in front is great. In many cases of frontal sinusitis the antrum is already infected. One also runs the risk of infecting it by taking off the unciform process, as the inner wall of the antrum is opened as soon as this is removed.

Dr. Otto T. Freer, Chicago: Quite a number of years ago Holbrook Curtis gave a description of an intranasal antrum operation in which he used trephine and bur. I modified this operation. In the course of ten years I have had unvarying success in opening with the trephine and bur. I have had complete recovery in some sixty cases of antral suppuration. Most of them got well as soon as there was an opening in the lower meatus. It is not always necessary to resect the anterior turbinated body. The trouble with the Ingals operation is that you get a beautiful opening at first, with a tendency to contraction. Whether I use the Ingals bur or another method, I think his tube may be a valuable aid in keeping an opening.

Referring to Hajek's operation, it cannot be denied that he has done a large amount of work since 1905. He has enough cases now to speak authoritatively. He has another flap operation which should be studied. He objects to the rasp on account of the danger of breaking down everything and inducing meningitis. He works with a bur, which I have used and have found to be a safe instrument. Hajek is absolutely right in regard to his bur. The cutting forward is apt to be followed by contraction. I did not object to the term agger nasi cell, but I did object to the term uncinate cell.

Dr. George E. Shambaugh, Chicago: The question raised by Dr. Casselberry with reference to the danger of setting up meningitis holds if the wrong method is followed in operating upon the ethmoid. Taking the whole mesial place of the ethmoid, and pulling and tearing off pieces, will lead to extension which

will eventuate in meningitis. That should be left alone, and work be confined to the labyrinth. The labyrinth itself has no communication with the intradural space.

As to the use of the rasp: I do not push and pull down, but use it gently. Used properly, it is not a dangerous instrument.

It is unfortunate when everybody tries to use different terms for the same anatomic structure. Most anatomic terms are fixed by the anatomic nomenclature. The term "infundibulum" is used incorrectly. "Infundibulum ethmoidalæ" is the term used by the Nomenclature Congress at Basle.

Another term which we have been using wrongly throughout this discussion is the synonym for inflammation of the sinus—"sinuitis," which has been incorrectly called "sinusitis." We might as well get into the habit of using correct terms.

(To be continued.)

Analyses, Selections, Etc.

A Newer Conception of Gonococcic Infection.

From the time of the discovery of the diplococcus gonorrhœa by Neisser, in 1879, until the present era, says N. E. Aronstam, Detroit, our knowledge of the pathology of gonorrhœa and its various complications has been materially enriched by many new and valuable data, so that today we are more thoroughly conversant with the manifold phases of gonococcic infection. The complement fixation test, too, has greatly added to the prognosis of gonorrhœa in relation to undetected latency of the process and its far-reaching effects upon the individual. Late sequelæ have also been observed and recorded five or more years after the onset of a gonococcic infection in the form of myalgias of different groups of muscles; joint pains without gross alterations in the joints and a host of other vague and undetermined affections. The etiology of the last two mentioned conditions has been variously attributed to other factors and dealt with in a perfunctory manner therapeutically.

It is comparatively easy to comprehend the morbid process of a disease, if the causes are obvious and near at hand. Thus we find no difficulty in diagnosing gonococcic prostatitis,

spermatocystitis, deferentitis, pyelitis, etc., but where a considerable time has elapsed between the onset of a gonococcic urethritis and the appearance of certain ill defined and obscure states, it is then that we are apt to deviate and overlook the primary etiological factor. Nor does the fault entirely lie with us. Repeated and thorough examinations, inclusive of serological tests, give no clue to the true nature of the condition. Provocative injections likewise may prove negative, and yet there is sufficient reason to believe that primary gonococcic infection is mainly responsible for the process. What we have heretofore regarded as urethral neuroses and genital psychoses per se, will ultimately assert themselves as fixed physical conditions, the result of systemic infection.

Dr. Aronstam reports several cases of which the following is typical: A clerk, age 23, had gonorrhœa, complicated by left epididymitis, in 1911. There was freedom from all symptoms for nearly four years. In June, 1915, he came under the writer's observation, complaining of pain in both ankle joints for the past seven months. Microscopic examination of the secretion obtained by urethral provocative injections proved negative. Rectal examination, however, revealed a prominent left seminal vesicle, readily palpable and larger than the right. Although possessing no other data, save those ascertained on rectal examination, he based his treatment upon the assumption that some toxin might have been absorbed from the seminal vesicle, and notwithstanding negative microscopic findings, treatment must be directed to that organ. By systematic massage and bacterin injections, the joint pains gradually subsided, and the patient is comparatively free from the symptoms he so bitterly complained of.

The question now suggests itself: What relation does the subjective symptom of pain in the various localities mentioned bear to the findings in the urethra or its adnexa? Is it a mere coincidence that the seminal vesicles were always involved and that there was a history of one or more attacks of gonococcic urethritis? If so, why have the symptoms abated after treatment was directed to the vesicles and systematically by means of combined gonorrhœal bacterin? Numerous other symptoms and conditions may be related, that could undoubtedly

be ascribed to gonococcal infection and correspondingly relieved by instituting the proper treatment. Then other queries arise: What form of infection have we to deal with? (1) An infection in loco, with a definite focus of continuous toxin production and its ultimate absorption in the circulation, or (2) Have we to combat a systemic malady, primarily a toxemia, intensified and prolonged by that particular focus?

If the former hypothesis be correct, then how do we account for the direct gonococcal involvement of joints in the course of subacute specific urethritis, when the organism can be readily detected in the synovial membranes?

The writer merely desires to intimate these few questions in order to stimulate thought and further inquiry on the subject. His experience has repeatedly taught him to abolish the old notion of gonorrhoea being a local disease. He now regards it as a constitutional toxemia with many obscure states and sequels following in its wake. Ricord perhaps intuitively conceived this truth in his famous utterance: "We know when gonorrhoea begins, but God alone knows when it will end."—(*Indianapolis Med. Jour.*, May, 1916.)

Nasal Synechia: A Simple New Method of Prevention.

Joseph Charles Scal, New York, writes as follows:

Causes of Synechia.—The formation of synechia is a very disagreeable but yet unavoidable complication in the tropical treatment of nasal ailments. Synechia occurs on account of injury to adjacent surfaces, and binds the nasal septum to the inferior turbinate bone thus causing considerable nasal obstruction. Synechia also commonly follows cauterization of the turbinate bones when the septum is likewise accidentally touched.

Methods of Prevention.—The method universally recommended, consists in resecting the adhesive band with a punch-forceps or scissors and then keeping the raw surfaces separated. This may be accomplished by inserting a Bernay's splint or several layers of rubber tissue, replaced daily, until complete healing results.

A New Method.—After careful search in a number of standard text books on diseases of the nose and throat I have failed to find any

reference to my method. Moreover, I have demonstrated that the other methods used in the prevention of synechia did not meet with the desired success. In many instances recurrences were not uncommon. I have used my method for five years both in private and dispensary practice and have always had excellent results.

This method consists in keeping the raw edges, produced by the scissors or punch-forceps separated by a folded tinfoil splint such as may be obtained from a cigarette box which is sterilized by soaking in 95 per cent. alcohol for twenty-four hours and then rinsing in sterile water. This splint is shaped to correspond to the depth and location of the synechia and inserted between the raw surfaces. It is left in situ for twenty-four hours and then removed, cleansed and re-inserted. This operation is repeated until the raw surfaces are entirely healed.

Advantages of this New Method.—(1) My method is very efficacious; after five years of trial in about thirty cases my patients had no recurrence. It is not only much cheaper than the other appliances but is always at hand, more easily manufactured than other material, and may be used repeatedly. (2) Tin-foil is retained in the nose without any discomfort or even knowledge of its presence.—(*Med. Rev. of Reviews*, April, 1916.)

Some Observations on the Treatment of Dysmenorrhoea.

In the *American Journal of Obstetrics* for December, 1915, Block points out that atropine diminishes the irritability of the autonomic nerves, and after its administration there is a relaxation of the uterine musculature and a consequent disappearance of uterine colic. Stolper divides his dysmenorrhoea patients into two groups: (1) those with normal or nearly normal blood-pressure, and (2) those with increased pressure. He states that the patients in the first group are usually benefited by atropine, while those in the second group are not at all helped by it. In this second group, after the pelvic circulation is properly regulated, the blood-pressure falls.

The atropine treatment has been tried with favorable results by Novak in Europe as well as by Novak in this country, who in a recent article says: "The results in thirty or more cases of spasmodic dysmenorrhoea which I have

treated with atropine have been very encouraging, so much so as to impel me to the further employment of the method." Block's own results in a limited number of cases have also been most satisfactory. The method of administration which he employs is to direct the patient to take 1/100 grain of atropine sulphate two or three times a day for two days before the expected period and continue it after the flow appears until relieved of symptoms. In addition to this or any other form of treatment, the proper attention must be paid to the lower intestinal tract and general personal hygiene, and he is heartily in accord with Mosher regarding general hygiene and exercises, although he has not the high degree of enthusiasm that he has over the results obtained from exercises *per se*, possibly due to his lack of experience with the method of treatment.

of the gastric mucous membrane or by causing more free secretion of gastric juice. Such tonics are also very frequently given in cases of general debility and impaired digestion arising from ill-health due to other causes. Not long ago, these views seemed to receive a serious blow because of an investigation by Carlson, who administering bitters to normal men and normal dogs, found that they had no effect that was advantageous, and that sometimes there was a diminution in the quantity and quality of gastric secretions rather than an increase. As Carlson's experiments were carried out over a considerable period of time they possessed weight, although, of course, it is not to be forgotten that as his experiments were made upon men or animals in health they are not necessarily a guide as to the effects of these substances in ill-health.

TABULAR CLASSIFICATION.

Type.	Symptoms.	Cause.	Treatment.
Obstructive.....	Premenstrual uterine colic. Scant flow for one or two days. Pain disappears as flow becomes profuse.	Obstruction to lower uterine segment or vagina.	Removal of obstruction.
Ovarian.....	Bilateral ovarian pain synchronous in onset with the appearance of the flow; premenstrual headache and nausea. Uterine cramps after flow is established.	Increased ovarian secretion.	1. Intranasal treatment. 2. Hypodermic injections of adrenalin.
Vagotonic.....	Severe lower abdominal cramps and other symptoms suggestive of the obstructive type.	Increased irritability of the autonomic nervous system.	Large doses of atropine for a day or two before the expected period.

Block's object in presenting this paper is to make a plea for the careful differentiation of the various types of dysmenorrhea, and, having accomplished this, to give the patient the benefit of that method of treatment which has been shown to be of avail in the particular type from which she is suffering, and by so doing we may look for relief of symptoms in the large majority of cases. Let us hope that the promiscuous dilatation and curettage and the antidysmenorrhea proprietaries may soon be past history.—(*Therapeutic Gazette*, May, 1916.)

Action of Bitter Tonics on Gastric Secretion.

One of the most commonly accepted opinions among medical men is that the administration of the so-called bitter tonics is beneficial, in the treatment of convalescence from acute diseases, in that they aid digestion by increasing the tone

It is interesting to note that acting under the instigation of Carlson, Moorhead (*Journal of Pharmacology and Experimental Therapeutics* for December, 1915) has carried out another series of investigations in which he used not normal but abnormal conditions, well recognizing that certain drugs do not elicit their specific action except in pathological states.

As we have pointed out in other leading articles, the time has come when we should have experiments not only upon healthy men and animals within justifiable limits, but also should have records of the influence of drugs in various conditions of disease: and it is an encouraging sign of the times that laboratory workers are beginning to recognize the fact that practitioners of medicine cannot be guided alone by experiments upon healthy tissues,

although such experiments deserve support and recognition in that they give us clearer conceptions in regard to the effects of drugs in general, and because it is essential that we should have information in regard to the action of drugs upon healthy as well as upon unhealthy conditions. It is also interesting to note that Moorhead fully recognizes the fact that the skilled practitioners of today believe that the employment of bitter tonics in suitable cases does improve the condition of the patient. He asks the question, however, as to whether they stimulate the appetite, the gastric secretion, or both, or is their action purely psychical?

In Moorhead's study of the action of bitters upon normal dogs he found that whether these drugs are given by the mouth or sent directly into the stomach they had no appreciable influence upon the appetite nor any material effect upon the gastric secretion, either as to quantity or quality, except possibly a diminution of total acidity. So far his results are in accord with the early ones of Carlson. Using dogs which were in ill-health because they suffered from chronic anemia which was artificially produced by repeated bleedings, he found that these bitter tonics acted in quite a different way, since they exerted a distinctly favorable influence upon the appetite, although the animal did not consume an amount of food which was equal to the normal because of its feeble condition. He states that there can be no question that the influence of these bitters is definite and significant. When given by the mouth they cause both an increase in the quality and quantity of the gastric juice, the pepsin content remains fully constant, and the change is both in the free and total acidity. Here again, the amount of gastric juice was not up to the normal but nevertheless it was above that which was secreted without the influence of these drugs.

Another interesting point developed by Moorhead is that these bitters introduced directly into the stomach of cachectic dogs have no appreciable influence upon the quantity or quality of the gastric secretions, which would seem to indicate that the secretion is caused reflexly through the nerves of taste and not by any direct stimulation of the stomach itself.—(*Editorial, Ibid.*)

Editorial.

Epilepsy and Marriage.

A problem of serious social importance not infrequently confronts the physician: "Should an epileptic be permitted to marry and have children?" The solution of this problem necessarily depends upon several factors. First of all, a clear and sharp distinction is to be made between the various forms of epilepsy. Epileptic convulsions may develop following an accidental injury to the brain. They may develop in the course of a chronic lesion in the brain, such as a tumor, abscess, cyst, localized meningitis. They may appear in the course of paresis. In all these cases the epilepsy is due to an organic disease of the brain; it is amenable to treatment and, what is particularly important to bear in mind, it is an acquired affection, and, therefore, has no bearing upon hereditary transmission. The acquired character of epilepsy is also seen in cases of infection or intoxication of organic or inorganic character. In such cases again, with the exception of hereditary syphilis, the disorder is acquired.

Should an individual who developed epilepsy in adult life marry? A distinction should be made here between epilepsy caused by an acquired organic disease of the brain, such as mentioned above, and epilepsy caused by intoxication or infection. In the first case, if the cerebral lesion is successfully removed and a sufficiently long time elapsed during which the patient was totally free from any cerebral disorder, matrimony is not counter-indicated. As the epilepsy in these cases was caused exclusively by a focal lesion, no fundamental effect on the patient's make-up can be expected from such an epilepsy. Neither the patient himself nor his offspring can in any way be influenced by such an epilepsy.

In cases of intoxication or infection the situation is different. Alcoholism *per se* is a noxious element to the drinking individual; it alters his tissues and organs to a considerable extent and injures the germ-plasm. Syphilis creates well-known profound and permanent changes in the individual's tissues. In all such cases epileptic convulsions which can be directly traced to the cerebral changes provoked by the intoxication and infection

render the individual's condition doubly damaged. The profoundly altered tissues and humors are bound to procreate (if they are capable) beings with equally deficient tissues and humors. A large number of individuals with a defective mentality or with a defective soma can trace their deficiency to paternal alcoholism or syphilis. This has been proven repeatedly by competent observers. Besides, the very nature of the disorder is a constant source for cerebral irritation, hence for epileptic seizures. Marriage for all these reasons is not to be advised to alcoholic and syphilitic individuals. In cases in which the most energetic treatment has been instituted, the question of marriage should still remain solved in a negative sense, for once syphilitic the individual will always remain potentially syphilitic in spite of the most powerful remedy we are now in possession of. As to the alcoholics, the damage in the tissues is so great in chronic intoxication that even after the removal of the poison there is no guarantee against recurrences of epileptic seizures or other cerebral disorders.

A very large class of epileptics belong to the so-called idiopathic cases. Here the onset of the disease is at an early age and it continues for many years in spite of treatment. These individuals usually belong to the degenerative type and, in conjunction with their epilepsy, we usually find a more or less large number of other evidences in the somatic or psychic sphere indicative of a degenerative make-up. Not infrequently a morbid heredity is traced in cases of this type. These individuals develop epileptic seizures under the influence of the most trifling exciting cause.

Marital life with its various elements of the most stimulating character is self-evidently contraindicated. As to the possible pernicious influence on the progeniture, the above mentioned character of the malady and the pathological heredity, which is so frequently present, are sufficient major reasons to advise urgently against procreation—viz., marriage.

Finally, there is a small group of epileptics who, apparently free from a morbid heredity, develop the disease in adult life and who after a prolonged treatment greatly improve and have a seizure at very great intervals. Not infrequently the question of marriage is brought up and a definite reply is expected

from the physician. The only logical advice that seems to present itself is to continue celibacy for a long time, and if during an interval of two or three years not a single attack occurs, and if the individual's personal and family histories are free from suspicious pathological features, also if a Wassermann test is repeatedly negative, marriage cannot be objected to.

The conclusion which forces itself is that in the problem of epilepsy two factors should be considered—namely, that of the epileptic individual himself and that of the offspring. The latter is of supreme sociologic importance. Applied eugenics can be practiced only when the medical councilor is given intelligent support by the patient himself and by the legislator. To accomplish this requisite dissemination of knowledge of laws of heredity is essential.

ALFRED GORDON, M. D.
Philadelphia.

The National Highways Association,

Washington, D. C., whose motto is "Good roads everywhere," has issued some interesting maps and circulars about its work, which may be obtained from them in quantities at four cents per copy. In the hope of adding strength to its membership and stimulating interest in its work, General Coleman Du Pont, of Wilmington, Del., and Charles Henry Davis, C. E., of South Yarmouth, Cape Cod, Mass., have offered \$2,600 to be divided into 166 prizes, ranging from \$500 to \$5, for road photographs. Both members and non-members of the Association may enter the contest. "Photographs will be judged first upon their merit in showing road conditions (good or bad); second, pictorial interest; third, photographic excellence." The contest closes at noon, Tuesday, November 7, 1916. Send 4 cents in stamps to "Good Roads Everywhere" Photograph Contest, care the above Association, for further details.

Roads, good or bad, are so closely associated with the work of the doctor, and especially the country doctor, and there is so much need for improvement in many of the Virginia roads, that we hope the Association may secure a greater co-operation of the people of this State.

The Northern Neck (Va.) Medical Association

Held its regular bi-ennial meeting at Heathsville, May 27, with a large attendance. Several

interesting papers were read and a banquet at the hotel added to the pleasures of the meeting. It was decided to hold the next meeting at Montross, Va., and the following officers were elected: President, Dr. Stonewall Rice, Heathsville; vice-president, Dr. M. C. Oldham, Lancaster, and secretary-treasurer, Dr. Robert O. Lyell, Warsaw.

May Sell Pine Camp.

Pine Camp, Richmond's tuberculosis sanatorium, will likely be sold in the near future and the proceeds devoted to the purchase of property for a city farm. In this event, it is the purpose of the City Council that the city farm shall be made self supporting and that its various units shall care for the city's indigent, tubercular patients, juvenile offenders and habitual drunkards.

Dr. R. H. Woolling

Has returned to his home in Pulaski, Va., after spending several weeks doing special work at the New York Post-Graduate School of Medicine.

Dr. E. M. Magruder,

Of Charlottesville, Va., was a recent visitor at the home of Dr. John W. Scott, in Gordonsville, Va.

Elected Members of Fraternity.

Among the alumni elected to membership in the Beta Chapter of the Phi Beta Kappa Fraternity at the University of Virginia, recently, was Dr. Pressley M. Rixey, retired surgeon-general in the U. S. Navy. Drs. James Arthur Keiger, Tobaccoville, N. C., Ezra Eugene Neff, Chilhowie, Va., and Harry Evans Trimble, of the senior medical class, were also among the newly elected members.

Ass't Surgeon-General Leland E. Cofer,

Who graduated from the Medical College of Virginia in 1889, and is well known in this State, has been appointed health officer of the port of New York. Dr. Cofer is recognized as having unusual qualifications for the office on account of his excellent record in the U. S. Public Health Service.

Dr. Stuart McGuire,

Of this city, received the honorary degree of LL. D. from Richmond College, during its commencement exercises this month.

Married—

Dr. Charles R. Grandy, Norfolk, Va., and

Miss Elizabeth Norfleet Neely, of Portsmouth, Va., June 10.

Dr. John Henry Neff, Jr., Charlottesville, Va., and Miss Harriett Louise Fitzgerald, Houston, Texas, June 1.

Dr. Henry Armistead Bullock and Miss Mabel N. Geisinger, both of this city, June 12.

Dr. Lunsford H. Lewis and Miss Blanche Leebrick, both of Elkton, Va., June 5.

On Health Committee.

At a meeting of the Board of Trade of Emporia, Va., May 29, Drs. R. T. McNair and Guy M. Naff were appointed members of the committee on public interest and health.

National Tuberculosis Association.

At the meeting of this Association in Washington, D. C., last month, Dr. Edwin R. Baldwin, Saranac Lake, N. Y., was elected president. Dr. W. S. Rankin, Raleigh, N. C., was elected one of the vice-presidents.

Salvarsan Imported.

The *Medical Record* announces that as a result of the appeal made by the State Department of the United States to the German and British governments to remove the embargo placed on drugs, a shipment of salvarsan has recently been received in this country, valued at \$250,000.

Medical College Finals.

The Medical Department of the University of Virginia will hold its commencement exercises in connection with those of other departments of the University, June 11 to 14 inclusive.

The finals of the Medical College of Virginia are in progress as we go to press. An account of these will appear in our next issue.

The Trudeau Tuberculosis School,

At Saranac Lake, N. Y., which is to give a post-graduate course to physicians specializing in tuberculosis work and was established as a memorial to Dr. Edward Livingston Trudeau, was formally opened May 17.

Dr. A. L. Gray,

Of this city, was recently elected one of the vice-presidents of the Richmond Chapter of the University of Virginia Alumni Association.

Dr. J. C. Bodow

Has been named by the Governor as a member of the City Council of Hopewell, Va.

Dr. E. Tribble Gatewood,

Of Toano, Va., left the first of this month for New York, having in February last, secured a two years' appointment in the Eye, Ear, Nose and Throat Department of the New York Post-Graduate Hospital.

Dr. A. M. Sneed will succeed Dr. Gatewood at Toano.

New Requirements for Medical Students.

The Bureau of Medical Education and Licensure of Pennsylvania has announced that, beginning January 1917, all doctors seeking to practice medicine in that State shall be required to have attended at least twelve maternity cases in their undergraduate course. Six other cases in an approved hospital during their year of interne work is an additional requisite.

The Jefferson Medical College,

Philadelphia, said to be the oldest independent medical school in the world, having been established ninety years ago, is taking steps to secure a \$2,000,000 additional endowment. Mr. David Baugh has already subscribed \$100,000, provided an equal amount can be raised on or before June 16.

Two New Members on Health Board.

In accordance with an amendment passed at the last meeting of the State Legislature, providing for two additional members to the State Board of Health—one a dentist and one a layman—Governor Stuart has appointed Dr. Guy R. Harrison, of Richmond, and Capt. W. W. Baker, of Hallsboro. Their appointments are for four years each, effective from June 17, 1916. These will serve in addition to the twelve physicians previously constituting the Board.

Social Insurance Inquiry.

Under the auspices of the Committee on Insurance of the New York Chamber of Commerce, arrangements are being perfected for a comprehensive investigation into all essential phases of the subject of social insurance, between this and the next meeting of the New York legislature, with special regard to health insurance. Dr. J. F. Crowell, Executive Officer of the Chamber of Commerce, to whom communications may be addressed, will have charge of the inquiry. It is the purpose of this Committee to go extensively into the subject so as to have at hand the desired data and to

avail itself of the gist of experience in this and other countries. This inquiry will extend not only to the actual developments in countries where health insurance has made some progress, but is intended also to include a critical examination of the conditions, causes and effects of the different systems with a view to their availability for American communities. It is intended to test the claims which existing systems made at the time of their origin in the light of results.

The Virginia State Board of Medical Examiners

Is to hold its next examinations in this city, June 20-23. Dr. R. S. Martin, Stuart, is president, and Dr. J. N. Barney, Fredericksburg, secretary.

The West Virginia Medical Association,

Which met last month in Wheeling, elected the following officers: President, Dr. Jos. E. Rader, Huntington; vice-presidents, Drs. Wade Young, Sistersville, E. H. Thompson, Bluefield, and Reed M. Baird, Wheeling; treasurer, Dr. Hugh G. Nicholson, Charleston, and secretary, Dr. J. H. Anderson, Marytown, re-elected. The 1917 meeting will be held in Fairmont.

Dr. F. M. Dillard,

Of Mineral, Va., attended the Confederate Reunion, held at Birmingham, Ala., last month.

Dr. C. S. Dodd,

Of Peterburg, Va., after a short stay in Rockingham County, Va., left for a further vacation in New York.

Dr. Thomas D. Jones,

Of South Richmond, Va., was a recent visitor in Staunton, Va.

The American Gynecological Society,

At its meeting in Washington, last month, Dr. J. Wesley Bovee, of that city, presiding, elected Dr. Frank Simpson, of Pittsburg, Pa., president, and Dr. Geo. Ward, Jr., of New York, secretary.

Dr. J. H. Hargrave,

Of Hopewell, Va., has been elected one of the directors of the Banking Trust and Mortgage Company of Peterburg and Hopewell, organized last month.

Dr. R. S. Griffith,

Of Basic City, Va., has been elected a delegate to the National Prohibition Convention, which meets in St. Paul, Minn., June 19-21.

Scarlet Fever in Alexandria.

Owing to the presence of scarlet fever in Alexandria, health officials have ordered the closing of public and private schools, Sunday schools and moving picture theatres. To the second of the month, there had only been sixteen cases officially reported, although there were believed to be a hundred cases in that city. The disease has not been of a serious type and no deaths have been reported to date.

School Dentist in Richmond.

In addition to the school physicians and nurses now employed to look after children in the public schools, an appropriation has been made to employ a dentist, whose business it shall be to examine and care for the teeth of the children enrolled in the public schools in this city. The law becomes effective next session.

The Medical Society of New Jersey

Will hold its one hundred and fiftieth annual meeting at Asbury Park, June 20-22, under the presidency of Dr. William J. Chandler, of South Orange. Dr. Thomas N. Gray, of East Orange, is secretary.

The New Jersey State Pediatric Society will hold its fifth annual meeting in the same place on the day prior to the above meeting, Dr. B. Van D. Hedges, of Plainfield, presiding.

Dr. John Staige Davis,

Of the University, was a recent visitor to Orange, Va.

Dr. Thomas W. Murrell,

Of Richmond, was the guest of Dr. H. W. Judd, of Mineral, Va., during the latter part of May.

Dr. Meade S. Brent,

Assistant at the Central State Hospital, Petersburg, with some friends recently motored to Northumberland County, Va., where they spent a few days visiting relatives.

Columbia University, College of Physicians and Surgeons,

New York City, we note from the *Buffalo Medical Journal*, has opened its doors to women.

The American Pediatric Society,

In annual session in Washington, in May, elected Dr. F. S. Churchill, of Chicago, president, and re-elected Dr. S. S. Adams, of Washington, D. C., secretary.

Dr. Michael W. Minor,

Comorn, Va., has been elected surgeon of the Camp of Sons of Confederate Veterans, recently organized at King George C. H., Va.

Dr. A. B. Evans,

Church View, Va., was one of the doctors not previously named in our columns, who was appointed a delegate to the State Democratic Convention, in Roanoke.

The U. S. Civil Service Commission

Announces an open competitive examination for clinical director, for men only, June 27, 1916. From the register of eligibles resulting, certification will be made to fill a vacancy in this position in the Government Hospital for the Insane, Washington, D. C., at a salary of \$2,000 per annum, with maintenance in the hospital, and vacancies as they may occur in positions requiring similar qualifications. Applicants, who must be under 35 years of age, must be graduates of a medical school of recognized standing, and citizens of the United States.

For further information, address the above named Commission, at Washington, D. C.

Dr. and Mrs. M. L. Anderson,

Of this city, are enjoying a vacation at Tate Springs, Tenn.

Dr. Roy K. Flannagan,

Of Richmond, made a short visit to Charlottesville, the latter part of May.

Dr. and Mrs. Herbert Mann

Have taken the country home of Dr. and Mrs. J. Allison Hodges, at Westhampton, in the suburbs of this city, for the summer months.

Dr. Fitzhugh Lee Banks

Has returned to his home in Gordonsville, Va., after a short stay in New York.

Prof. C. W. Stiles,

Of the U. S. Public Health Service, delivered an address in Lynchburg, Va., May 24, in connection with Baby Week.

Dr. Howard Kelly,

Of Baltimore, has been granted a furlough from Johns Hopkins Hospital for a year, we understand, to be able to devote more time to his studies in research work with radium.

The Graduate Nurses' Association of Virginia,

At their annual meeting in Norfolk, last month, elected the following officers:—Presi-

dent, Miss Ruth Robertson, Richmond; vice-presidents, Miss Ethel Smith, Norfolk, and Miss R. Z. Van Vort, Richmond; secretary, Miss Agnes D. Randolph, Richmond, and treasurer, Miss Elizabeth Webb, Richmond. Danville was chosen as the place of meeting for the 1917 sessions.

Dr. J. Fulmer Bright,

Of this city, who has been away for several weeks, has returned home.

Dr. Wyndham Blanton,

Son of Dr. Charles A. Blanton, of this city, has just graduated from Columbia University, New York City, and returned to his home in Richmond.

Dr. and Mrs. Aristides Harrison,

Of Enfield, N. C., recently visited friends in Lawrenceville, Va.

The Vance Memorial Ward

Was formally presented to the Children's Hospital, in Louisville, Ky., May 15, as a memorial to Dr. Ap Morgan Vance, of that city.

Anti-Vivisection Bill Not Approved.

The Medical World states that California's governor has declined to approve the anti-vivisection bill which was passed at the last session of the legislature in that State.

Dr. Sidney J. Baker

Has returned to his home in South Richmond, Va., after a visit at the home of Dr. Thomas R. Marshall, in Gloucester County, Va.

The War Relief Association of Virginia

Has appropriated \$6,000 to establish and maintain a room with twenty beds in the hospital at Neuilly, France.

Railroad Casualties.

According to figures just issued by the Interstate Commerce Commission, there were 2,531 people killed in the United States and 43,518 injured, during the three months ending September 30, 1915. Both of these figures showed a good net decrease as compared with figures for the same quarter in 1914.

Diphtheria at University of Alabama.

During week ending May 20, 1916, Assistant Epidemiologist Harrington, of the U. S. Public Health Service, reported 24 additional cases of diphtheria among students at the University of Alabama, Tuscaloosa, making a total of 277 cases to that date since the beginning of the outbreak. Only 15 cases had been notified in

Tuscaloosa in those not students at the University to that date.

Proportion of Patients to Physicians.

According to the *Medico-Legal Journal*, it is estimated that there are about 150,000 physicians in the United States, or 1 physician to every 667 people.

For Sale—Complete office equipment, instruments, and one of the finest medical libraries in the State or Virginia, which belonged to the late Dr. W. B. Payne, of Covington. Residence with offices adjoining will be sold if desired. For particulars, write to Mrs. W. B. Payne, Covington, Va. (Adv.)

Obituary Record.

Dr. Thomas J. Pretlow,

Health Officer and a prominent physician of Newport News, Va., died at his home in that city, June 1, a few hours after suffering a stroke of paralysis, aged thirty-three years. He studied medicine at the Medical College of Virginia, from which he graduated in 1906. Shortly after locating in Newport News, he was elected health officer, to which position he was several times re-elected. He was also secretary-treasurer of the former Newport News Medical Society and a member of the State and other medical societies. He is survived by several sisters and a brother.

Dr. Francis B. Bishop,

A prominent physician of Washington, D. C., died April 30, from meningitis following mastoid trouble, aged 63 years. He received his medical diploma from the University of Maryland, Baltimore, in 1883. Dr. Bishop was prominently identified with a number of medical societies and was an ex-president of the Medical and Surgical Society of D. C., and of the American Electro-Therapeutic Association.

Surgeon John E. Page,

U. S. Navy, retired, for some time Admiral Dewey's personal physician, died suddenly from apoplexy at Santa Barbara, Cal., June 3, aged 48 years. He was a son of the late Dr. and Mrs. Robert P. Page, of Berryville, Va., and studied medicine at the University of Maryland, from which he graduated in 1889. His widow survives him.

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Original Communications.

MOTOR AND SECRETORY FUNCTIONS OF THE STOMACH IN THEIR RELATION TO DIGESTIVE DISORDERS.*

By HAROLD BARCLAY, M. D., New York, N. Y.

Attending Physician, Knickerbocker Hospital; Consultant Gastro-Enterologist, General Memorial Hospital, New York City; St. Mary's Hospital, Hoboken, N. J.; United Hospitals, Pt. Chester, N. Y., etc.

The more recent work of the past few years in gastro-enterology has modified many of our preconceived ideas of the stomach, both in the fields of anatomy, physiology, and pathology.

In the erect position the stomach is U-shaped, consisting of a vertical two-thirds and a horizontal one-third. Roughly speaking, it may be said that it is an organ of two compartments—cardiac and pyloric—the division between these being a physiological sphincter. These two compartments act in a great part independently. During digestion the cardiac portion maintains to a great extent its saccular form, its distal part only being affected by visible peristalsis, while the pyloric portion is tubular and is the seat of strong peristaltic waves. This latter observation is important in gastro-enterostomies, for, in order to maintain or restore physiological conditions, the stoma should be made in the pyloric portions of the tube.

The musculature of the stomach manifests two chief properties—(a) tone; (b) peristalsis.

A few words may be said in explanation of what is meant by "tone." Three forms of muscular contractions are observed in the normal stomach; the first consists in a concentric drawing together of the stomach, so as to adapt itself to the volume of its contents and to maintain a uniform pressure on them. This concentric contraction is spoken of as the peri-

systole, and the diminution of this function results in what we term atony. This tonus is essential to the fundus and central portion of the stomach.

The second form of muscular contractions is a vermicular series of constricting rings, running in the direction of the longitudinal axis from left to right, and is called peristalsis; its object is to propel the food contents toward the pylorus. This function belongs essentially to the pyloric portion of the viscus. These two functions, while distinct, yet, in a manner, are correlated, so that one or both may be affected; or one may be impaired and not the other. Tone is myogenic, and peristalsis neurogenic, depending on the integrity of the mesentery plexus and ganglia. Changes arising in the gastric musculature, causing failure in the tonicity and the peristaltic function, are among the commonest forms of gastric dyspepsia.

The third form of motor activity of the stomach is shown in the alternate contraction and relaxation of the pyloric sphincter, regulating the out-go of the food. The pylorus remains tonically closed, even against recurring pressure when food is taken; the appearance of acid causes the sphincter to relax and then to escape into the duodenum; on the other hand, the acid in the duodenum causes the pylorus to close until the acid has been entirely neutralized by the duodenal secretions, when again the acid secretion on the stomach side of the sphincter causes it to relax and again discharge some more of the stomach contents into the small intestine, where again the process of neutralization is continued.

Pawlow observed, in his annual experimentation, that the minutest of doses of hydrochloric acid introduced directly into the duodenum caused a violent pyloric contraction, which remained tonically closed until neutrali-

*Read before the Washington Heights (N. Y.) Medical Society, March 23, 1916.

zation of the duodenal acid was accomplished.

Besides the acid control of the sphincter, the pylorus exerts a selective control over what food particles may be allowed to pass. Coarse food in large lumps is regularly retained in the stomach longer than digestible food finely divided.

When food enters the normal stomach it does not drop into the most dependent portion, as one would expect, but forms a column of about two-thirds the height of the stomach. As more and more food is added the width of this column increases, but not the height, the upper limit being maintained whether the volume be 40 or 400 cc. The reason of this is that the normal tonicity of the stomach wall exerts a concentric pressure on the contents, holding them in tubular form. The greater curvature is but little depressed, as the stomach is gradually filled. Above the column of food is an air chamber which is always constant. When atony of the stomach is present, this close adaptation of the stomach to its contents no longer occurs, but food drops into the most dependent portion, lying there, more or less transversely, and sagging the stomach downward, so that the lower curvature may be one or two inches below the umbilicus. As more food is added, the greater curvature falls lower, the upper limits raising only to a slight extent; the air space is larger and roughly assumes more of a cylindrical form with a bulbous upper extremity.

When the atonic and peristaltic function of the stomach becomes impaired, there is, as a result, a tardiness in the outward propulsion of food into the duodenum. This delayed exit of food may be clearly shown by the presence of food in the stomach after the time in which it should have been expelled—about 6 hours after an average meal—but although normal time limits may have been passed, the error is never so grave as to lead to what we may call food stasis, for the outward current may be slow, but it is certain. By testing the condition of the fasting stomach, we may differentiate between atony and pyloric stenosis; for example, where food remains for a period of 11 to 12 hours, we are probably dealing with some mechanical obstruction. Atony is one of the commonest causes of dyspepsia and occurs in one of every seven patients complaining of their digestion.

The gastro-intestinal tract is directly under the control of the vagus and sympathetic system; normally, these two systems counter-balance each other, maintaining equilibrium and normal functioning of the alimentary tract. In the dysfunctioning of these two systems, we find symptoms depending on which nerves possess an ascendancy. Thus, in vago-hypertonia, we find gastric hypertonicity with actual spasm hyperacidity; while splanchnoptosis exhibits the converse—viz., sluggish digestion, loss of secretion, delayed emptying time of the stomach and gastric dilatation.

Displacement of the Stomach—The stomach is an organ subject to various degrees of displacement. Such displacement may occur upwards, laterally, or downwards. Upward displacement can only occur on the left side, since on the other side the firm and fixed liver is interposed between the stomach and the diaphragm. It is met with in all conditions that tend to shorten the vertical diameter of the thorax, spinal and thoracic deformity and eventration of the diaphragm.

In the vertical displacement the cardiac orifice and the fundus retain their normal position, but the lesser curvature and the pylorus are displaced downward and inward, so that the long axis of the organ tends to become parallel to the spine.

Three anatomical forms have been described—(a) the angular; (b) the "fish hook," and (c) the straight.

The angular is the most common; but the fish hook, though less frequent, is of more interest clinically, for, although in this type the pylorus maintains its normal position, its orifice is directed upward. The pyloric portion of the stomach runs vertically downward to the head of the pancreas and lies parallel and contiguous to the second portion of the duodenum. The acute angle thus formed at the first and second portion of the duodenum causes a mechanical interference with the expulsion of food, resulting in dilatation of the stomach, while its muscular insufficiency becomes further increased by the drag of the enlarged organ upon the fixed part of the duodenum; this is the so-called "water-trap" variety. The straight variety is rare; in this form the pylorus is situated at or below the umbilicus, and its changes of position are accompanied

by much stretching of the duodeno-hepatic ligament.

Total descent of the stomach, or gastropptosis, as it is generally called, is by far the most common form; it is characterized by a descent of the entire stomach, and varies in degrees, the greater curvature reaching anywhere from the navel to the symphysis pubis. This is usually associated with dislocation of the other abdominal viscera. Displacement of the stomach itself, if uncomplicated by atony, does not possess clinical importance, for the ptosed stomach is not necessarily an atonic stomach, it being perfectly possible for such displaced stomachs to maintain a normal motor function. As a rule, however, such abnormally situated stomachs are prone to derangements of their motility, giving rise to gastric dilatation, chronic gastritis, or mucus colitis, and initiating a state of permanent ill-health.

I have endeavored to sketch briefly these few fundamental facts relative to the stomach, for it is of primary importance that we have a clear conception of the different anatomical positions of the stomach and its motor function in the interpretation of the different clinical pictures. Therefore, the essentials in diagnosis of stomach disease are, first, to determine the position of the viscus; second, its mechanical ability or motor power to perform its function; and, third, the chemistry. To these ends we have certain tests which, for the present, it is simply sufficient to enumerate, as they are well known to you all.

First, determine the gastric position by—
Inspection.

Palpation, auscultation.

Inflation with gas, or air, and note position.

Radiograph.

Second, determine its motor force by—

Clapotage.

Use the stomach tube, by noting the time after meals in which the stomach expels its contents.

Radiograph.

Clapotage gives a rough approximation of the tone of the stomach muscles, as few splashing sounds can be elicited from a stomach of good muscular tone, while in the ptosed and atonic stomach distinct succussion sounds can be distinctly heard over the gastric area.

The stomach tube offers us far more accurate data of motility. Experience has shown that

a healthy stomach expels an average mixed meal in approximately 6 hours; therefore, if a stomach tube is passed after that time the stomach should normally be empty. Slight amounts of food residue found 6 hours after are indicative of an atonic condition; thus, if, say 8 or 9 hours after a mixed meal, the stomach is explored with a tube and particles of food are obtained, especially if gross or microscopical meat fibre is found, it is indicative of a marked degree of atony.

Food-remains found after 10 or 12 hours, or when noted in exploring the stomach after a night's fast, indicate a motor insufficiency, due to some mechanical obstruction to the free passage of food contents from the stomach, for, in simple atony, although the passage of food may be slow, the stomach invariably empties overnight.

The question may well be asked, at what point do we differentiate between a simple atony or deficient tone of the gastric muscularis, and an actual motor insufficiency due to an organic lesion? I should answer that by saying that food-remains, in my experience, found up to the tenth hour are compatible with simple atony; that food found after the tenth or twelfth hour is most highly suggestive of an obstructive lesion of the pylorus or duodenum, especially if found on one or more subsequent examinations.

By radiographic observations we may obtain a very accurate gauge of gastric position and tone; for after a bismuth meal the normal stomach is invariably empty at the sixth hour plate, and any retardation in the expulsion of bismuth after this time denotes a deficient muscular action. Moderate exercise after food favors a more rapid emptying of the stomach. Posture, also, slightly alters the motor function: thus, lying on the left side decreases motility, and the reverse is true of the right side; therefore, it would seem that in atonic fermentation the right side would be the posture of choice after meals.

High acidity delays the emptying time, while in subacidity or achylia the stomach empties with greater rapidity, due to the lessening of the pyloric reflex.

In practice, it is customary to direct the patient to eat an ordinary beef sandwich at 10 P. M., with a glass of water. The stomach tube is then passed the following morning,

between 8 and 9 o'clock, before any further food or liquid has been taken—approximately 12 hours fasting: if food-remains are found at that time it would be significant of a marked degree of motor insufficiency. If the amount extracted exceeds more than a few cubic centimeters, it must be regarded as being very suspicious of an organic obstruction.

So much for the fasting stomach.

From the test breakfast, which should follow immediately the examination of the fasting stomach, we determine the secretory functions of the stomach.

The secretory disturbances of the stomach may be of a two-fold character:

- (a) Irritative;
- (b) Depressive.

In the first group, or irritative, we have

(1) Hyperacidity:

(2) Hypersecretion. Hypersecretion may appear in (a) the acute or intermittent, or (b) chronic, or continuous, form; it may be purely digestive—the so-called alimentary type—occurring only after the stimulus of the food.

In the second group, or depressive secretory disturbances, we have hypoacidity and achylia.

Today, from the classical studies of Pawlow, as well as many other observers, we divide the gastric secretions into psychical and chemical phases; the psychical variations in secretions we have been able to demonstrate with normal individuals.

Such psychical secretions are probably brought about through the pathways of the vagus, whose tonus is maintained by certain internal secretions, probably parathyroid and possibly thyroid: also a definite secretion incident to the formation and absorption of substances elaborated in the course of digestion—the so-called secretagogues and hormones. The excitation or suppression of either of these phases should lead to a psychical or chemical hyperacidity or hypoacidity, as the case may be. Thus, in all the secretory disturbances we must recognize a psychical or transitory disturbance and a chronic condition brought about by definite organic changes.

Bearing this in mind, we may briefly discuss the secretory phases of the stomach.

The first, or hyperchlorhydria, may be defined as an abnormal increase in the hydrochloric acid contents during the digestive period, and must be regarded as a symptom

and not a disease, as we encounter it. Clinically, we recognize two forms, a primary, or psychical, commonly called nervous hyperacidity, which is transitory; and a secondary, or chronic hyperacidity, associated with a definite organic lesion of the gastro-intestinal tract, as:

(1) Gastric and duodenal ulcer.

(2) Gastric cancer, if situated near the pylorus.

(3) Gastritis in the early form, before undergoing glandular atrophy.

(4) Pyloric stenosis, either malignant, benign, or spasmodic.

(5) Irritative lesions of the appendix and gall bladder.

(6) Gastric atony.

Thus, in any given case of hyperchlorhydria, the above possibilities must be borne in mind.

Although these possible underlying conditions are not numerous, the recognition of the causative factor may prove extremely difficult and may severely tax our diagnostic acumen. Hyperacidity must be sharply differentiated from hypersecretion. In the former, the percentage of acid is increased without any increase in the quantity of fluid secreted; while in the latter (or hypersecretion group) the whole quantity of gastric juice is abnormally increased. The two conditions are frequently confused, for all hypersecretions are hyperacid, but, on the other hand, hyperacidity can exist without hypersecretion.

Three forms of hypersecretion are recognized clinically; the acute, or intermittent; a continuous, or chronic; and an alimentary, in which the total amount of gastric juice is increased over the amount required for digestion, this form being met with only after the ingestion of food. In all three forms the weight of modern clinical evidence, illumined by the light of surgical exploration, teaches us that this condition is due to a narrowing pylorus, either organic or spasmodic or a combination of the two. The nearer the lesion is to the pylorus, the more constant this finding of hypersecretion, and where met with it is of great diagnostic value in pointing to a definite organic lesion of the gastro-intestinal tract.

Pettinger, in a hundred cases of chronic fasting hypersecretion, was able to demonstrate ulcer in seventy-two.

Fenwick, of London, also states that, in his series of chronic hypersecretion cases, ulcer was present in eighty-eight per cent., chronic appendix and gall bladder disease being responsible in the remaining twelve per cent.

My personal experience has led me to believe that a chronic hypersecretion is one of the most significant findings in the examination of the stomach, and I have regarded it as being pathognomonic of organic disease situated in or adjacent to the pylorus, or in certain cases to pylorospasm which has resulted from gall bladder or appendix disease. The gastric crises of *tabes dorsalis* are usually accompanied with a condition of acute hypersecretion especially evident in the fasting stomach.

Achylia gastrica stands at the bottom of the long list of gastric secretory disturbances, and is expressed by a total lack of enzymes and hydrochloric acid secretion. Clinically, however, we find very few cases in which this double deficiency exists.

The acid and ferment secretion are two distinct results of glandular activity and quite independent of each other. The acid secretion is more easily depressed than that of the ferments.

The etiology of achylia gastrica has given rise to much speculation and study. German authors recognize two main causes:

(1) That due to glandular atrophy following a simple chronic gastritis, or in the chronic accompanying carcinoma.

(2) Achylia gastrica nervosa, a depression of the secretory function of the stomach.

While chronic gastritis is undoubtedly responsible for a certain number of cases, such an explanation hardly seems adequate to account for those cases in which no evidence of gastric catarrh can be demonstrated, or when careful pathological investigation of the gastric glands has failed to show any evidence of atrophy; and there are many such cases on record.

The fact that achylia gastrica is so frequently associated with the toxæmias of Bright's disease, tuberculosis, *Bothriocephalus*, pernicious anæmia, syphilis and hypothyroidism, lends much weight to the theory that the depressed glandular activity can be caused by some toxic material in the circulating blood.

Again, there are certain cases where the depressed secretions are undoubtedly due to pure

nerve inhibition, clearing up readily under appropriate measures directed to the general health.

Anacidity of the stomach has long been associated with gastric carcinoma; while an achylia gastrica is found in certain cases of malignancy, it is not as frequent as formerly supposed.

Roughly speaking, it may be said that approximately seventy per cent. of all gastric carcinomata are situated at or near the pylorus, and, as a result, the early symptoms are due to a disturbed pyloric function, either pylorospasm or an actual mechanical obstruction. Such cases, as a rule, give increased acid values.

In fifteen personal cases of carcinoma, the test breakfast showed an anacidity in only two cases, with normal or increased acid values in the remaining thirteen. The test breakfast of an acid gastritis has a very characteristic appearance, showing lumpy unchymified food with a general admixture of mucus.

The total acidity does not exceed 20, with no free hydrochloric acid; lactic acid may be present in very faint traces. Where Boas-Oppler bacilli are found, with a marked trace of lactic, malignancy should be suspected, especially if there is an admixture of some semi-digested blood.

Streaks of bright blood are so frequently encountered in taking test breakfasts, especially on withdrawing the tube, that it cannot be considered as having any clinical significance.

Various attempts have been made to establish a symptomatology of achylia, but strictly speaking, there is none.

A large number of patients are well nourished and have but few, if any, subjective symptoms, the intestine taking over the work of the stomach. When the gastric motility is impaired, and the normal pyloric control interfered with, there results a too rapid discharge of the fermenting gastric contents into the stomach, causing irritation and diarrhœa. The chronic diarrhœas due to achylia are very common and, unless the etiological factor—viz., that of a gastric anacidity—is recognized, may prove very unyielding toward ordinary therapeutic measures.

Space does not permit a discussion of gastric ulcer or carcinoma, the two organic diseases of

the stomach. My attempt has been to sketch the motor and secretory phases, of which a correct understanding is highly important in the correct interpretation of the digestive function. It is needless to say in many cases of faulty motility and perverse secretions, we have to look outside the stomach to find an explanation; the cause is as often found in the gall bladder, pancreas, or appendix, as in the stomach. And, finally, in obscure gastrointestinal cases the probability of lues is not to be overlooked.

68 East Fifty-sixth Street.

REPORT OF A CASE OF SUPRAPUBIC ENUCLEATION OF HYPERTROPHIED MIDDLE LOBE OF THE PROSTATE.*

By C. O. ABERNETHY, B. S., M. D., Raleigh, N. C.
Urologist and Dermatologist to Rex Hospital and Saint Agnes Hospital.

There has been much written and said concerning hypertrophy of the prostate and its removal. It is a fact that prostatics are generally bad risks on account of age, heart and kidney lesions, and the great danger of sepsis and hemorrhage.

Many operations for the removal of all or part of the gland have been devised and the majority of them have very definite indications. The three routes employed are the suprapubic, perineal, and intraurethral.

The object of all these operations is to get a good functioning bladder and urethra, and the operation that best does this in any case should be the one employed. And, I believe, everything else being equal, the operation that does the least trauma to the tissues and causes the least strain on the vitality of the patient, without the probability of an early recurrence of the symptoms is the one indicated.

Whatever operation is decided upon the preparation for, and the treatment after, are probably the most important considerations for the patient. Because without this preparation and treatment the most successful operation is apt to be doomed to failure.

There are many cases that should not be operated upon at all because death will only be hastened thereby. These can only be determined by a very careful examination of each

case, especially as to the kidney function and blood pressure.

I wish to report a case in which a very small middle lobe was the cause of many symptoms, culminating in acute retention, and the removal of the lobe resulted in an excellent functioning bladder and urethra.

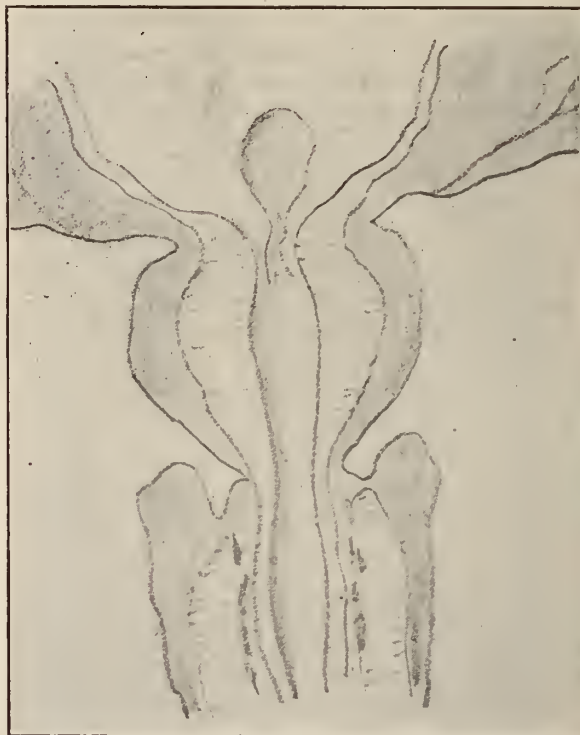


Exhibit A—Showing an anterior view of the tumor as it comes up posterior to the internal meatus. Diagrammatic drawing.

Exhibit A shows a diagram of the anterior view of the tumor when the bladder was opened.

Exhibit B shows a diagram of the lateral view of the tumor and explains the difficulty of a cystoscopic examination, on account of the length of the urethra, the cystoscope not being able to reach over the projection into the bladder. The part marked off by the dotted line was removed.

Exhibit C is an actual size photograph of the part removed. It measures one inch long, one-half inch lateral diameter, and three-eighths inch antero-posterior diameter.

Mr. S. W., fifty-four years of age; farmer and dairyman. Married; eleven children. Family history good. Denies venereal disease. Has been a hard worker on the farm and

*Read by title before the Tri-State Medical Association of the Carolinas and Virginia, at Richmond, Va., February 16-17, 1916.

healthy until one year ago, when he began to have some urinary trouble. At this time had acute retention of urine and severe pain simulating kidney colic. The duration of this attack was about two hours. Chloroform was used to relieve the pain, and the patient passed

tively comfortable the following Saturday, but had another attack on Sunday, which was the day I first saw him.

Examination, Sunday, October 17th, revealed a man well developed, but too fat, with considerable puffiness under his eyes. Was suffering some pain and could not void. Bladder distended, giving a dull percussion note three to four inches above the symphysis. Prostate moderately enlarged to touch per rectum. Urethra easily catheterized with gum-elastic catheter and twenty-one ounces of clear urine collected. Catheter was left in the urethra and patient given boric acid, five grains, and urotropin, fifteen grains, three times a day.

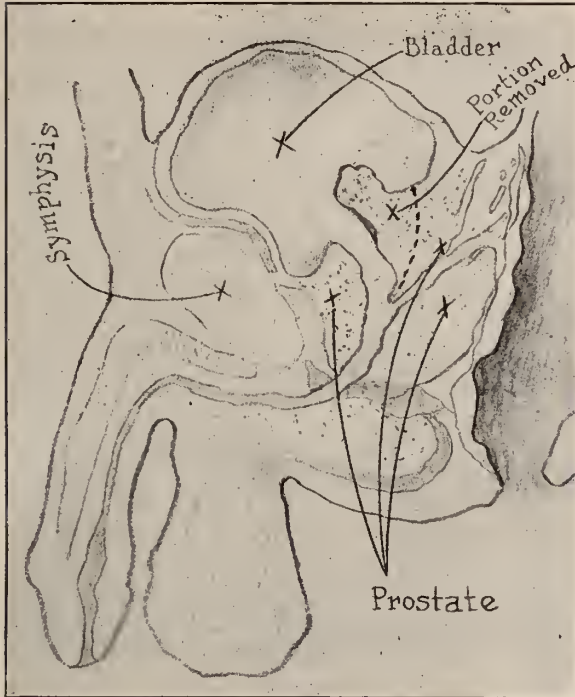


Exhibit B.—Diagrammatic drawing. Showing the lateral view of the tumor as it projected behind the internal meatus, acting as a ball valve. The dotted line shows the portion removed.



Exhibit C.—Actual size photograph of the middle lobe which was removed. This measures one inch long, one-half inch lateral diameter, and three-eighths inch antero-posterior diameter.

his urine while under the influence of the drug, no catheter being necessary.

Since that time he has had more or less trouble, consisting of frequency, difficulty and pain. Could pass his urine all right at times but experienced considerable difficulty at other times. Was compelled to get up during the night to void, ranging from one to twelve times each night. Had very little trouble during the day as he urinated at regular intervals of about one hour. These symptoms kept up for about one year, during which time he was doing his regular work which consisted of farming and running a large dairy. A hard worker and a good liver.

On Friday, October 15, 1915, one year after the first attack, he had his second acute retention of urine which was relieved by narcotics without the use of a catheter. Was compara-

His urine and heart were normal.

October 18th. Cystoscopic examination attempted but failed on account of the length of the urethra and the position of the enlargement. Could not get the instrument in far enough to get a clear view.

A catheter was left in the urethra for four days and bladder irrigated daily. Catheter removed on the fifth day and patient voided easily for about ten hours when he had another attack of acute retention.

October 23rd. Phenol-sulphone-phthalein test, intravenous injection, showed 65 per cent. elimination during first hour and 30 per cent. the second. Blood pressure 150 systolic. Urinary output good.

October 25th. Operation. Made the usual suprapubic incision into the bladder and found the middle lobe of the prostate projecting up

from behind the internal meatus, acting as a ball valve when the patient attempted to urinate. See Exhibits A, B and C. This was enucleated and the cavity packed with gauze on account of the hemorrhage. The gauze was held in place by two plain catgut sutures. One large rubber drainage tube was left in the suprapubic opening. The tube was held in place by a purse string suture in the bladder wall and an anchor stitch through the skin, and was long enough to reach a bottle under the side of the bed. The distal end of the tube was kept under fluid in the bottle, thereby acting as a syphon. As suggested by Deaver, no irrigation was used until after the removal of the tube which was done on the fifth day. After this the bladder was irrigated once daily through the urethra and suprapubic opening. No instrument has been passed in the urethra since the operation, the irrigation being forced through by gravity.

He made an uneventful recovery and has a good functioning bladder and urethra and a bladder capacity of eleven ounces with comfort.

I reported this to illustrate that in the proper type of cases excellent results can be obtained by removing very small portions of the gland.

706-8-10 *Citizens National Bank Building.*

DREAMING OUT OF A DILEMMA.*

By C. D. BARKSDALE, M. D., Sutherlin, Va.

Custom has made it almost obligatory on the presiding officer of most every organization to deliver an address at some time during his term of office. If he be the chairman of a political convention he is expected to enunciate the most important planks with which his party's platform will be constructed. If he be the moderator of an ecclesiastical assembly he may define the doctrinal niceties of his sect. If he be the Grand Officer of a fraternal institution he will at the conclusion of his term of office tell his brethren what progress the order has made, to what extent peace, harmony, and fraternalism have prevailed among its members, and what interpretation he has placed on the disputed points in its laws and in its ritual. But if he be the president of a medical society

he has all the broad field of medicine from which to select a subject and "there's the rub," for, when the number to choose from is great, it is often more difficult to make a choice than when the field of selection is limited.

One doctor said to me, "Give us something new. Tell us how to collect our accounts." I told him "All right," but after reviewing a set of books running a period of twenty years and finding that a large per cent of my own accounts remained yet uncollected, I concluded that it would be poor taste, indeed, for me to undertake to tell you how to do what I myself had not done and could not do. And, besides, the financial phase of our profession, though important, should be the last and the least to occupy our time and our attention, for he who practices medicine for the love of money is as truly a violator of the commandment, "Thou shalt have no other God before me," as is the heathen who bows in solemn prayer before a brazen image or envelopes its lifeless form with the fumes of his burnt offering. He who undertakes to relieve the suffering body simply for the amount of money he can obtain for that relief is as much out of place in his profession as would be the clergyman, in his calling, should he go forth to persuade men to accept the Saviour at so many dollars a convert.

Another physician, aggrieved at some treatment, some bad treatment, he had received at the hands of a neighboring doctor, said to me, "Give us a discussion of medical ethics." I told him, "All right." But as the practice of medical ethics is only a strict observation of what is due from one gentleman to another, and as gentlemen are born, not made, what is the use of a code? For he who undertakes to regulate his daily conduct by a code of written laws, rather than by the promptings of an honest soul is dishonest with his own dishonest soul, and when he does right it is wrong, and when he does wrong it is right, because it places him where others may see him and know him as he is.

Do not complain at, or quarrel with, your unethical competitor. He may be ignorant, ignorant in the sense that his soul is unrefined, and unable to make the sharp distinction between right and wrong, as the soul of a gentleman sees it. Pity him; you cannot teach him. Or should he be one who knows, yet wilfully

*Address of the President, delivered before the South Piedmont Medical Society, at Danville, Va., April 18, 1916.

takes advantage of every opportunity to knife you in the back, ignore him. He is hard; you cannot convert him. He may profit for awhile, but at the expense of the esteem and respect of his fellow practitioners. And sooner or later his own sins will find him out. Your honest course will carry you through. Follow it.

So, being unable to develop anything from either subject suggested by my two friends, and finding myself incapable of handling any scientific question either with credit to the office I hold, or with entertainment, or instruction to you, I have been more or less at sea for material with which to build this so-called presidential address.

In my dilemma, I concluded I would dream a dream; and in dreaming I found myself in a land foreign to ours and an age strange to this. The practice of medicine and the law regulating it were greatly changed. The sign at every doctor's office indicated some specialized field of work. Let us interview them one by one.

The first sign I saw simply read, "Dr. John Smith, General Practitioner." I walked in, introduced myself, and asked him what he had to do to become a general practitioner? He said that before beginning the study of medicine he had to take an academic course equivalent to an A. B. or a B. S., spend four years in a medical school, do two years of clinical work, pass an examination before a medical board, at which time he could hang out his sign as a general practitioner and nothing more. I said to him, "Why not print on your sign 'Dr. John Smith, Physician and Surgeon?' Haven't you studied surgery? Do you know anything about surgery?" He answered, "Yes, I have studied some surgery; we had a course in surgery at the school which I attended; I saw some surgery during my clinical work, and I know something about surgery, but I will have to study it two years longer and take an examination on it before another board before the law of this country will allow me to place 'Surgeon' after my name, or in any way advertise myself as a 'Surgeon.'" I then asked him if the law of his country would allow him to operate on his patients. He answered, "Yes, while the law of this country would not interfere with me in any operation I might undertake, the people of this country have too much intel-

ligence to give me any of that kind of work to do." Ashamed of the people of my own country, I told him "goodbye."

The next sign I saw read, "Dr. John Jones, Diseases of Infancy." Again I walked in, went through the ceremony of an introduction, and asked him what he considered an infant? "A child with less than twenty teeth." "When do you take charge of it?" "When the cord is cut." "What do you do with him when he has twenty teeth?" "Turn him over to the general practitioner." I said to him, "It would seem to me that you would have very little to do, having no patients except those with less than twenty teeth; in my country I would starve." He quickly answered, "So would I if my practice were limited to sick children, but the people of this country pay doctors more money to look after their children that are well than they do for services rendered those that have become sick; and when a child under my care has any digestive or intestinal trouble, an explanation has to be forthcoming. Beginning to see the light, I left his office in search of more.

The next man was Dr. William Brown. Under his name was written "Roentgenology and Electro-Therapeutics." He did not seem to be very busy. His office was full of electrical apparatus but not a current was moving. He said he was the only man of his specialty in this town of fifty thousand and that he could easily do all the work and have time to spare. Like the others, he had taken the regular course of six years in medicine, had studied his particular specialty two years, and taken an examination on it. I told him that any physician in my country having the money could buy an outfit like his and go to work; that in some towns of twenty thousand you could find perhaps half a dozen offices similar to this. He seemed astonished, and replied that the thing was excellent for diagnostic purposes, but as a remedy for diseases its application was very limited. He showed me a great number of excellent pictures—radiographs, he called them. I told him most any physician in my country would take pictures like this and, what is more difficult, undertake to read them, too. He became disgusted, and said, "Sir, your people must be dupes, your lawmakers asleep, and your doctors charlatans." I hurriedly bowed myself out of his office to the

street and, seeing a drug-store, walked in and, cooling off from the heat of the last interview, began to look around. I asked for the proprietor. The man behind the counter said, "There is no proprietor here. The government owns and operates this business." I told him that my theory of a government was contrary to all forms of paternalism, that the government should not own or operate any business which its subjects could properly handle and out of which they could make their support and accumulate wealth. He said my theory of a government agreed with that upon which his was founded, but that they considered drugs something to be used for the sick and distressed, and not a commodity out of which to amass fortunes. The store was a very small one. The stock seemed insignificant compared with any drug-store I had ever seen before. There was in there no proprietary or patent medicine. The government bought or manufactured all drugs. I asked him, how many drug-stores there were in the town? He said, "Only this one." I asked him how many dollars worth of drugs he sold a year? He said that, exclusive of vaccines, antitoxins, anesthetics, and surgical dressings, not over two thousand dollars worth of medicine was consumed by these fifty thousand people during any twelve months, adding that he believed if the doctors could be always accurate in their prescriptions, accurately adjusting the remedy to the disease, this amount could be reduced fifty per cent. Well pleased with the drug business, I went in search of more doctors.

The next man I called on was an "Eye, Ear, Nose, and Throat Man." He, too, had graduated in his particular specialty, and had taken an examination on it. I asked him his opinion of the tonsil. He said that if it be true that the tonsil is a normal organ, placed in the throat to act as a guard to protect the organs beyond it from infection, it became so disabled in the battles of early life as to render it not only useless but offensive, and it should most always be removed. Such removal, however, he considered a major operation, only to be performed by one skilled in the work. I told him that most any doctor in my country would remove a tonsil: that I had on several occasions referred a patient to a specialist for a tonsillectomy, and had him picked up and the work done by a general practitioner, or a "Jack at all

trades." He wanted to know what I meant by a "Jack of all trades." I said to him, "There are men in my country who will undertake to extract your tooth if it is aching, spray your throat if it is congested, puncture your ear drum if it is bulging, resect your turbinate if it is hypertrophied, intubate your child if it is suffocating, treat your eye if it is wounded, prescribe a drug for any organ in your body if it is afflicted, attend your wife if she is travailing, massage your muscles or bake them in an oven if they are painful, count your blood cells if you are anemic, apply an X-ray to your cancer if you have one, or remove it with a knife if you prefer, trephine your skull if you will allow it, open your abdomen if it is colicky, and take out your appendix if he can find it, accepting all jobs, rejecting or referring none." He said to me, "The doctors here are always willing and ready to let each man have his own job. There is a plenty here for us all to do. The trouble in your country, as I see it from your description, must be that so many of you are trying to do so much, and are really doing very little." Ashamed of the conditions in my own country I told him "good-bye."

By this time I had seen enough light to desire to spend the remainder of my days there. So I began to inquire if it were possible for me to follow my profession in that country. My academic preparation being sufficient, I was told that, although I had studied medicine only two years, yet my twenty years experience would admit me to the examination and, if I passed, I could become a general practitioner in that country. It not being necessary to wait for a stated meeting of the board, but being allowed to visit each member separately and take the examination privately, I started out in search of the first member of the board; but my anxiety lest I should not be able to stand the test aroused me from my dreaming, and I found myself awake and right here in old Virginia.

According to *Child Betterment and Social Welfare*, Governor Manning of South Carolina has recommended a law raising the age limit of children working in factories, mines and textile establishments. In mill districts the minimum age limit of the child-labor law is twelve years.

THE FIRST 118 CASES OF POSTERIOR DISPLACEMENT OF THE UTERUS.*

By G. PAUL LA ROQUE, M. D., F. A. C. S.,
Surgeon to Memorial Hospital, Richmond, Va.

The classification of posterior displacements which seems satisfactory to the majority of surgeons the world over, and which, therefore, may quite properly be called standard, is as follows: 1. Simple posterior displacement; the fundus backward in the cul-de-sac and the cervix forward, occupying the upper and anterior portion of the vagina. 2. Backward and downward displacement with prolapse of the first degree; the fundus in the cul-de-sac; the cervix is visible at the vulva but does not protrude. 3. Backward and downward displacement with prolapse of the second degree; the cervix actually protrudes from the vulva. 4. Backward and downward displacement with prolapse of the third degree; total prolapse in which the fundus of the uterus actually protrudes beyond the vulva orifice.

Any one of these may be complicated by relaxation or laceration of the vagina with various degrees of rectocele and cystocele.

The diagnosis of displacement of the uterus must be based upon physical examination. In many women in whom displacement is discovered upon examination, there may be no subjective symptoms. The displacement may be intermittent, variable in degree, and sometimes due to posture. We have observed a few cases of acute dislocation, apparently occurring coincidentally with violent abdominal muscular effort and uterine jactitation in inexperienced young women.

We will not argue the point nor bring up for debate the question as to whether or not simple posterior displacement of the uterus is of itself pathology and demands operation.

In our experience the most frequently associated demonstrable pathology in patients upon whom we have operated for posterior displacement have been inflammation of the cervix and body of the uterus or of the tubes; laceration of the cervix; cystic and prolapsed ovaries and disease of the appendix. Basing the diagnosis of inflammation upon tenderness, visible redness of the cervix and visible muco-purulent discharge, we have found this condition in many cases. The patients have suffered pain

intensified in comparison to what it was previously and with the flow appearing too soon, lasting too long, preceded and followed by muco-purulent leucorrhœa. These are standard diagnostic signs not of displacement but of inflammation.

In some cases abdominal pain occurring at menstrual periods has been quite properly attributable to the diseased appendix, easily demonstrable at operation. It is the expressed belief of a large number of abdominal surgeons that disease of the appendix is provocative of menstrual pain and that contraction of the uterus may be provocative of pain referable to the appendix. We have repeatedly expressed the belief that inflammation of the cervix and uterus and even of the tubes is frequently caused by the colon bacillus and other organisms gaining entrance from a focus of infection in the appendix, sigmoid and other parts of the bowel, as well as from the bacteria normally present in the vagina, and probably frequently represents a metastatic implantation from remote foci of inflammation.

Concerning the indications for operation we have been guided in the individual case by the standard diagnostic signs. We have acted upon the belief that merely because the uterus is displaced constitutes no positive indication for its suspension. Displacement in the presence of inflammation, in the presence of lacerations, in the presence of prolapse of the ovaries, will not be replaced merely by tamponing, douching, the use of the pessary, and the nonoperative remedies employed. So that, while we have not performed many suspensions except at the same time treating other pathology, we would also emphasize that we have advised suspension in cases in which the uterus was displaced in conjunction with the treatment of the additional pathology present in the case.

Concerning the technique of operation, it is interesting to note that we have more methods and variations of methods than Heinz has varieties of pickles. There are now over a hundred different methods and modifications of methods. The best surgeons in the world have debated as to the best method of suspension of the uterus. Each qualified surgeon has secured satisfactory results. Many surgeons have performed many thousands of suspensions and it is scarcely conceivable that a thousand

*One of a series of papers entitled "Standardization of the Surgeon," read before the Academy of Medicine and Surgery, Richmond, Va., February, 1916.

women would be operated upon by the same surgeon if to that surgeon and to those women the results were not satisfactory.

We have performed in these 118 cases, suspension 117 times. In 30 of the early cases we employed the Gilliam technique; in one the so-called Kelly method; in a few we used the temporary suspension of Ochsner as a part of the treatment for extensive suppurative disease; in one case the uterus was held up as a result of shortening the broad ligaments incident to removal of pus tubes; in one hysterectomy was performed; in 83 cases of this group and all suspensions performed since we learned the method, we have employed the operation devised by Dr. Murat Willis, of this city, and which we have designated the Johnston-Willis technique. This method has given us complete satisfaction. It conforms to the standard principles necessary in performing suspension, it produces no abnormality, and it is what we have called the anatomic method. It is followed by the least pain during convalescence and, above all, the end results both as to position of the uterus and the relief of symptoms have been perfect. All the cases have been observed at least three months and most of them examined. We have had reports from patients and from doctors in many cases after from three to five years. Many of the women have had children since the operation without difficulty. We and our patients are perfectly satisfied with the Johnston-Willis technique.

Dilatation of the cervix was performed in all cases not because they had actual stenosis of the cervix (for we have met few cases which seemed to have organic cervical stenosis), but because so many cases needing suspension have also inflammation of the cervix and dilatation seemed beneficial to these. Curettage has been necessary in a goodly number of cases. This is not performed routinely, however, but only when there seems to be gross pathology in the uterus. Repair work, either of the cervix or perineum, or both, has been necessary in 58 of the 117 cases. Removal of the tube or of an ovary or of an ovarian cyst, in conjunction with suspension, has been recorded in 41 cases. In four cases, myomectomy was performed for the removal of subserous fibroid. The appendix has been invariably removed in every case in which the abdomen has been opened to suspend the uterus unless previously removed by

some other surgeon. Seventy-eight cases showed disease of the appendix.

There has been no mortality either from the disease or from the operation.

501 East Grace Street.

Clinical Reports.

A CASE ILLUSTRATING THE FALLIBILITY OF THE PROVOCATIVE WASSERMANN REACTION AS A SIGN OF CURE.*

By H. H. HAZEN, M. D., Washington, D. C.
Professor of Dermatology, Georgetown Medical School; Professor of Dermatology, Howard Medical School.

For several years it has been well known that many persons suffering from syphilis and giving negative Wassermann reactions will show a strong positive if the blood be tested in from twenty-four to seventy hours after an intravenous injection of salvarsan. Among many syphilographers there has been a tendency to believe that a negative Wassermann at the end of one year after the cessation of treatment is a sign of complete cure. In the admirable pamphlet on syphilis issued by the War Department, Captain Henry J. Nichols makes the following statement: "In 1911 we tentatively adopted the following standard: One year without treatment, without any suspicious clinical symptoms, with a number of negative Wassermann reactions and no positive ones." He further states: "Our standard at present, therefore, is our former standard plus these tests—namely, one year without treatment, without any suspicious clinical signs, with several negative Wassermann reactions and no positive ones and with a negative provocative Wassermann reaction and luetin test at the end of a year." That this standard is not infallible, even at the end of two years' time, will be proven by the following case report:

Mr. O., aged thirty, clerk, consulted me on March 20, 1913. He stated that he had a chancre in April, 1912, and that he had been circumcised shortly afterwards. There had been no secondaries.

On May 30, 1912, he had a full dose of salvarsan in the buttock. On June 30th, the same treatment was repeated. July 1, 1912, the

*Read before the Medical and Surgical Society of the District of Columbia, March 2, 1916.

Wassermann reaction was negative. September 1, 1912, the Wassermann reaction was doubtful.

September 10, 1912, a full dose of salvarsan was administered intramuscularly. October 15, 1912, the Wassermann reaction was doubtful. December 1, 1912, the Wassermann reaction was negative.

Through December, 1912, and January, 1913, he had taken mercury protoiodide by mouth. March 20, 1912, when I saw him there were no clinical evidences of syphilis and the Wassermann reaction was negative but the luetin was positive.

April 1, 1913. Full dose of neosalvarsan intravenously, 8 gr. grey oil. April 8, 1913, the same treatment was given. The provocative Wassermann was negative. April 15th, the same treatment again administered, and again the provocative Wassermann was negative. April 27, 1913, the same treatment was again given. November 16, 1913, the Wassermann and luetin were both negative. It was noted that there was a slight hypertrophic scar at the site of the previous luetin injection.

October 5, 1914, the Wassermann was again negative and it was questionable whether or not there was a delayed luetin reaction. October 25, 1914, the luetin was negative. November 25, 1914, the scar of the first luetin injection was giving all evidences of a fresh positive luetin reaction. December 6, 1914, the luetin was negative. March 15, 1915, the luetin was negative. March 27, 1915, the luetin and provocative Wassermann were both negative. The patient was advised to have his spinal fluid examined but for some reason this was delayed.

Early in June, 1915, he suddenly developed external strabismus, due to paralysis of the third nerve. He consulted Dr. Hough who found the blood Wassermann and the spinal Wassermann both negative, but an increased globulin content and a cell count of 18.

An intravenous injection of salvarsan and an intraspinal injection were at once given, and the patient promptly began to improve.

On July 2, 1915, the cell count was 11 and the globulin was still increased, so another treatment was given and complete recovery promptly took place. Since then, mercury has been given intramuscularly and the patient is still well.

This case also illustrates that a small amount of treatment may lower the resistance of an infected individual so that a new lesion may appear very promptly.

I am indebted to Dr. William H. Hough for permission to report his findings.

1621 *Connecticut Avenue.*

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Reported by EMIL MAYER, M. D., New York, N. Y.

(Continued from Page 122.)

Fluoroscopic Bronchoscopy. (Supplemental Report.)

By E. FLETCHER INGALS, M. D., Chicago.

The fluoroscope is of much value in the hands of the well-qualified bronchoscopist. Its use will lessen the danger and decrease the number of failures where its use is indicated. It is of especial value where there is so much mucus, pus or blood that it is very difficult or impossible to see the foreign body, or where granulation tissue covers the foreign body; where there is an abscess cavity in which the foreign body is hidden; where a stricture has formed, and in difficult cases in which the body is lodged in a bronchus going to the upper lobe of the lung, or in any bronchus where it cannot be exposed by the ordinary methods.

It is better not to use any anesthetic, and a narrow, strong forceps that will hold is specially important.

The surgeon standing at the left side of the patient's head and holding the bronchoscope, which was previously introduced to the foreign body, directs it by the shadow to the foreign body. The forceps is guided to the foreign body by the shadow, and the blades are opened and the forceps passed a little farther so as to grasp the foreign body.

Considerable traction may be required to draw the body through the stricture. Two cases are reported to further illustrate the utility of the method.

Report of a Foreign Body in the Lung, the Primary Diagnosis of Which Was Made by a Blood Examination—Removal—Recovery.

By GEORGE L. RICHARDS, M. D., Fall River.

Male, twenty-five years of age, had occasional attacks of asthmatic breathing, bron-

chitis and chills from some time in early childhood.

It struck the writer as being peculiar that a young man should have occasional attacks of chest pain, occasional attacks of chills and fever of very short duration with only a suggestion of a cough, but with a moderate, steady leucocytosis and with no definite physical signs.

It suddenly dawned on the writer that these symptoms were suggestive of a foreign body in the bronchus, and that all the symptoms might be thus occasioned.

A Roentgen examination disclosed a tack in the right bronchus. There is no history as to when the tack entered the lung.

Dr. Chevalier Jackson, after previous administration of morphin and atropin under cocain anesthesia, and with the aid of the upper lobe bronchus forceps, after dilatation of the strictured bronchus, removed the head of the tack: the point was not forthcoming. The head was much eroded and oxidized. At no time could the tack be seen by direct inspection.

No reaction followed, and no chill or other further trouble with the lung has occurred since.

Foreign bodies which have been in the lung a long time and are unsuspected are probably far more common than any of us have yet ascertained.

DISCUSSION OF PAPERS OF DRs. INGALS AND RICHARDS.

Dr. Robert Clyde Lynch, New Orleans: I have here one of the first changes made in the Killian suspension apparatus. It allows for the movement of the horizontal tooth plate about an inch instead of a quarter of an inch, as with the Killian model. One of the great disadvantages of this was that the platform projected into the mouth, interfering with the view. In order to get rid of these disadvantages I constructed an apparatus which has a vertical movement. It allows the opening of the mouth, with nothing to obstruct the view. The principle was found to be entirely wrong; in other words, the center of gravity was found to be to the side of the middle, and the head would pull over to one side. This is shown merely as one of the mistakes made in the development of my apparatus.

The last improvement so far has served very well under all circumstances to which it has

been applied. Most of my dissection work has been done in adults, who require more motion than children. It must be made flexible, and must have motion in excess of what is usually necessary. First of all, the base which supports the tongue spatula is extremely heavy and will not bend under any circumstances. I have suspended patients weighing as much as two hundred and fifty pounds. Again, it will open in the vertical direction two inches, which is in excess of that given by other methods. It has another motion not obtained before. It also has a separable tooth plate. I now use two tooth plates, which will fit on in this fashion (demonstrating). This has the advantage of giving two points of fixation as against one. When the upper jaw is fixed against these two points it is prevented from moving from side to side. The double ring keeps the instrument in the center of gravity. In some cases where the patient is under suspension this screw will jam. In order to prevent that I have had a nut drilled and have a little handle which can be used to jack it up, just as you would use an automobile jack.

The spatula, which has given a good deal of trouble in keeping the tongue in shape, is constructed in my apparatus much on the pattern of the last Killian model. The wings are flexible; with it the sides of the tongue can be lifted up and kept flat. The handle, in other models, was hard to sterilize, so I have constructed one which is made of hard steel, so that it will not bend under the most trying circumstances. It is rough on the back, so that it will not slip. The point tips up a little, the wings are fixed. It shows the anterior commissure much better than is possible with the older models. The instrument is introduced closed.

Dr. Harmon Smith, New York City: Dr. Ingals' method of locating and extracting foreign bodies recalls an unfortunate case which I saw in consultation. The patient, a man, had inhaled a hand dental bur, which consisted of an aluminum handle and bur. The dentist had dropped this instrument on the patient's tongue, turned around to take up another instrument, and during this time the man inhaled the bur. He was advised to have an X-ray taken. He went to a business meeting down town, and afterwards had the X-ray taken. This showed the foreign body in the left upper

lobe bronchus, high up. He then consulted an expert bronchoscopist, who worked an hour trying to extract the body. He failed. I was then consulted. I worked at it, but could not get into the bronchus. Another laryngologist was called in, who has extracted foreign bodies under similar circumstances, but could not extract this one. Dr. Jackson was telegraphed for, and came, bringing his own instruments and assistants. He worked an hour or more, but was defeated. It then became necessary to remove a part of the man's lung. He was an old man, and died subsequently from the shock. It was impossible to turn the corner to get the foreign body in the ascending bronchus of the left lobe.

Dr. Thomas Hubbard, Toledo: Dr. Ingals' remarks with reference to the liability of the indiscriminate application of the fluoroscopic method of examination are very timely. In a case recently under my observation the method was tried in removing a tack from the right lung. The tube was passed far enough down to reach the tack and turn it over. A very skillful fluoroscopist was assisting, the operation was prolonged for some time, and every effort made to extract the tack, but it was impacted by the method. It had been turned crosswise and had to be straightened out by a hook.

There is always danger to the fluoroscopist in these prolonged operations. The man whom I had has already lost one finger from epithelioma. There is also danger to the patient.

Sometimes foreign bodies become encysted. I recall a case in which a boy swallowed a nail. Several good diagnosticians went over him very carefully, but could not locate the nail. It was finally located by means of the X-ray, and proved to be an eight-penny nail, which was encysted. There were no symptoms from this foreign body. If the patient is conscious, he will often aid in telling whether we have gotten the foreign body. The finger-thumb action of the forceps is more delicate and positive than the grip with the hand. The action of the Ingals forceps is too stiff.

Dr. John F. Barnhill, Indianapolis: I would like to ask Dr. Ingals to state his method of watching the end of the fluoroscopic forceps—whether an assistant, the fluoroscopist, or he himself watches the end of the instrument; also whether there is any danger of grasping

the lung in getting through a spot where there is an abscess.

In the lay press, in all accounts of foreign bodies getting into the lung, the writer always says the patient swallowed a foreign body. Dr. Richards used the same term in his paper. Is it not aspirated or inspired?

Dr. William E. Casselberry, Chicago: I would like to ask Dr. Ingals the arrangement of the table, and whether a specially constructed table is required; also whether the fluoroscope as ordinarily used is adaptable for the purpose.

Dr. Robert Clyde Lynch, New Orleans: I recall a case in which a nail was in the lower lobe bronchus. I had made a canvas cot, on a trellis, and put the X-ray tube under this. I directed the forceps from two points of view. To be sure, I was in the line of the right bronchus, after getting the tube so that it actually touched the nail, the patient was swung over on his side, and an anterolateral view obtained. The nail was extracted without difficulty.

Dr. Ingals, closing the discussion: Dr. Richards spoke of the tack itself coming away piecemeal, or having been oxidized. I had an experience with a much larger nail which had been in a boy's lung for eight years. It appeared two or three times larger than it was. I got nothing but the head: the rest came up as a lot of black fluid.

I watch the forceps myself. In operating from the head of the patient I can look over and see. You cannot do this with some one to direct you how to move it.

It is on account of the danger of puncturing the lung that I caution gentleness. If you use enough force you can easily puncture the lung, but it is not at all necessary.

I understand perfectly the danger of prolonged fluoroscopy, and that is why I said one should always have an expert fluoroscopist. The light should not be turned on more than a half minute at a time. The operation should certainly not be prolonged excessively.

I use specially arranged tables so that the light can be placed wherever I want it. Sometimes it is necessary to have a simple board made which raises the ordinary table found in the hospitals.

This method should not be employed whenever a patient has a foreign body in the lungs: it should be the last resort. The foreign body

should be found and removed by other methods, if possible. When the operation can be done under inspection it is much better. Where there is a stricture which is difficult to dilate, this may fail. Dilatation of a stricture is difficult. It may not be necessary, as it will sometimes dilate as you work if you can get the forceps through. It would not take more than two or three minutes to get through a stricture. When the foreign body is high up in the lung it is difficult to see it. That can be helped a good deal by position. If the patient's head is turned to the side and the direct bronchoscope toward the middle, you can see the upper branch of the bronchus.

Dr. Richards, closing the discussion: The question arises in connection with these foreign bodies, how long and how much we are justified in searching for them? *Dr. Smith's* case calls to mind a case in which an attempt was made to remove a small gold pin of the safety pin variety. The patient was a young woman. Killian, before a committee of medical men, worked for an hour or more and failed. Later in the same summer *Dr. Jackson* tried to remove the same gold pin at the Rhode Island Hospital. He worked about an hour and a half, and gave it up. The girl went into the hospital as a patient, remained as a pupil nurse, has been there for two and a half years, and has never had any pain from that pin. It is a question sometimes whether we should not wait for more definite symptomatology. I think in *Dr. Smith's* case if they had waited the man might be alive today.

Dr. Smith, continuing the discussion: It was advised to wait in the case which I mentioned. The majority of the consultants wanted to wait, but *Dr. Jackson* said pneumonia might result. The matter was put up to the family, and they said operate by all means. The man was in such a nervous state it was thought he would die anyway. The head was bent over as far as the man's neck would allow, and it was determined that tracheotomy would offer no further aid. *Dr. Jackson* had recently read a paper in Brooklyn on the limitations of bronchoscopy. One week previous to that he had used similar instruments and had removed successfully a body which had gone down to the lower instead of the upper bronchus.

Dr. Ingals, continuing the discussion: As to the duration of the operation, one might

well adopt the rule that one hour should be the limit. Ordinarily a half hour is sufficient. If the patient is in good condition one may keep on for an hour, and then try again some other day. It is better to let the patient live with the foreign body in than to keep on too long. Many patients live for eight or ten years with foreign bodies in their lungs. It is better to wait and give the patient a chance. The probabilities are that a foreign body in the upper lobe will settle down to where it can be more easily reached.

The Sympathetic Syndromé of Sphenopalatine (Nasal) Ganglion Neurosis, Together With a Consideration of the Neuralgic Syndrome, and Their Treatment.

BY GREENFIELD SLUDER, M. D., St. Louis.

Dr. Sluder reviewed his observations on the nasal ganglion which were summarized in his text, "Etiology, Diagnosis, Prognosis and Treatment of Sphenopalatine Ganglion Neuralgia." (Transactions, Section Oto-Laryngology, American Medical Association, 1913). One point only was added to this text—namely, the very great difficulty incurred sometimes in effecting a cure of that neuralgia is explained by the fact that hyperplastic sphenoiditis underlies the disorder and may frequently be overlooked because the picture in the nose is not very striking and that the pain is very much of the time a pure ganglionic neuralgia. Such cases require careful selection to decide whether they be injected or take the Hajek postethmoidal radical operation. To the already described picture he added the "Sympathetic Syndrome," which in its fullest development is characterized by great sneezing, watery discharge and swelling of the nose within and without (rosacea), with profuse lacrimation, reddening and swelling of the lids, dilatation of the pupils with the appearance of slight exophthalmos (staring), a sense of itching and burning, or a feeling of wind blowing into them, together with a peculiar sense of discomfort, which seems independent of secretions or congestion; and more or less photophobia, sometimes very great. In addition to these symptoms, there are sometimes dyspnea with dry rales. He found that cocainization of the nasal ganglion relieved this symptom complex.

He observed, furthermore, that it was often subdivided, sometimes being merely the sneezing, sometimes red nose (rosacea), sometimes secretions, lacrimation and photophobia. He stated that many of the ordinary coryzas are of this type, which, of course, are to be differentiated from affections of the membrane leading to suppuration of the sinus. He recommended the same treatment as previously given for the neuralgia syndrome. He offered a probable explanation based on anatomic and physiologic facts. Anatomically, the fibers of the cervical sympathetic from the nasal ganglion pass downward by way of the Vidian and carotid plexus to the cervical sympathetic and give branches to the cervical nerves and to the lower cervical ganglion, which is often fused with the first thoracic. These ganglia are anatomically allied to the nerves which, in addition to supply the neck, also make up the brachial plexus and supply the upper extremity. Accelerator fibers for the heart and vasomotor fibers for the lung also pass through these ganglia. He felt that it was a lesion of the sympathetic elements of the nasal ganglion which explains not only these vasomotor secretory phenomena, but also the pain referred into the neck, shoulders, arms, etc., as Vidian neuralgia, and that it came to pass by virtue of the sympathetic fibers which arborize about the cells of the spinal ganglia of the nerves which make the supply of the neck and upper extremity. He also offered as explanation of nasal asthma the fact that accelerator fibers for the heart and vasomotor fibers for the lungs pass through the lower cervical and first thoracic ganglia, through which also pass the cervical sympathetic fibers, and that the pain of angina pectoris might be explained by impulses arising in the heart passing upwards through the above mentioned ganglia, which are in association with the brachial plexus. He found that the pain of glaucoma, iritis, corneal ulcer, keratitis, conjunctivitis was controlled by anesthesia of the nasal ganglion, and that it was a nerve blocking process. He thought that it was the sympathetic that transmitted the "heavy pain" from these lesions which went into the occiput and the neck, and found that the course of some of these diseases was benefited by the control of the pain, and wondered if some trophic influence were not

also exerted through these paths. He had at times succeeded in stopping the rales by cocainization of the nasal ganglion on the same side on which the nasal ganglion was cocainized in some cases of asthma of not too great severity.

DISCUSSION.

Dr. Harris P. Mosher, Boston: I think Dr. Sluder will remember that in a conversation some years ago I made the remark that somebody, some day, would do something with Meckel's ganglion, and straighten us out about hay fever. I have been waiting for some one to do this. Dr. Sluder has done it, and I congratulate him upon that achievement. Two years ago Dr. Matthews, of the Mayo Clinic, came to Boston and said he had been having great success in curing headache due to closure of the frontal ostium, and had cured hay fever by the cauterization of the two sides of the middle turbinal. I doubted that this was as he said it was; I did not adopt the procedure. He came back to Boston and I asked him about it; he said he had been curing frontal headache, asthma, and hay fever. After two years of knowledge of that procedure I began to try it in the clinic at the Massachusetts General Hospital. Cauterization of the outer and inner surfaces of the middle, followed by the application of adrenalin, was successful. I could not see then how it worked; I do see now, thanks to Dr. Sluder.

Dr. Sluder, closing the discussion: Answering the question asked by Dr. Freer, as to where I make the injection in order to get at the nasal ganglion: The sphenopalatine foramen is situated immediately posterior to the posterior tip of the middle turbinal, and absolutely never varies. It is at that point that I make the application. In this kind of cocainization I prefer to take the slightly curved applicator and curl around. For total cocainization of the ganglion I prefer to slip the applicator under the point and approach it thus. It takes a tiny bit of cocain, and the applicator under the turbinate can be left in place. For operative purposes I leave it under the tip. For the sympathetic acute syndrome I simply paint it, and paint again if necessary. It is astonishing to see the effect of the cocain. I use a saturated solution of cocain, by preference the large crystals. The large crystal is

freer from poison than the rest. A poison is left in the mother liquor. The small crystals come out first, and then the big ones, which are freer from poison. The ganglion is almost submucous in many skulls. With the Holmes pharyngoscope I can see how I am going. I prefer a straight needle under the tip.

Effects of Protein Extracts From Fruits and Pollen on the Upper Air Tract.

By WALTER F. CHAPPELL, M. D., New York City.

The writer has recognized for some years that some people suffered from a variety of local irritations of the mucous membrane of the upper air tract and external auditory canal, which were attributable to eating certain fruits or drinking certain wines.

In the early summer, cases of pharyngitis and laryngitis were classed as strawberry throats; in the autumn as cider and grape throats, and an occasional tomato throat. In addition, pain, tenderness and swelling of the external auditory canal were traceable to eating apples and drinking cider. Occasionally an acute sneezing, accompanied by discharge and swelling of the mucous membrane of the nasal passages, followed eating quantities of grapes or drinking claret or similar red wines. In a few instances these symptoms were attended by swelling and burning sensations of the tongue and lips. There are children who have stuffy noses, constant colds, pharyngitis and croup due to the nature of the food they take.

Raw apples cause the greatest trouble, but when one is anaphylactic to one fruit he may be to several others.

Cooking these fruits greatly modifies their effect, but even then if taken in large quantities and continued for some time, they will produce irritations of a milder degree.

Believing that the protein extracts of fruits might be the cause of these conditions, protein extracts of apple, strawberry, grape fruit and tomato were made for the writer, and applied to five people known to be anaphylactic to apples, strawberries and to tomatoes, while a sixth person was used as control.

Terrific reaction followed the injection of one minim subcutaneously of apple protein extract of a 1 to 60,000 strength, with a drop on a small abraded surface. Local reaction only occurred in the second case, as also in the third

case. Severe reaction followed the local application of the strawberry protein in the fourth case, and only some redness followed the intracutaneous injection of the tomato extract in the fifth case.

In hay fever cases the writer has seen much benefit follow the internal administration of cinchonidia sulphate, but he has seen no permanent cures following this treatment.

The laboratory reports are also presented.

Pollen Therapy in Hay Fever.

By J. L. GOODALE, M. D., Boston, Mass.

Methods of gathering and preserving plant pollens are discussed. A fourteen per cent solution of alcohol was found to preserve the pollen extract for several months. When hay fever patients receive an application of the exciting pollen to a scratch of the skin, a definite reaction occurs, consisting of edema, hyperemia and itching. The application of this test enables us to determine the special causative plants for each case. The intensity of these skin manifestations may be sensibly diminished by the repeated parenteral administration of the proteids in question. Coincident with the diminution in skin reaction there seems to occur an increased tolerance of the exposed mucous membrane to the pollens of the plants employed. Pollen therapy in hay fever may be regarded at the present time as a promising method of treatment, but its value and the permanence of its results remain still to be definitely established.

Serobiologic methods have shown the phylogenetic relationship of the different plant orders and families. The application of these discoveries to the treatment of hay fever by injection of plant proteids promises to assist in the selection of the specific material required for a given case.

DISCUSSION ON PAPERS OF DRs. CHAPPELL AND GOODALE.

Dr. Burt R. Shurley, Detroit: I have been extremely interested in the working out of the question of sensitization to the pollens of ragweed and goldenrod, which are the only pollens I have been able to secure. The whole question of anaphylaxis and sensitization has been explained by Vaughan, of Ann Arbor, by the splitting of the proteids and the elabo-

ration of toxins, ptomaine and leucomains. His theory is very rational. He has shown that egg white will kill a guinea pig in a short time. A toxic dose after the ninth day is fatal.

A number of Dr. Goodale's observations I have been able to confirm as I have worked along. If the dosage is run too high the depression is great, resulting, perhaps, from the exhilaration of the toxin.

One laboratory has turned out, from the clinical standpoint, practically all the pollen toxins which can be used in hay fever. Fifteen doses, in ascending scale, may be found in the market. The clinical value of this I do not know, but it is claimed that fifty per cent of hay fever patients are absolutely protected during the hay fever season.

Dr. Emil Mayer, New York City: The question of standardization is very important. Standard solutions, not stock solutions, should be employed. Standardization can be done, and must be done, just as is the case with the pharmacopeia, in which a fluid extract represents so many grains. For this reason I resent the rushing in of a chemical firm and the presenting of a stock pollen. The work presented today is very gratifying.

Dr. Harmon Smith, New York City: The first patient mentioned by Dr. Chappell was a patient of mine, suffering from what I thought was eczema of the external ear, of uric acid origin. Since he was under my care he went to Dr. Chappell. He was a large man, of fine physical stature, weighing over one hundred and eighty pounds, and not at all neurotic. When I saw him he had a large welt on the arm, extending around about two-thirds of the arm. He was very sick, giving every evidence of great physical depression. The doctor mentioned in this paper I also knew very well. His reaction from the strawberry I am sure was produced absolutely by the protein in the fruit.

Dr. Max A. Goldstein, St. Louis: These reports convince us that we have been working in the dark for the last few years. Animal proteids, vegetable proteids, and the whole series and ramifications of proteid substances and their anaphylactic reactions will have to be reduced to a system before any practical clinical work will be accomplished in hay fever. Standardization is necessary for practical purposes. Unless we can reach a more

definite and limited basis we will never see the end of this tremendous field.

I have in mind the wife of a physician, an internist of unusual standing, who has used calcium salts for the second season, with no practical results as yet.

Dr. Goodale, closing the discussion: I wish to express my disapproval of the procedure which has been brought forward by the chemical firm, of what might be called a shotgun prescription for hay fever. As I understand it, it is to be used in the majority of cases of hay fever. It is possible that in a patient with one sensitization, by injecting this stock product another sensitization may be given.

(To be continued.)

Editorial.

The Medical College Finals

Of the two Virginia medical schools, graduating one hundred and twelve in the department of medicine alone, are now pleasant memories to the participants with stern reality staring these embryo doctors in the face.

The *Medical College of Virginia* commenced its finals with the baccalaureate sermon by Rev. W. Russell Bowie, D. D., at St. Paul's Episcopal Church on June 4th. On Monday evening, the 5th, the Alumni Society held its annual meeting, Dr. William H. Taylor, emeritus professor of chemistry, delivering the address on Poison and Poisoners. This was followed by a smoker at which there were nearly 300 in attendance. The business session of the Alumni Society was held the following morning, the president, Dr. Lewis C. Boshier, of this city, in the chair. Dr. Russell L. Cecil, of New York City, read the principal paper on this occasion. Following this meeting, clinics were held at Memorial Hospital.

The following were elected officers of the Alumni Society for the ensuing year: President, Dr. A. L. Tynes, Staunton; vice presidents—Drs. A. E. Turman, Richmond, and A. F. Bagby, Petersburg; Mr. H. G. Whitehead (pharmacist), Petersburg, and Dr. H. T. Vaughan (dentist), Richmond; secretary, Dr. J. M. Hughes (dentist), and assistant secretary, Dr. N. T. Ennett, both of Richmond; treasurer, Dr. F. H. Beadles, Richmond, and registrar, Dr. B. H. Gray, Richmond.

The commencement exercises proper were held in the City Auditorium on the evening of the 6th, in the presence of a large gathering of friends of the graduates. After a report of the year's work by the dean, Dr. Stuart McGuire, Dr. William L. Poteat, president of Wake Forest College, North Carolina, delivered the address to the graduates. This was followed by the conferring of degrees upon the graduates by Dr. McGuire, there being 91 graduates in medicine, 11 in dentistry and 22 in pharmacy. Dr. J. P. Munroe, of Charlotte, N. C., was present and conferred degrees upon those of the graduates who had been transferred from the North Carolina Medical College upon the merging of these two schools. After the announcement of hospital appointments, a reception was tendered the graduates at the Masonic Temple.

The following is a list of hospital appointments:

Memorial Hospital, Richmond—Drs. Felix Alfaro Diax, J. F. Foster, F. W. H. Logan, V. P. Peery, and W. P. Thompson (undergraduate).

Virginia Hospital, Richmond—Drs. G. V. Greene, G. F. Hughston, J. W. Martin, A. D. Parson, Grover Wilkes, and C. J. Edwards (undergraduate).

St. Luke's Hospital, Richmond—Drs. C. F. Graham and Q. H. Barney.

Grace Hospital, Richmond—Drs. E. L. Bender and J. L. Hamner.

Johnston-Willis Sanatorium, Richmond—Drs. J. D. Rives, F. P. Sutherland, and J. W. Tipton.

St. Elizabeth Hospital, Richmond—Drs. A. L. Dodson and L. B. Hill.

Stuart Circle Hospital, Richmond—Dr. Charles Phillips.

Retreat for the Sick, Richmond—Dr. C. W. Jennings, T. O. Summers (undergraduate).

Soldiers' Home, Richmond—H. L. Large (undergraduate).

Sheltering Arms Hospital, Richmond—C. L. Outland, I. M. Derr (undergraduates).

Hygeia Hospital, Richmond—Drs. E. S. Barr, C. D. Allen, and R. H. Jenkins.

Virginia Home for Incurables, Richmond—J. C. Taylor (undergraduate).

City Home, Richmond—Joseph Heyman (undergraduate).

St. Vincent's Hospital, Norfolk—Drs. J. A. Bennett, P. M. Carroll.

Norfolk Protestant Hospital, Norfolk—Drs. L. J. Whitehead and W. R. Parker.

Petersburg Hospital, Petersburg—Dr. J. E. Hamner.

Sheltering Arms Hospital, Hansford, W. Va.—Drs. W. P. Gilmer, E. C. Harper, L. H. Justis, and William Nelson.

Philadelphia Polyclinic Hospital, Philadelphia—Dr. M. W. Sinclair.

Orthopedic Hospital and Infirmary for Nervous Diseases, Philadelphia—Drs. G. O. Crank and W. O. Poindexter.

Philadelphia General Hospital, Philadelphia—Dr. P. G. Hamlin.

Stetson Hospital, Philadelphia—Drs. P. C. Harwood and C. E. Llewellyn.

Lake View Hospital, Philadelphia—Drs. O. R. Yates and W. T. Gay.

Roosevelt Hospital, New York City—Drs. F. Moylan Fitts and H. C. Johnston.

Gouveneur Hospital, New York City—Dr. R. W. Vaughan.

King's County Hospital, Brooklyn—Drs. A. F. Robertson and D. G. Tyler.

New York Department of Health, Riverside, New York City, July 1 to January 1—Dr. W. B. Brigman.

New York Polyclinic Hospital, New York City—Dr. W. B. Brigman.

Chesapeake and Ohio Hospital, Huntington, W. Va.—Dr. J. F. Van Pelt.

Shenandoah Hospital, Roanoke—Dr. F. A. Farmer.

Boston Floating Hospital, Boston, Mass.—B. B. Jones (undergraduate).

Western State Hospital, Staunton—Dr. H. G. Middlekanff.

The *University of Virginia, Medical Department*, as always, had its commencement exercises in connection with those of the other departments, the baccalaureate sermon being preached June 11th by Dr. Hugh Black, of the Union Theological Seminary of New York City. The usual receptions and balls were enjoyed by all the graduates and alumni.

On the morning of the 12th, there was a business meeting of the medical alumni for the purpose of permanently forming into a working organization. The following were elected officers:

Dr. Hugh H. Young, of Baltimore, president; Dr. Fielding Taylor, of New York City, vice president; Dr. Thomas V. Williamson, of Norfolk, secretary and treasurer. The Executive Committee consists of the officers and Dr. J. W. Burke, of Washington, D. C.; Drs. J. Carroll Flippin and Theodore Hough, of the University faculty; Dr. Charles L. Minor, of Asheville, N. C., and Dr. Champ C. McCulloch, of Washington, D. C. A committee was appointed to consider methods of raising funds for a suitable memorial to the late Dr. Walter Reed, a distinguished alumnus of the University who lost his life in the study of yellow fever. It was decided to hold the next meeting of the association on Monday of final week, 1917, and on that day there will be a clinical program in the University Hospital.

The following is a list of the hospital and other appointments given the graduates in the medical school:

Dr. John DuBose Barnwell, Clemson, S. C., to New York Hospital.

Dr. Oscar Bernard Biern, Huntington, W. Va., to Cincinnati General Hospital.

Dr. Edward Ballard Brooks, Chase City, Va., to University of Virginia Hospital.

Dr. James Edge Faris, Red Hill, Va., to Immigration Hospital, Ellis Island, N. Y.

Dr. Paul Williams Fetzer, Reidsville, N. C., to Roosevelt Hospital, New York.

Dr. William Patton Fite, B. A., Muskogee, Oklahoma, goes into his father's hospital at home instead of receiving an appointment.

Dr. Joseph Hughes Green, A. B., Clifton Forge, Va., to St. Luke's Hospital, South Bethlehem, Pa.

Dr. Douglas Grady Greene, West Point, Miss., to Charity Hospital, New Orleans.

Dr. Leroy Walter Hyde, Ph. G., Plattsburg, N. Y., to University of Virginia Hospital.

Dr. James Arthur Keiger, B. A., Tobaccoville, N. C., to Orange Memorial Hospital, New Jersey.

Dr. Claude Moore, Roanoke, Va., to Hudson Street Hospital, New York.

Dr. Ezra Eugene Neff, B. A., Chilhowie, Va., to University of Virginia Hospital.

Dr. Robert Earl Pound, B. S., Tupelo, Miss., Harlem Hospital, New York.

Dr. William Samuel Scott, A. B., Fredericksburg, Va., University of Virginia Hospital.

Dr. Dudley Crofford Smith, B. S., University, Miss., instructor in bacteriology, University of Virginia.

Dr. Charles Robert Tatem, Orange, Va., Knickerbocker Hospital, New York.

Dr. Henry Trautmann, Sheboygan, Wis., Orange Memorial Hospital, New Jersey.

Dr. Harry Evans Trimble, B. A., Summer-ton, S. C., Immigration Hospital, Ellis Island, N. Y.

Dr. William Kirkpatrick Vance, Jr., B. S., Bristol, Va.-Tenn., Cincinnati General Hospital.

Dr. William Rice Warren, A. B., University, Va., to University of Virginia Hospital.

Dr. William Harvey Whitmore, Lynchburg, Va., to Hudson Street Hospital, New York.

The William A. Herndon scholarship in medicine, founded in 1914 in honor of Dr. William A. Herndon by his son, was awarded to Donald MacKenzie Faulkner, Boydton, Va., and Kalford Wall Howard, Portsmouth, Va., both of whom are already students in the medical department.

Eight nurses in the Training School of the University Hospital were also awarded diplomas.

American Medical Association.

The meeting in Detroit, Mich., this month, with an attendance of about 5,000, was full of interest throughout New York City was selected as the next place of meeting, and the following officers were elected: President, Dr. Charles H. Mayo, Rochester, Minn.; vice presidents—Drs. Llewellys F. Barker, Baltimore, Md.; John Leaming, Chicago, Ill.; J. H. Carstens, Detroit, Mich., and George F. Keiper, LaFayette, Ind.; secretary and treasurer—Drs. Alex. R. Craig and William A. Pusey, respectively, both of Chicago, and re-elected; chairman of House of Delegates, Dr. Hubert Work, Pueblo, Col.; vice chairman of the House of Delegates, Dr. Dwight H. Murray, Syracuse, N. Y.; members of Board of Trustees—Drs. A. R. Mitchell, Lincoln, Neb.; E. J. McKnight, Hartford, Conn.; Oscar Dowling, Shreveport, La.; member of Judicial Council, Dr. H. A. Black, Pueblo, Col.; member of Council on Health and Public Instruction, Dr. Frank Billings, Chicago, Ill.; member of Council on Medical Education, Dr. William D. Haggard, Nashville, Tenn.; member of Council on Scien-

tific Assembly, Dr. J. Shelton Horsley, Richmond, Va.

Among the officers of the various scientific sections, the following doctors from this section were elected: Dr. Ernest C. Levy, Richmond, vice chairman of the Public Health and Preventive Medicine Section, and Dr. W. S. Rankin, Raleigh, N. C., orator for the same section; Dr. H. H. Hazen, Washington, D. C., secretary of the Section on Dermatology.

In the Department of Scientific Exhibits, Dr. J. Shelton Horsley, of this city, received an award for his exhibits of the Reversal of the Circulation in the Leg, and Reconstruction of the Common Bile Duct.

The Association of Norfolk and Western Railway Surgeons

Enjoyed to the fullest its ninth annual meeting at Hotel Chamberlain, Old Point Comfort, Va., June 7 and 8. These outings are unusual in that the railway company has, for several years, borne every expense of such meetings, not only for each individual surgeon, but also for dependent members of his family who accompany him. These expressions of good will toward its surgical staff reflect strongly the high regard which the company has for its Chief Surgeon, Dr. Joseph A. Gale, and it was a matter of much regret that neither he nor his son, Dr. S. S. Gale, Assistant Chief Surgeon, were able to attend the meeting.

In the scientific program, besides the reading of papers by members, specially invited guests, Dr. J. C. Bloodgood, of Baltimore, and Dr. J. Shelton Horsley, of Richmond, gave talks on First Aid Standardization, while Dr. E. A. Sweet, of the U. S. P. H. S., read a paper on Sanitation of Railway Coaches.

Officers of the association elected for the ensuing year are: President, Dr. W. E. Anderson, Farmville, Va.; vice presidents—Drs. Thomas Hulick, Cincinnati, Ohio; Tunis Nunemaker, Williamson, W. Va.; H. D. Gilmer, Hagerstown, Md., and A. deT. Valk, Winston-Salem, N. C.; secretary-treasurer, Dr. T. D. Armistead, Roanoke, Va. New members of the executive committee are Drs. R. W. Holmes, Chillicothe, Ohio, and J. H. Anderson, Marytown, W. Va. The place of next meeting will be determined later.

Among pleasures enjoyed may be noted, as of special interest, a steamer trip past the

Portsmouth Navy Yard where several large belligerent ships are interned, a visit to Ocean View, and a trip by street cars to the Aviation Field at Newport News. After the assembled crowd had been permitted to examine the numerous aeroplanes closely—inside and out—Victor Carlstrom, an aviator with many world's records, gave an exhibition flight.

Mr. W. C. Saunders, general passenger agent, and Col. W. S. Battle, Jr., general claim agent, were in attendance as representatives of the road.

The Medical Society of Northern Virginia and the District of Columbia,

At its Spring meeting, recently held at Herndon, Va., elected the following officers: President, Dr. H. A. Fowler, Washington, D. C.; vice-presidents—Drs. Charles F. Russell, Herndon, and Llewellyn Powell, Alexandria; secretary, Dr. Joseph D. Rogers, Washington, D. C., and treasurer, Dr. William I. Robey, Herndon, the last two being re-elected.

Appointments in Medical Department, University of Virginia.

At a recent meeting of the Board of Visitors of the University, Dr. Robert Bennett Bean, a native of Botetourt County, Virginia, but recently professor of gross anatomy at Tulane University, New Orleans, was appointed professor of anatomy to take charge of the courses in gross anatomy and neurology formerly given by the late Dr. Richard H. Whitehead.

The following instructors and assistants were also appointed in the medical department:

Histology and Embryology—Assistant, Gustav Adolph Pagenstecher, of San Antonio, Texas.

Physiology—Assistant, George B. Setzler, of Pomaria, S. C.. Student assistant, W. Wyatt Strange, of Huntington, W. Va.

Bacteriology and Pathology—Assistants, Dr. Dudley Crofford Smith, of University, Miss.; G. Browne Gilmore, of Hampton, Va.

Pharmacology and Materia Medica—Assistant (materia medica and toxicology), Richard D. Anderson, of Red Hill, Va. Assistant (physiological pharmacology), George B. Setzler, of Pomaria, S. C. Assistant (physiological pharmacology), W. Wyatt Strange, of Huntington, W. Va.

Clinical Medicine—Instructor and assistant University physician, Dr. Lucius Gaston Gage, of the class of 1915.

Physicians Should Register

Under the Harrison Narcotic Law with the Collectors of Internal Revenue of their respective districts before July 1. This special tax of \$1 must be paid annually, the physician failing to do so, being liable to prosecution. The collectors in Virginia have mailed out the registry forms to physicians and others affected by this law and they should receive prompt attention.

Dr. Herbert Old,

Of Philadelphia, Pa., formerly of Norfolk, Va., was a recent visitor in this State, having come to attend the Grandy-Neely wedding in Portsmouth, Va.

Interpretation of Harrison Drug Law.

The Supreme Court, in Washington, D. C., early this month, interpreted the Harrison anti-narcotic law, in which it is stated that it is unlawful for "any person" not registered to have opium in his possession, as applying only to those dealing in the drug and not to those using it.

Health Insurance.

In response to public interest in health insurance, the Massachusetts Legislature has created a commission to study social insurance with special reference to sickness. The State Department of Health and the Bureau of Statistics are directed to co-operate with the commission of nine members which will prepare a report and recommend the form of legislation to be introduced in January, 1917. California has a similar State commission already at work on this problem which is attracting wide attention since the introduction this year of bills for health insurance in Massachusetts, New York and New Jersey. Proponents of this legislation believe it will bring about a movement for "health first" comparable to the safety first campaign which followed workmen's compensation for accidents.

Dr. J. Allison Hodges,

Of this city, by invitation read a paper before the Warwick County Medical Society, at its meeting in Newport News, Va., early this month.

Dr. James R. Gorman,

Who, during the past year, has been chief interne at Virginia Hospital, this city, has gone for a short visit to his home in Lynchburg, Va., before entering upon a special course in medicine at Harvard. Upon completing his work there, about the first of the year, Dr. Gorman will visit several hospitals in New York and Philadelphia before returning to Richmond, where he will make his home.

Dr. Joseph C. Moxley,

Formerly of Ennice, N. C., has moved to Baywood, Va.

Centennial of the Stethoscope.

The Journal of the A. M. A. calls attention to the fact that it was just one hundred years ago, in 1816, that Laennec, then 35 years of age, invented the stethoscope. Of course it has been greatly improved in various ways. It is interesting to be reminded of the age of this instrument which forms a part of every physician's armamentarium.

Prince George County (Va.) Medical Society.

At the recent reorganization of this Society, Dr. W. B. Daniel, Disputanta, was elected president, and Dr. R. T. Hawks, Carson, secretary. Dr. Mark Peyser, treasurer, of the Medical Society of Virginia, was present, and explained points about the reorganization plan as adopted by the State Society.

Dr. W. A. Peters,

Of Elizabeth City, N. C., was the recent guest of friends in Emporia, Va.

Married—

Captain Alfred P. Upshur, Medical Corps, U. S. A., and Miss Amelie A. McAlister, of Washington, D. C., in New York City, June 15. Captain Upshur, who is a son of Dr. John N. Upshur, of this city, has been stationed in Panama Canal Zone until recently when he received orders to return to this country.

Dr. Thomas Nash Broadus, of Richmond, and Miss Honora Louise Eubank, of Dunnsville, Va., June 10.

Dr. Elmore Sleet Deans, of Stanardsville, Va., and Miss Maria Evadne Dawson, of Wolf town, Va., June 7.

Welfare of Delinquent Children Discussed.

A conference of people interested in the welfare of feeble-minded, morally delinquent and incorrigible children was held in this city June

12. A number of papers were read, dealing with the various phases of the work. Among these may be noted those by Dr. Beverley R. Tucker on "Menace of Feeble-mindedness in Institutions," by Dr. William H. Higgins on "The Psychological Clinic," and by Miss Alice Hinckley on "The Developing of Retarded Children." Miss Hinckley is at this time engaged in private work in this city along the line discussed in her paper. In the course of the meeting, a resolution was adopted recommending that all juvenile delinquents be tested mentally as well as physically before being sent to State institutions of correction.

Dr. J. B. Abbitt

Has returned to his home in Appomattox, Va., much improved in health, after a recent vacation.

Dr. F. P. Fletcher,

Who was appointed one of the resident physicians at Virginia Hospital, this city, last year, has now been elected chief interne at that hospital.

Dr. W. W. Golden

Has returned to his home in Elkins, W. Va., after attending the Mayo clinics in Rochester, Minn.

Dr. Thomas V. Williamson,

Norfolk, Va., was elected chairman of the executive committee of the general Alumni Association of the University of Virginia, at its recent meeting.

The American Medical Editors' Association

Will hold its annual meeting at McAlpin Hotel, New York City, October 25 and 26. The meeting will be devoted exclusively to problems of a strictly journalistic nature, which should be of interest and importance to every editor of a medical journal. Dr. Edward C. Register, of the *Charlotte, (N. C.) Medical Journal*, is president, and Dr. Joseph McDonald, Jr., of the *American Journal of Surgery*, New York, is secretary-treasurer.

The Virginia Anti-Tuberculosis Association

Has opened a campaign for the purpose of stimulating interest in the care by the local governments of their tuberculous. This is the result of a bill which was passed authorizing communities to care for their indigent tuberculous at the State Sanatorium. Miss Ran-

dolph, executive secretary of the association, states that there are 35,000 cases of tuberculosis in Virginia, while only 300 beds have been provided. Provisions have been made by every county in New York for the care of these patients, and the death rate has been cut two-thirds. Massachusetts has also finished a campaign to build local camps, and has a much lowered death rate.

Dr. Ennion G. Williams,

State Health Commissioner, discussed school sanitation and prevention of contagious diseases before the conference of school superintendents in this city, June 6.

Ban Put on Common Towel in Virginia.

At the last session of the Virginia Legislature, a bill was passed imposing a fine and making it a misdemeanor to use the common or roller towel in any public building in this State. If kept at all, towels must be of a sanitary type and for individual use only. The law went into effect June 17.

Medical Education.

The report of the secretary of the General Education Board shows that, upon the application of the authorities of the Johns Hopkins, Yale and Washington Universities, appropriations totalling \$2,750,000 have been made for the purpose of reorganizing clinical instruction on what has come to be known as the "full-time plan." The scheme has not yet been inaugurated at Yale or the Washington Universities, but at Johns Hopkins, where it has been in operation for the past year, the report indicates that it has been successful. The plan involves the withdrawal of clinical teachers from paid private practice. Last year, it cost \$110,000 to maintain the full-time departments of medicine, surgery and pediatrics in Johns Hopkins Medical School. Fees collected from patients attended by members of the full-time staff were slightly in excess of \$10,000. The report states that "the full-time organization requires a liberal endowment and contributes next to nothing toward its own support. It is meant, not to work men in order to earn money, but to protect them against having to earn money, whether for themselves, the hospital or the medical school."

To Inspect Summer Hotels.

Dr. A. P. Traynham, assistant bacteriologist

of the State Health Department, has been temporarily transferred from the laboratory of the Board to the position of hotel inspector in this State.

Dr. and Mrs. Walter Slicer,

Of Roanoke, Va., visited Montvale, Va., early this month.

Improved Health Conditions in Emporia.

Since the appointment of Dr. E. L. Flanagan as health officer in Emporia, Va., there has begun an improvement in health conditions in that community. The prevention of typhoid and control of malaria are two problems receiving especial attention. Land is being cleared and drained and crude oil placed in stagnant pools to destroy the larvæ of mosquitoes.

Dr. Joseph J. Kinyoun,

Of Washington, D. C., we note from the *Journal of the A. M. A.*, has been appointed whole-time health officer of Winston-Salem, N. C., *vice* Dr. Eugene P. Gray, resigned.

Resigns from Pharmacy Board.

Mr. T. A. Miller, of this city, for more than twenty years a member of the State Board of Pharmacy and for the past ten years secretary of that body, has tendered his resignation from the Board to take effect at once.

Dr. and Mrs. Roderick Dew,

Goodloes, Va., were recent visitors in Barton Heights, this city.

New Jersey to Enforce Notification.

We note from *Public Health Reports* that New Jersey intends to enforce the State requirements regarding the reporting of notifiable diseases. Although most States have laws relative to the reporting of certain diseases, this is believed to be the first State to enforce its requirements.

Dr. James Smoot and Family,

Of Woodstock, Va., motored to Farmville, Va., early this month, to attend the closing exercises of the State Normal School.

Dr. and Mrs. R. T. McNair

Have returned to their home in Emporia, Va., after a visit to Richmond.

Permit Required for Housing Tuberculous Persons.

An ordinance has been passed in San An-

onio, Texas, requiring the licensing of hospitals, sanatoria, boarding houses, and other places receiving persons suffering from tuberculosis. It will be unlawful to take persons with tuberculosis except at places having permits. These places shall advertise as taking persons thus afflicted and a list of places having permits will be posted for public inspection.

Dr. George C. Beach,

First Lieutenant, Medical Reserve Corps, U. S. Army, has been ordered to active duty in the service with orders to report for duty to the commanding officer at Fort Monroe, Va.

Dr. Walter Cox,

With a party of Winchester people, motored to Hot Springs, Va., this month, for a short stay.

More Nurses Graduate.

The Training School for Nurses of the Stuart Circle Hospital, this city, held its commencement exercises in the Jefferson Hotel auditorium, June 14, at which time nine nurses received their diplomas of graduation. An informal reception and dance followed the exercises.

Dr. N. T. Ennett,

Of this city, spoke on "Open-Air Schools" before one of the Parent Teacher Associations of this city, June 13.

Thymol from Horsemint.

Now that the European war has reduced importations of thymol from over 18,000 pounds in 1914 to a little more than 2,000 in 1915, it is believed that to some extent the demand can be supplied at home. For several years the United States Department of Agriculture has been conducting experiments with horsemint which occurs as a common weed in many localities. These experiments have resulted in improving the plants by selection to a point which it is said warrants the use of horsemint for the commercial production of thymol.

Full information in regard to methods of cultivation, harvesting and distilling are contained in a bulletin which has been published by the department.

Dr. and Mrs. N. S. Peters,

Of Bristol, Va., left early this month for a

pleasure trip to New York, Niagara Falls and points in Canada.

Dr. and Mrs. Alfred D. Henkel

Have returned to their home in Winchester, Va., after spending some time in Washington and New York City.

Optometry Board Created.

In accordance with a ruling of the last General Assembly of Virginia, Governor Stuart has appointed five optometrists to form a State Board of Examiners in Optometry, the first board of its kind in this State. The appointments date from June 17.

Trachoma Clinic.

The National Committee for the Prevention of Blindness states that Surgeon-General Blue, of the U. S. Public Health Service, has announced the immediate opening of a trachoma clinic in Eastern Tennessee.

Warning.

We are advised that a very clever swindle is being worked by a young man calling on physicians in various sections of the country. He is fraudulently soliciting orders and collecting money for subscriptions to medical journals and for medical books published by various firms. He usually represents himself as a student, working his way through college and trying to get a number of votes to help him win a certain contest. He uses various names and gives a receipt bearing the heading of some Society or Association, such as United Students' Aid Society; the Alumni Educational League; the American Association for Education, etc. The description of this swindler is— young man of the Jewish type, rather slender, with very dark hair combed straight back and shows his teeth plainly when talking.

The whole scheme is a fraud. The Societies mentioned do not exist. The idea is to collect money by offering special discounts and prices on medical books and journals and skip with the money. This young man does not represent W. B. Saunders Company, whose name he frequently uses, but is a fraudulent subscription agent and physicians, generally, should be on the lookout for him.

Memorial Hospital Fund.

The campaign for raising \$250,000 for improving and adding to Memorial Hospital, this city, was progressing most excellently as we

went to press, considerably over \$130,000 having been secured in a few days.

Do You Know That

Bad temper is sometimes merely a symptom of bad health?

Insanity costs every inhabitant in the United States \$1 per year?

Untreated pellagra ends in insanity?

The death rate of persons under 45 is decreasing; of those over 45 it is increasing?

Tuberculosis is contagious, preventable, curable?

The full dinner pail, the open window, the clean well, all make for health?

For Sale—Complete office equipment, instruments, and one of the finest medical libraries in the State of Virginia, which belonged to the late Dr. W. B. Payne, of Covington. Residence with offices adjoining will be sold if desired. For particulars write to *Mrs. W. B. Payne, Covington, Va.*—(adv.)

Obituary Record.

Dr. Robert F. Williams,

Formerly of this city, but who had more recently made his home near Charlottesville, Va., died in Richmond, June 14, after an illness of several months, aged 47 years. Dr. Williams studied medicine at the University of Virginia, graduating in 1892, after which he did research work in Vienna for a year. In 1894 he became an instructor in the Medical College of Virginia and two years later was elected a professor of materia medica in the same institution, which position he resigned in 1905 on account of his health, going then to El Paso, Tex. On his return to Virginia, he became superintendent of Catawba Sanatorium, which position he held until he resigned to accept the position as dean of the medical department of the University of Oklahoma. Again returning to Virginia on account of his health, Dr. Williams made his home near Charlottesville until last Fall when he accepted the position of resident physician and instructor at Woodberry Forest High School. He had, for a number of years, been identified with the Medical Society of Virginia as well as various other associations. He was unmarried.

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THE TREATMENT OF GOITRE.*

By H. STUART McBLEAN, M. D., Richmond, Va.

A brief review of the pathology and symptomatology is essential to a satisfactory discussion of the treatment of goitre.

The term "goitre" is used herein to indicate a lesion of the thyroid gland, whether characterized by marked enlargement or not. The disease is usually divided into two classes; first, those cases in which we find a marked enlargement of the gland, and, second, those evidenced by symptoms of hyper-secretion, or excessive elaboration of the gland product. In the first class we find those cases of enlargement brought about either by hyperplasia or hypertrophy of the glandular tissue, hypertrophy and associated colloid degeneration, acute enlargements due to traumatism and dependent upon hemorrhagic effusion, and cysts or tumors. In this class of cases the predominant symptom is the enlargement. There will also be frequently associated with this condition that train of symptoms characteristic of hyper-secretion. In this class, unless these toxic symptoms exist, the reasons for treatment are based simply upon the presence of a tumor and the necessity or desire for its correction. Indications for treatment in such cases are, first, the relief of the deformity, or relief of the discomfort which may be produced by reason of pressure on the common carotid arteries or the jugular veins, obstruction to the lumen of the trachea, and traction symptoms due to the dragging weight of the tumor on its deeper attachments in the neck.

In the second class of cases it is the train of symptoms rather than the enlargement which leads the patient to consult a physician.

*Read before the South Piedmont Medical Society, at Danville, Va., April 18, 1916.

One of the striking points about goitres is that a large tumor may be perfectly innocuous so far as any symptoms are concerned, except, of course, the appearance of the tumor and sense of weight, while on the other hand a slight thyroid enlargement may be accompanied by a marked degree of irritation of the gland with marked increase in the output of secretion, producing a train of toxic symptoms which may be most alarming. The significance of this is found in the fact that not infrequently the enlargement of the gland will be so very slight as to be entirely overlooked, and it is only by a careful study of the symptoms and elimination of all other possible causative factors that we will finally be able to determine that the thyroid gland is responsible for the train of symptoms developed. This latter class of cases are considered under the head of exophthalmic goitre. Such a case is easily recognized when the gland is very much enlarged and the exophthalmos is pronounced, but it not infrequently happens that a case of exophthalmic goitre will have very little exophthalmos and less goitre. In such instances, the diagnosis has to be made on other symptoms, as palpitation or tachycardia, tremor, nervousness, psychic disturbances, muscular weakness, Graefe's sign, Moebius's sign, Stellwag's sign, obscure neuroses, and other symptoms appearing intermittently, as vomiting, diaphoresis, diarrhoea, dyspnoea, anæmia, and emaciation; in fact, it may be a train of symptoms which, occurring in connection with slight local manifestations, might be mistaken for chronic anæmia, chronic malaria, or any one of several chronic conditions except the right one. I wish to lay stress on this phase of the disease, because not infrequently the diagnosis is not the least difficult point in the handling of the case.

In the treatment of goitre the pendulum, so

to speak, has swung both ways and still does so with many physicians and surgeons. There are physicians who believe that if medical treatment does not help the patient nothing else is worth while, and there are surgeons who apparently believe, or at least practice on the theory, that nothing but surgery is effective. Fortunately, both for the patient and the profession there is a middle ground. Every case of goitre when first seen is entitled to a thorough course of medical treatment in an effort to relieve or affect a cure, and under no circumstances, except some peculiar emergency, is surgery justifiable until the case has had a fair test of medical treatment. The writer not long ago was visited by a mother who brought her three daughters, ranging in age from 15 to 20, all with moderate simple goitre, practically no symptoms but the enlargement. Upon inquiry I learned that they had recently come to Richmond after residing in a section of West Virginia where thyroid enlargement is quite prevalent and that none of the cases had been given medical treatment. I recommended that all the cases be given medical treatment for a reasonable period and referred them to a physician. Before leaving my office the mother asked me if I did not think it would be best to operate on the cases and I replied that I considered it only fair to the patients to test them medically first. Two weeks later I learned that they had all been operated upon. In my opinion, this was unnecessary surgery, and I am still pleased that I did not avail myself of the opportunity to perform these operations. It must be borne in mind that various extrinsic causes will produce thyroid enlargement, such as sudden fright or violent emotion, acute illness, as, for instance, tonsillitis and other inflammatory diseases of the upper air passages, and direct violence. While we do not know with accuracy the causes for thyroid enlargement, it does seem quite probable that certain kinds of drinking water are responsible in a measure for the disease. It is particularly true that thyroid enlargement is frequently noticed in young girls from the ages of 12 to 20, as noted in the case referred to above, and it is generally recognized that from 50 to 65 per cent. of such cases are amenable to medicinal, dietetic and hygienic treatment. The internal administration of iodine together with its external application has long been a tried and

fairly efficient remedy. Quinine hydrobromide, in three to five grain doses, four times a day, with or without the addition of ergotin, has been found beneficial in some cases. The drug has to be given cautiously as cinchonism is easily produced and adds to the nervous symptoms. The ergotin has been found to relieve this in a measure but not infrequently the administration will have to be suspended for a short time and then gradually commenced again.

Tonic treatment, with the administration of sedatives as required, should also be given. The patient's diet should be regulated, giving plain, wholesome and easily digested food, eliminating the richer and heavier foods. One of the most important points in both the medical and surgical treatment is to insist upon a use of pure spring water, and particularly in the limestone districts, the patient should be instructed to purchase any one of the numerous plain pure waters on the market. The cases which reach the surgeon should be those which have passed through a fair course of medical treatment and demonstrated the fact that they cannot be relieved thereby. There is no class of cases referred to a surgeon which call for more careful study preliminary to operative intervention than the thyroid cases. An operation should not be done simply because the patient wants it. The surgeon must see justification for the operation, expectation of a symptomatic cure, and be reasonably assured that there are no other conditions existing which may be in a large measure responsible for the symptoms complained of. The writer's experience has been that less than 50 per cent. of the cases of goitre referred to him have required or received operation at the time of reference.

Given a case of thyroid enlargement which has had a full course of medical treatment, the next point to be determined is what method of surgical treatment is indicated in the particular case. Surgical treatment of goitre does not always mean removal of a lobe or portion of the gland. One of the oldest methods of treatment is that of the injection of a carbolic acid solution. This originated with Prof. Moses Gunn many years ago. The method has stood the test of time and been successful in not a few cases. A 5 per cent. solution of carbolic acid is used, and should be prepared with boiling

water in order to insure a thorough mixture of the acid. From 60 to 90 minims should be injected at each sitting and the treatment repeated once each five to seven days. In a very much enlarged gland there is little or no difficulty in being sure that the solution is injected directly into the gland tissue. In the case of slight enlargement one cannot always be sure that the needle has entered the substance of the gland, and in such cases after the needle has been inserted, the patient should be instructed to swallow. If the needle is properly placed it will rise and fall with the performance of this act. Little or no reaction follows these injections, but the patient should be kept in a prone position for a few minutes immediately after the treatment, as there is apt to be experienced a slight feeling of nausea. The urine should be examined for signs of carboic acid irritation. This, however, is very rarely found and I have never seen it give rise to any material symptoms in any of my cases. The injections should be made in different parts of the enlarged gland and an appreciable diminution in the tumor should be noticed in from three to six weeks.

A similar method of treatment and one which has been even more successful in the hands of the writer, is that suggested by Dr. Miles Porter: the injection of boiling water. In properly selected cases this gives a maximum of relief with a minimum of operative intervention and discomfort. The cases I have used it in most frequently have been the acute hypertrophic variety, particularly in young girls, and in the graver cases of exophthalmic goitre where the symptoms were so severe as to contraindicate radical operation. The treatment is simply performed and if proper precautions are taken it is entirely without danger. To give this treatment, a very heavy glass or metal syringe is required with a large calibre hypodermic needle about one inch in length. The treatment should be administered with the patient lying prone and all clothing about the neck loosened. The skin over the lobe to be injected is painted with iodine and then a small area cocainized, or frozen with ethyl chloride. The syringe, which should have a capacity of not less than 15 c. c., is filled with boiling water and kept immersed in a basin of boiling water until used. The syringe is picked up and wrapped in a hot towel, the

needle plunged into the center of the lobe to be injected and from 2 to 5 c. c. of the boiling water quickly injected. There is practically no danger of puncturing a vein and as little danger from an embolus springing from the point of injection. This treatment is repeated at intervals of from six to fourteen days, depending upon both the local and constitutional reaction obtained. As a rule from three to six injections are followed by a marked shrinking in the size of the tumor and in a large per cent. of properly selected cases the lobe will be reduced to its normal size. When such a result can be obtained, it is, of course, a much more desirable plan of treatment than the radical operation, as it is accompanied by no scar and the patient is spared the danger and whatever risk may be attached to the radical operation. The injections should be made at different points in the enlarged lobe. If both lobes are injected, in the opinion of the writer three or four weeks should elapse between the treatment of the two sides. The method has one objection, which, however, is not sufficient to debar it, and that is, in the event of failure of the hot water injection to effect a cure there is usually the production of fibrous and inflammatory tissue which makes the radical operation for the removal of the tumor somewhat more tedious. Both of these injection methods effect a cure by setting up a localized area of irritation, accompanied by round cell infiltration with resultant formation of new curative tissue, followed by contraction and absorption.

When for any reason either of these methods are not chosen, or have been tried unsuccessfully, operative treatment is the only means of cure. One of the simplest operations is ligation of the superior and inferior thyroid arteries, and several of the thyroid veins. In the opinion of the writer, this operation does not give results commensurate with the extent of the operation. It entails almost, if not quite, as large an incision as that made for the removal of a portion of the gland, and is by no means a certain method of cure. It is true that in some instances this operation can be done, as can the major operation, under local anæsthesia, but it is rare that any of these patients are in a nervous condition which will justify the added nerve strain of an operation under local anæsthesia. Should this operation be determined upon the ligation of the superior

thyroid artery is of the most importance and it is best to do this by encircling or including the upper pole of the lobe in the ligature; otherwise, collateral circulation may be immediately established through some of the numerous branches given off just before the artery enters the upper pole. I would add here that, in connection with this line of treatment, as well as with all other surgical methods, medical treatment should be given during the post-operative period and for some time thereafter.

A great deal of unnecessary apprehension has been expressed about the possible complications, or bad results arising during or following the radical operations. This originated in some of the unfavorable results which were obtained in the early operations for goitre when our knowledge of the physiology of the thyroid and the technique for its removal was not so thorough as it is now. It undoubtedly is a major operation and one which should not be attempted except by those who have had sufficient experience to give them confidence not only in their ability to perform the operation, but in their judgment as to how and what to do during the course of the operation.

The first point in the operation for goitre upon which I would lay stress is the value of rectal anæsthesia properly administered. It allows a wider field for the surgeon and removes the danger of possible infection from the proximity of the anæsthetist's hands, or of the patient vomiting and possibly soiling the field of operation. Anæsthesia can be promptly induced and as promptly discontinued, the post-operative nausea is lessened, and the danger of post-operative vomiting and consequent soiling of the dressings practically eliminated. Such an anæsthetic, however, must be administered only by one trained in this particular field of work.

The next point to be noted is the necessity for an ample incision. The classical horse-shoe incision is almost invariably the one of choice except in the case of simple unilateral enlargement which can readily be reached through an incision following the anterior border of the sterno-mastoid muscle. Ample room for the operation is obtained by extending one or both ends of the horse-shoe incision upward along the anterior border of the sterno-mastoid muscle. If there is bilateral hypertrophy, the incision should be extended along

both muscles. If there is unilateral hypertrophy then it need be extended only along the affected side. In either event, it is always best to make an ample incision in the beginning rather than to keep enlarging it during the various stages of the operation by little bites or snips of the skin and muscle. This not only takes time but it gives a bad scar and interferes with precision and certainty in the removal of the goitre.

The third point is the division of the sterno-hyoid, sterno-thyroid and omo-hyoid muscles and, if necessary, the division of a portion if not all of the sterno-mastoid. The first three muscles are frequently so attenuated that they will not readily be recognized, especially in a very large goitre, but it is important that they be found, isolated and divided so that the ends can be properly approximated after the removal of the goitre. The division of the muscles should be on a higher plane than the skin incision.

The fourth point is the careful catching and ligation of all the bleeding points. These patients can ill afford to lose blood, and post-operative oozing with subsequent absorption may add considerably to the post-operative symptoms of hyper-thyroidism. As a rule, it is not advisable to ligate bleeding points as you go, as this takes too much time, but it will be found convenient to ligate many of the bleeding points on the surface of the gland, or deep in the wound, rather than to leave the hæmostatic forceps in place, as they get in the way, or may be pulled loose and start fresh bleeding.

The fifth point is the importance of locating and getting inside the true capsule of the gland before commencing its enucleation. This is the surest safeguard we have against including the para-thyroids in the removal of the gland. In stripping loose the capsule, either the superior or inferior horn of the enlarged lobe should be freed and then with outward traction and careful blunt dissection the entire lobe enucleated. This step in the operation is probably the most important as it is at this point that we have to take every precaution against injuring the recurrent laryngeal nerve or para-thyroid glands. This is best done by blunt dissection, always encroaching rather on the gland than on the capsule. As is well known, the removal of the para-thyroid glands or bodies is followed by tetany; if all four of them have been

removed, death speedily results, and if one or two are removed the patient is liable to have persistent symptoms of mild tetany lasting over an indefinite period of time. The remedy, of course, lies almost entirely in prevention, and among other points to be always borne in mind is the fact that occasionally a parathyroid body will be found on the lower border of the lobe or even around to the front of the lobe rather than in its normal position behind the gland. For this reason, the operator should be careful to go through the capsule on the anterior surface of the lobe and strip it all back carefully.

The sixth point is that in cases of marked enlargement of both lobes with the removal of same, the isthmus and a portion of one or both lobes should be left. Just how much thyroid tissue is necessary in order to maintain normal thyroid secretion and to avoid myxedema is not definitely determined, and in the very nature of things cannot be. The operator should, therefore, always err on the safe side, for it is always possible to remove an additional portion later, while, on the other hand, the sacrifice of too much tissue may mean the necessity for continual administration of thyroid extract. Personally, I have been in the habit in such operations of leaving the isthmus and a portion of one or both lobes equal in size or little more than the normal thyroid gland, and in only one instance have any symptoms developed that would suggest the removal of too much tissue. In this case the administration of thyroid extract in 3-grain doses three times a day for a period of four weeks, gradually reducing the dose, resulted in a permanent cure.

The seventh point is neatness in approximating the cut ends of the muscles and the closing of the fascia and skin wound separately. It is necessary that we should not only get restoration of the proper functions of the muscles, but on account of the prominence of the field of operation there should be as little scar as possible. Under ordinary conditions the scar resulting from a properly closed wound should practically disappear in about two months. Drainage should always be provided through a stab wound about one inch below the incision in the median line. A rubber drainage tube or folded piece of rubber tissue is the best drain; do not use gauze.

This should be removed in from three to five days after the operation, depending upon the amount of drainage. The drainage of these cases is essential, as it provides for the escape of the thyroid secretion which may have been pressed into the wound during the operation or which subsequently escapes from the margin of the isthmus before it has been sealed over by plastic lymph after the operation. The retention and absorption of such secretion gives rise to a post-operative train of symptoms known as acute hyper-thyroidism. This is a most distressing, and at times alarming, complication, but is readily relieved by an ice-cap over the heart, small doses of atropin to control the excessive sweating, from 1-6 to 1-4 grain of morphine, and spartein to stimulate the kidneys. The condition usually clears up in twenty-four to forty-eight hours.

In conclusion, I would emphasize these points: All cases of enlarged thyroid or exophthalmic goitre should receive thorough, persistent medical and hygienic treatment, bearing in mind that a large majority of cases of simple goitre are readily cured or relieved thereby. This does not mean, however, that they recover spontaneously without treatment.

Justification of operative treatment should be based on the following facts:

That medical treatment has failed.

That the tumor is deforming and disabling.

That the symptoms are undermining the general health of the patient.

That the disease in effect may produce serious and irreparable damage to the heart and the nervous system.

401 West Grace Street.

THE POSSIBLE ETIOLOGY OF PELVIC DISEASE IN EPILEPSY—WITH REPORT OF A CASE.*

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REVIEW OF THE EPILEPSY PROBLEM.

The various disease pictures loosely grouped under the head of epilepsy by the older writers and now designated on account of their

varying etiology "the epilepsies," have long been a puzzle to the psychiatrist and neurologist, as well as to the general practitioner. Even the earliest names for the disease indicate the superstitious reverence in which it was held and the bizarre notions as to its causation. The word itself is derived from a Greek word meaning "a seizure," the idea, of course, being that some malignant, external force seized upon the victim. The various Latin names for it show the awe in which it was held and the belief in its supernatural origin. Thus we have *morbis sacer*, the sacred disease; *morbis sideratus*, the star-struck disease; *morbis daemionicus*, the disease of demons; and *morbis deificus*, the God-making disease. Another Latin synonym, *morbis caducus*, the falling sickness, has come down to us unchanged, and we have it in German, *Fallsucht*, and in Scandinavian, *epilepsin fallendsot*. The common name for the malady among the less well-informed of the laity today is "falling sickness" and it is quite a common thing in our dispensaries to be obliged to use this term to a negro before we are able to obtain a history of epilepsy.

It is a peculiarity of this disease that the physicians are pessimistic and the patients optimistic. The average general practitioner looks upon a case of epilepsy which has happened to attach itself to him as a veritable *bete noir*. Realizing the hopelessness of the usual therapeutics, together with the almost inevitable physical, mental and social deterioration of the patient, he is inclined to shift the case as gracefully as possible to some other physician or to an institution. On the other hand, the patient, gifted by some Providential compensation with incurable optimism, looks upon each new physician as the Moses who shall lead him out of his plague-ridden past, every new prescription he hails as the long-sought-for elixir and every new intermission in his convulsions is the dawn of an era of peace.

If the criterion for an adequate understanding of a disease form may be assumed to be the formulation of a definite etiology, symptomatology and therapeutics, then we may be said to be today almost as far from a knowledge of the nature of epilepsy as we were fifty years ago. Spratling,²⁰ who has been one of the most zealous students of this subject, refers to it as the "strangest disease." In fact, we might almost say that in epilepsy we have a

symptomatic disease; we know the picture of grand mal and of petit mal, we have some idea what nocturnal epilepsy is, and we know someone who knows someone else who has heard of a case of psychic epilepsy, but the best we have been able to do with the etiology, leaving out of the discussion of course those fairly well defined cases due to toxemia or trauma, is to say that many cases may be due to some metabolic disturbance, others to a maladjustment at the psychological level and that there then remains a residue of cases which we may leave unclassified or call "idiopathic" or "essential" or anything else which appeals to us.

It is not our purpose here to review all the theories entertained, experimented with and finally dismissed by various investigators; these have a historical interest, but little practical value. Instead, we shall glance briefly at the current conceptions of the disease. Perhaps the first thing that impresses us is that nowadays we are not content to make a diagnosis of epilepsy, but we endeavor to find out what particular morbid process is responsible for the picture of convulsive attacks and then determine the therapeutic measures to be employed. That the pathology of epilepsy is obscure may be readily appreciated when we learn that in a recent study of the brains of 205 epileptics who died in institutions, Thom and Southard²¹ found 76, or 37 per cent., had no gross changes evident. This was a higher percentage than they found among plain psychotics examined in the same way. Interesting attempts to generalize are met with from time to time. One of the most recent of these is the theory of C. A. L. Reed,¹⁸ who claims to have demonstrated that the so-called idiopathic epilepsy is caused by an infection which originates in the alimentary canal and is taken up by the blood. In considering this view, or any other, we should not forget that, as Munson¹⁶ says, we must turn to the most intimate features of the social and economic life of the patient and not put our trust in medication alone.

CLASSIFICATIONS OF EPILEPSY.

Epilepsies may be broadly divided into the idiopathic, or genuine, and the symptomatic. This is an etiological grouping, the symptoms shown, that is, the paroxysm, being essentially the same in both varieties, only in one case we have the equilibrium of the cerebral cell being disturbed by some obscure process origi-

nating and expending itself within the cell itself, and in the other case the same process occurring as a result of some extrinsic cause, perhaps a toxemia, a trauma, etc. It does not seem probable that we often find either of these forms in an unmixed state, i. e., the idiopathic epilepsy is precipitated by a superimposed pathological process of some kind and the symptomatic epilepsy arises from a pre-disposed soil. It is well known, for instance, that epilepsy can be induced by strong stimulus of the emotions. To quote Clark,⁷ "Today it reappears in many clinical studies almost like a new fact, that many attacks in epileptics are emotionally induced. For some time the situation has been made the most of by many quacks in dealing with many excitable and neurotic epileptics. For anyone having much to do with epileptics, and especially those living in close contact with them in colonies and institutions, daily witnesses true epileptic attacks psychically induced."

The old Turner²² classification was into four divisions: First, the organic forms, due to focal brain disease or to trauma. Second, early forms, including cerebral palsy, birth trauma, encephalitis and hemorrhage. Third, the late forms, due to toxæmia, syphilis, alcohol, cardio-renal-vascular disease, eclampsia going on to a chronic convulsive state, etc. Fourth, the idiopathic forms, containing the kinds not otherwise classified. It would seem to be better to use only two main groups: First, the symptomatic, which would include the first three given above, and, second, the unclassified, which is a rather more candid way of speaking than the use of the term idiopathic. The scientific desideratum is, of course, the gradual enlargement of the symptomatic class at the expense of the unclassified variety, until at last we would have almost a negligible amount of the latter.

PSYCHOANALYTIC CONCEPTIONS.

We should not leave the question of the nature of epilepsy without alluding to the newest conceptions of all, those of the psychoanalytic school, or to speak with less danger of engendering acrimony, the interpretative school of psychiatry. Speaking of epilepsy, White²³ says, "It is a term given to attacks caused by a faulty distribution of energy which may be brought about in many ways and through divers mechanisms." If we consider the nervous system as consisting broadly of two sets of receiving organs, those

which come in contact with the external world (exteroceptors) or with other parts of the body (proprioceptors) and a set which may be called effectors, which condition the reactions of the body so as to adapt properly, then any disturbance of these mechanisms at any point may result in an accumulation and final discharge of energy in a faulty way, causing the temporary destruction of the equilibrium of the cerebral cells.

Ferenzi¹¹ has suggested that epilepsy belongs to a period of wish-fulfillment by means of incoordinate movements. We are all familiar with displays of "temper" in infants where they kick wildly, hold their breath for a time, and then emit a high-pitched cry; also the older children who fly into rages, stamp their feet, tear up books, etc. The discharge of energy seen in adults who indulge in such displays of anger as clenching the fist, pounding the desk and uttering profanity in loud tones, belongs to the same class, that is, it represents ineffectual attempts to change a situation by purposeless movements. He says that a study of the aura as a clue to the point at which blocking of energy commences, and a detailed analysis of all of the elements of the attack plus an analysis of the make-up of the individual in the interparoxysmal period would seem to offer the mode of approach to a further understanding of the mechanism in individual cases.

L. Pierce Clark⁸⁻⁹ says regarding epileptics: First, that there is invariably present an epileptic constitution or make-up in those individuals who later develop essential epilepsy. The nucleus of this personality defect is a temperament of extreme hypersensitiveness and egotism and all that these two main characteristics entail. This defect in character is not to be taken in any narrow or moralistic sense, but is to be considered a temperamental defect in a broad, biologic view, a personality defect which makes its possessor incapable of social adaptation in its best setting and which, if it remain uncorrected, renders the individual entirely inadequate to live a normal adult life. Second, that the seizure phenomenon in essential epilepsy is a direct outcome of the inability of such persons to subordinate their individualistic tendencies to those of the so-called social demands, and constitutes a reaction away from the difficulties in a loss of consciousness.

Clark conceives the fit to be a psycho-bio-

logical phenomenon doubly motivated. Its first attempt is to evade an intolerable adjustment demand; its second purpose is to retreat or to regress to a harmonious state, the tendency being in the general direction of an infantile or even pre-infantile state,—what the psychoanalysts call *meteroeroticism*.

THE PROGNOSIS OF EPILEPSY.

Taking up briefly the question of prognosis, we do not find the universal pessimism of the profession entirely justified. Thus, Flood¹² says that of all convulsive conditions, 50 per cent. are curable, of established epilepsies in young individuals 20 per cent. are curable, of old established cases five per cent. are curable, and even of cases with mental deterioration one per cent. recover. Certainly the newer idea of refusing to recognize a case as idiopathic epilepsy until we have eliminated all possible causes makes the prognosis look more favorable, for where we can find the cause of a syndrome we always feel that there must be an avenue of intelligent therapeutic attack.

MEDICAL TREATMENT.

When we come to the subject of the treatment of epilepsy, we find that nearly everything in the pharmacopeia has been tried. To discuss the medical treatment, first, the bromides will naturally occur to us. At one time hailed as a specific for this disease and later on regarded as an almost sure preventive, we are now forced to the conclusion that they have only a limited value. Given in large enough doses to prevent convulsions, they cause acne, disturb digestion and dull the mental faculties. Then, too, there seem to be grounds for believing that in a large measure these convulsions are not prevented, but only postponed, for we see severe convulsive states developing even in epileptics who have been saturated with bromides and the withdrawal of bromides in patients who have been getting them over long periods usually results in severe attacks. Opium has been combined with bromides, as in the Flechsig treatment, but this has now lapsed into desuetude. We shall only mention by name a few other drugs which once had ardent advocates: *adonis vernalis*, *cannabis indica*, *solanum carolinense*, *valerian*, *simulo* and *borax*. Alcohol, too, while ordinarily a potent poison in this disease, seems to affect favorably a very few selected cases when exhibited intelligently. Grandular therapy has, of course, been tried, the extracts chiefly used being those of the thyroid and

parathyroid, on the theory that epilepsy has something to do with hypothyroidism. More spectacular therapy has had its day, as the use of the serum of other epileptics (Ceni's¹³ method) and the use of crocalin or rattlesnake venom by Spangler.¹⁹ The correction of ocular errors and more rarely auditory and nasal defects in some instances has been beneficial. Hygienic and dietetic measures, combined with judicious ergotherapy, have succeeded in many instances in ameliorating the epileptic's lot.

SURGICAL TREATMENT.

In connection with the case which we are about to report we wish to call attention more particularly to the surgical treatment for the relief of epilepsy, and here we find almost as diverse a history as that given above of internal medication. Almost every form of surgical operation has been recommended and tried on these patients. These operations are of three main varieties: First, those undertaken with the idea of removing some lesion in the cortex; these are, of course, rational only when the epilepsy is focal in nature. Second, those performed with the theory that increase of intracranial pressure was responsible for the condition. These decompression operations seemed to promise well for a time, but they have been practically abandoned now. Third, operations on remote parts of the body to relieve peripheral irritation; it is such a one that we are able to report.

It is a fairly well accepted idea now that in an individual predisposed to epilepsy the reflex irritation from some pathological condition, even in such a place as the peritoneal cavity, may cause seizures. The mental and physical activities of a woman reach a high point just before her menstrual period, and when obstructive dysmenorrhœa is present, the nervous discharge is diverted and there is great suffering, not only in the abdomen, but through the system generally, but especially the nervous system. The question of possible motor irritation resulting in excessive muscular action or spasm must be inquired into, because the presence of either tonic or clonic convulsions implies irritation of motor centers, motor tracts, or motor nerves, but motor irritation may also be excited secondarily in some reflex way, the result being a reflex spasm. The full control of the functions of the pelvic viscera, as, for example,

the bladder, is dependent upon the reflex centers of the spinal cord and the integrity of the afferent and efferent nerve fibers constituting the arcs from these organs to the cord. Through voluntary effort evacuation of the bladder or rectum occurs normally, but any undue irritability of the reflex centers may pervert these impulses in various ways. Organic disease in any part of the body may act as an irritant to some nerve, and women in particular seem more easily affected in this manner.

Epilepsy, epileptoid convulsions and the spasmodic manifestations of hysteria are so closely allied that cases presenting convulsions are often extremely difficult to classify. A diagnosis of idiopathic epilepsy is almost always open to question. Periodical convulsive attacks are most commonly due to toxemia or trauma, but although this class of cases simulates very closely true epilepsy, the attack itself is not such a typical clinical picture of epilepsy as is the case in the class usually termed hystero-epilepsy, as, for example, in the case reported below which suggests some chronic irritation through the spinal arcs to the cord and brain, resulting in a convulsion. The woman in question had never been toxic, but gives a definite time of onset of her convulsive seizures coincident with an attack of pelvic peritonitis that occurred at the time of her last confinement, 24 years ago. She was then 32 years old and is now 56, having lived the last ten years of her life without a convulsion or a suggestion of one.

Neuropathic individuals may present the various symptoms of hystero-epilepsy, and individuals of this make-up may have these discharges of energy with or without pelvic disease, but when a chronic hydro-salpinx with adhesions persists for many years in such neurotic individuals, the resultant irritation often causes nervous manifestations, and in this case a chronic hystero-epilepsy was her nervous response. Bossi,⁴ in a French obstetrical review, stated he believed that much hysteria and many neuropathic conditions and psychopathies with their resulting suicides and crimes are dependent upon chronic lesions of the genital organs. He cites many cases in which hystero-epilepsy has resulted in individuals in whom it was possible to demonstrate the presence of chronic genital disease. He also believes that women with mental disorder and extremely neurotic ones

should be carefully examined, and if gynecologic lesions are found, they should receive appropriate treatment. There is an ultraistic theory that there is a distinct sympathy between the pelvic organs and the mind of a woman, and it is this idea that gave rise to the theory that pelvic disease may cause mental disorder and, consequently, that the cure of pelvic disease may cure mental disorder. A very interesting report of Hobbes,²⁴ in which he earnestly recommends operating upon the mentally diseased, gives the following statistics: Of 211 women, whom he examined, 179 exhibited well-marked evidences of pelvic lesions; he operated upon 116 of these with two deaths. Fifty-one per cent. of them were restored to mental health and seven per cent. were distinctly improved mentally. Including 70 non-inflammatory cases, such as displacements, tumors and lacerations, he gives a total of 112 recoveries; 51 of these patients had suffered from mental disorder for at least two years.

The radical view advocating mutilation or extirpation of the pelvic organs in mental cases where there are no definite pathological changes is not accepted by either surgeons or psychiatrists, but where there is some organic disease, as ovarian, tubal or pelvic adhesions with dysmenorrhœa and nervous phenomena, recovery will often follow removal of the disease. Ten years ago one of the writers removed two cystic ovaries from a girl 18 years old. She gave a history of severe dysmenorrhœa accompanied by convulsions, diagnosed as epilepsy. She reported for two years following the operation, during which time she was perfectly well. Her history since then is unknown, but the leading writers on epilepsy are agreed that a period of two years without a convulsion may be called a recovery.

We are all familiar with circumcision for the relief of convulsions in infants and the rather fanciful operation of circumcision of the female. In regard to the role played by peripheral irritation, we can do no better than to quote Munson:

"Operations on other parts of the body are frequently performed, with the view of removing a peripheral irritation, which is having an unfortunate influence on the case. Naturally it is a good general principle to adhere to that the individual should be placed in the best possible physical condition, and that this should be done by operation if necessary.

Peripheral causes undoubtedly play some role in isolated cases of epilepsy * * * * * . Caution must be used lest enthusiasm lead to premature conclusions as to arrest of the disease. From a year to two years should elapse before we begin to talk of arrest."

Auer¹ also gives among the exciting causes of epilepsy, "reflex action through diseases of the viscera."

It is interesting that the case in question, after many years of suffering, came to operation for an acute twisting of the fallopian tube, which called attention to a pre-existing chronic inflammation of the tubes and ovaries, the removal of which accidentally terminated her convulsive attacks and made her life one of perfect comfort. If it had not been for this sudden attack of abdominal colic, requiring interference, she might still be an invalid, carrying a chronic pelvic lesion, which had not been recognized, and subject to convulsive attacks resembling in every detail true epilepsy.

Torsion of the fallopian tube is a comparatively rare condition, and a search through the literature shows few recorded cases. In the laboratory of the University of Pennsylvania, one case of torsion occurred in 925 inflammatory tubal lesions, of which 147 were hydrosalpinx or hematosalpinx. Auspach² collected 87 cases from the literature. Nearly all of them were hydrosalpinx with thin adhesions, long pedicles and located on the right side. The chief enlargement is situated in the ampulla of the tube, and this is connected with the cornua of the uterus by a fairly long pedicle with a thin mesosalpinx. Almost all such tumors contain a dark, sero-sanguinous fluid and the walls present gangrenous appearance.

These cases were not diagnosed before operation and are not to be confused with twisted ovarian cyst. In Cathelin's⁵ series of 41 cases "de la torsion des hydrosalpinx," there were six pyosalpinges and he believed that some of these were originally hydrosalpinges, which had become reinfected. Collection of blood in the tube, or hematosalpinx, is generally attributed to ectopic pregnancy, but A. Louise McIlray,¹⁵ some little while ago, indicated the possibility of its occurrence from torsion of the fallopian tube and gives the history of a case in which she was in doubt before the operation as to the diagnosis between ectopic pregnancy and incarcerated fibroid; the operation disclosed that it was a hematoma from a

twist in the tube. Rupture of a hematosalpinx is exceedingly rare, but abdominal absorption usually occurs in pregnancy in the tube. (*Keen's Surgery, vol. VI.*)

CASE REPORT.

The case which we wish to report is that of Mrs. B., a white female, aged 56 years, who was operated on by Dr. Riggles ten years ago after having had hysterocpilepsy for 15 years; following the operation she has had no seizures. The family history showed no record of convulsions. Her birth and early childhood were uneventful except that she had an attack of rheumatism when five years old. Menstruation was not established until she was 17 years old and dysmenorrhœa was always present preceding the flow, which lasted from six to ten days. She was married at 18 and one year later was delivered of her first child; labor was normal, lasted two days and no instruments were used. Three other labors came at intervals with nothing unusual about them. At the age of 32 (26 years ago), she was delivered of her last child; labor was prolonged and hard, but no instruments were used. Following this labor, the menstrual flux became irregular, with increased dysmenorrhœa, and she suffered from pelvic pains, backache and dragging sensations in the iliac regions. These symptoms were almost constant and rapidly exhausted her general condition.

The nervous system seemed to suffer most and two years later, while undergoing one of her attacks of dysmenorrhœa, she had a convulsion. For a few years following this, each period was preceded by one of these seizures, and after the appearance of the flow which relieved the colicky pains she would be quite comfortable. Her condition gradually grew worse and convulsions occurred at frequent intervals, having no respect for the time of the month, eight typical attacks developing in one day. These convulsions were diagnosed by her family physician as "epilepsy" and from the family's description of the fit, he seems to have been justified in arriving at such a conclusion. The convulsions were described as being accompanied by frothing at the mouth and biting of the tongue; they were followed by a headache and temporary amnesia. These seizures lasted for fifteen years; other symptoms complained of during this time were backache, hyperidrosis and metrorrhagia.

On October 1, 1906, she visited her home and,

while helping a nurse in the confinement of her daughter-in-law, was attacked with severe colicky pains in the right iliac region. The attending physician made a diagnosis of appendicitis and insisted on immediate operation; this was refused and she was brought to Washington. Dr. Riggles saw her the day after her arrival, two days after the first attack of pain. She was suffering from severe pain in the right iliac region, which was continuous and colicky; superficial pressure caused increased suffering, while deep pressure relieved her a little. The good character of her pulse, which was 80, and temperature, which since the attack had not risen above 99.5 degrees, made the diagnosis of appendicitis doubtful. He determined to wait a few days, during which time the intestinal canal was thoroughly cleansed and the pulse and temperature carefully watched. Vaginal examination revealed a high, immovable cervix and tense vaginal vault, but no tumor could be palpated on account of the extreme tenderness and rigidity of the abdominal wall. The pain did not abate with the relief of the abdominal gas, but seemed to increase, requiring large doses of heroin. The ice-cap was of no service; she finally consented to abdominal section for the relief of the pain and was operated on the following Thursday, six days after the first attack of colic. An examination under chloroform revealed a large mass to the right of the uterus and a small one to the left. Urinalysis had eliminated ureteral stone and kidney disease; blood examination was not done.

Operation.—A median incision was made, the adhesions to the omentum and bowel were separated from both appendages; the left tumor, being smaller than the right, was first raised into the wound and a fairly good-sized hydrosalpinx and cystic ovary were removed. Beginning on the right side of the uterus, adhesions were separated from the mass on that side and a tumor about the size of a large orange was exposed; this was very dark in color and contained blood. There was no special difficulty in removing the large hematosalpinx. The wound was closed by subcutaneous tier sutures with no drainage, and a collodion occlusion dressing. The patient's recovery was uneventful and there have been no convulsive attacks since the operation, now ten years ago.

Summary of Case.—This case seemed to be an interesting one for several reasons. First,

because of the specimen which is a true hematosalpinx, due to twisting of the fallopian isthmus, thereby obstructing the circulation and, consequently, causing the venous capillaries to rupture into a chronically inflamed, cystic tube, which is the usual preceding pathological condition in cases of this kind. Simple hematosalpinx or a tube distended by fluid blood is very rare and should not be confounded with a bloody tumor of the tube due to bleeding from a tubal pregnancy. This specimen seemed to be a true hematosalpinx due to volvulus, and the pathologists have confirmed this idea, with the additional information that parts of the tumor were undergoing organization and tunneling with no evidence of necrosis in spite of the color. Adhesions over the ovary and abdominal end of the tube prevented the escape of blood and the possible introduction of infection into the peritoneal cavity.

Second, the diagnosis was most uncertain. The history of such an acute attack suggested a twisted pedicle of an ovarian cyst. We could not exclude appendix disease or pyosalpinx, and ureteral stone was a possibility. The general condition of the patient was excellent contrary to what might have been expected from her great suffering; her pulse and temperature were approximately normal throughout the attack, so she was not subjected to section quite as early as is customary.

Third, it does not seem very probable that the chronic disease of the uterine appendages was the original cause of the convulsions as they existed for a number of years prior to the first detection of a pelvic mass. Of course we must consider the possibility of a long-standing affection of the appendages producing no demonstrable physical changes and yet acting reflexly on the central nervous system.

Conclusions.—In looking at this case as one of epilepsy, or better, hystero-epilepsy, cured by a gynecological operation, we must, of course, remember that as White says, "an explanation for epileptic attacks which finds its ultimate expression under such symbols as eye-strain, floating kidney, gliosis or like specific indictments, fails to realize that the nervous system contains representations of all the organs and that the final activity of the human body is the result of the balance which has been struck among innumerable tendencies. The part that any particular organ plays can only be understood when taken into considera-

tion with the organism in its totality and realizing the specific part that the organ in question plays in the whole problem."

In the case presented, we have a disease of the generative organs with which it seems probable that this woman's convulsions were intimately associated, coming on as it did after her last labor, a severe one, followed by a long strain of painful symptoms. The relief was probably then threefold: the actual physical relief due to removal of the mass, the reflex relief from the cessation of irritation and the psychic relief afforded by her belief in freedom from future disturbances. Of course it is well known that any therapeutic procedure may arrest convulsions in an epileptic for a time, but after an interval of ten years, we think we may be justified in regarding the case as cured.

This case emphasizes the value of a thorough physical overhauling in cases of epilepsy, especially those developing comparatively late in life, in order not to overlook any possible form of trouble which may not be obviously connected with the central nervous system. In women the pelvic viscera should be especially scrutinized on account of the important part which they play in their physiology and psychology.

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THE FIRST 84 CASES OPERATED UPON FOR LACERATION OF THE CERVIX AND VAGINA.*

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Upon the first 220 women operated on by the writer for disease of the pelvic organs and vagina, it was necessary in 84 cases to do 153 operations, consisting of repair work upon the cervix and vagina. In 70 of these cases the cervix and vaginal work was in addition to abdominal operations; in 13 the operations involved only the birth canal; and in one a vaginal hysterectomy was performed for complete prolapse.

Of the 70 patients upon whom abdominal work was done, 58 were for displacements with laceration, 15 for ovarian cysts with laceration, 3 for fibroids of the uterus with laceration, and in 62 cases inflammation of the uterus and tubes was sufficiently severe to demand abdominal operation.

Of the total 84 patients requiring plastic work upon the cervix and vagina, 69 required perineorrhaphy, 60 trachelorrhaphy, 49 required both perineorrhaphy and trachelorrhaphy, 21 required plastic operation for cystocele and in 2 recto-vaginal fistulae were closed.

Of the 69 cases of perineorrhaphy 57 required also abdominal work. Of the 60 trachelorrhaphies 52 required abdominal work. Of the 49 repairs of both the cervix and vagina, 42 required also abdominal work and of the 21 operated upon for cystocele, 18 required also abdominal work.

The incidence of laceration and abdominal disease is interesting and significant. Of the 118 cases of displacement reported elsewhere, 58 had laceration. There were 60 cases of displacement without laceration. Of the 54 patients with ovarian tumors, 15 had lacerations. Of the 150 cases of inflammation of the uterus and tubes due to all causes, 62 had laceration, and of these the laceration was of the

*One of a series of articles upon "Standardization of the Surgeon."

cervix in 57. Of 22 cases of fibroids of the uterus only 3 had lacerations. The question of the relation of lacerations to displacement and of the relation of the cause of lacerations (labor) to fibroids and ovarian cysts, and the question of relation of lacerations to inflammation of the uterus and tubes are of great practical importance. We have some beliefs which will be summarized in a forthcoming publication.

In 84 patients herein reported, 153 operations were performed as follows:

Perineorrhaphy	69
Trachelorrhaphy	60
Anterior colporrhaphy for cystocele..	21
Closure recto-vaginal fistula.....	3
Amputation of the cervix.....	7

Concerning the degree of prolapse for which plastic operations were performed, in 36 cases the uterus was prolapsed to the first degree, in 9 to the second degree, and in 7 cases the prolapse was complete, involving the uterus, bladder and rectum.

One perineorrhaphy was performed immediately following labor. All the others were after variable periods of time from 3 months to many years. It would scarcely be worth while to determine the exact number of cases in this group in whom "stitches had been taken" immediately following labor by the obstetrician. Such data would not argue either for or against the efficiency or inefficiency of immediate repair of the perineum; and it seems to be already determined that immediate repair of laceration of the cervix is not efficient save only to control post-partum hemorrhage due to this cause.

The symptoms presented by patients with laceration of the cervix and perineum are in our experience not characteristic. They have complained of signs common to all pelvic diseases and these have been largely those of the associated pathology, especially inflammation. We base the diagnosis and indications for operation solely upon the signs seen and felt upon examination.

In some of our earlier cases we repaired lacerations even in the presence of displacement and other abdominal pathology without doing any abdominal operation. These cases have not yielded complete symptomatic cures. We soon learned that to cure the patient we must cure all the pathology. Our present belief is that all lacerations should be repaired. In the presence of abdominal pathology cure

of the patient's symptoms will not follow mere plastic work on the cervix and vagina, but demands abdominal operation also.

Concerning technique, we employ uniformly recognized standard methods. In the earlier cases, before the submucous perineorrhaphy had been standardized, we performed Emmett's operation quite satisfactorily. In the larger number of cases we have performed submucous perineorrhaphy, suturing the muscles and mucous membrane with cat-gut and placing one or two splint sutures of silk worm gut in the perineum. In two cases in which we omitted this splint suture the douche nozzle was accidentally inserted into the perineal tissue. The sutures in trachelorrhaphy have always been catgut and in the great majority of cases we have placed them only partially through the wall of the cervix, being careful to avoid the mucous membrane according to the suggestion of Dr. J. W. Henson, of Richmond.

The end results in all the 84 cases have been satisfactory. In all but 3 there has been complete and primary union without complications of any kind. In 1 case while dilating the cervix preliminary to trachelorrhaphy, I accidentally tore the cervix at the site of atrophy of the wall of the cervix because of the presence of an intra-ligamentary ovarian cyst. In 1 case a perineal hematoma had to be evacuated but convalescence was not delayed. In 2 cases, as noted above, we had trouble from failure to employ the silk worm gut splint suture. In 1 case one silk worm gut suture was accidentally left in the perineum, and had to be removed 3 weeks later.

The additional operations performed on patients in this group of 84 cases have been many. The abdominal operations have been detailed in a previous contribution. The additional vaginal operations consisted of the removal of Bartholyn glands, removal of tumors of the cervix, dilatation and curettage of the uterus, removal of hemorrhoids, cure of fistulae and other rectal operations.

The duration of the stay in bed and other details connected with the individual cases are summarized in an abstract of the case records a reprint of which will gladly be furnished upon request. There has been, of course, no mortality following the operation. All patients were completely cured.

501 East Grace Street.

The County Society.

This department is conducted by the Committee on Component County Societies. It is proposed to bring to the attention of the individual doctors of the state the many and great advantages of organized effort.

The committee will be glad to answer all inquiries addressed to 109 College Place, Norfolk, Va.

Membership in the State Society is dependent upon membership in the Local Society. (An exception covers those old members of the State Society who have not joined the local societies, though all are urged to join.)

The local society elects, suspends or expels its members, who are thus automatically elected, suspended or expelled in the State Society and A. M. A.

Dues—The only difficulty that has been encountered by the organization committee has been from a misunderstanding in regard to dues. Each local society is responsible to the State Society to the extent of \$2 a year per member. Manifestly it would be impossible for the State Treasurer to collect from the individual members without interfering with the control of the local society over its membership.

Delinquents—Incident to the change from the old to the new system and to a misunderstanding in regard to the collection of dues, many local societies are behind in their payments to the State Treasurer. The State Society cannot run without funds. Every delinquent is urged to pay his local treasurer at once.

THE MOST INTERESTING AND INSTRUCTIVE MEETING HELD during the A. M. A. Convention in Detroit, was a Conference of the Presidents and Secretaries of the various state organizations. Virginia was represented by its President and the Chairman of its Component Societies Committee.

Pennsylvania reported great progress and development since its re-organization, two years ago. Membership increased to 6,200. County societies doing good work. Conducts a journal and has a Defense Fund and Benevolent Fund. Annual meetings well attended and highly instructive.

Ohio reported having an Executive Secretary who devotes his entire time to the work, with permanent offices at the capital. Membership 4,300. State Journal. Legislative and educational work both well looked after. Secretary keeps in constant touch with the local societies.

Tennessee has a Journal and Defense Fund. Membership of 1,500. Local societies doing good work.

Indiana, with a membership of 2,600, pays special attention to its Defense Fund and educational work. For years it has had a scien-

tific exhibit at its annual meetings, which has developed to a high state of efficiency.

Special Notice. By referring to the map published in this issue, those counties not organized and chartered may be seen.

The physicians of such counties are urged to communicate with the Committee on Component County Societies at once. Full information and literature will be furnished to facilitate organization. Where desirable on account of small membership, two counties may unite and form one society. If necessary a member of the committee will attend the organization meetings.

A doctor cannot be a regular member of a local society without being a member of the state society, and why should he want to be?

The individual country doctor is a power in his community. Organized with his fellow doctors, this power for good is greatly increased and may be made most effective.

Every reputable doctor in the state should join his local society.

The state society, after years of strenuous work, finally succeeded in having the iniquitous tax on doctors removed. This saves you from \$10 to \$25 a year. The two dollars paid for state dues is practically an insurance to prevent the re-imposition of the tax, to say nothing of the many other advantages and opportunities it brings.

The last meeting of the state society was the largest in its history. The local societies had much to do with this.

Help us make the next meeting still larger.

ADVANTAGES OF MEDICAL ORGANIZATION —ITS PROGRESS AND POSSIBILITIES IN VIRGINIA.*

By SOUTHGATE LEIGH, M. D., F. A. C. S.,
Norfolk, Va.

Chairman Committee on Component County Societies; Surgeon-in-Charge Sarah Leigh Hospital, etc.

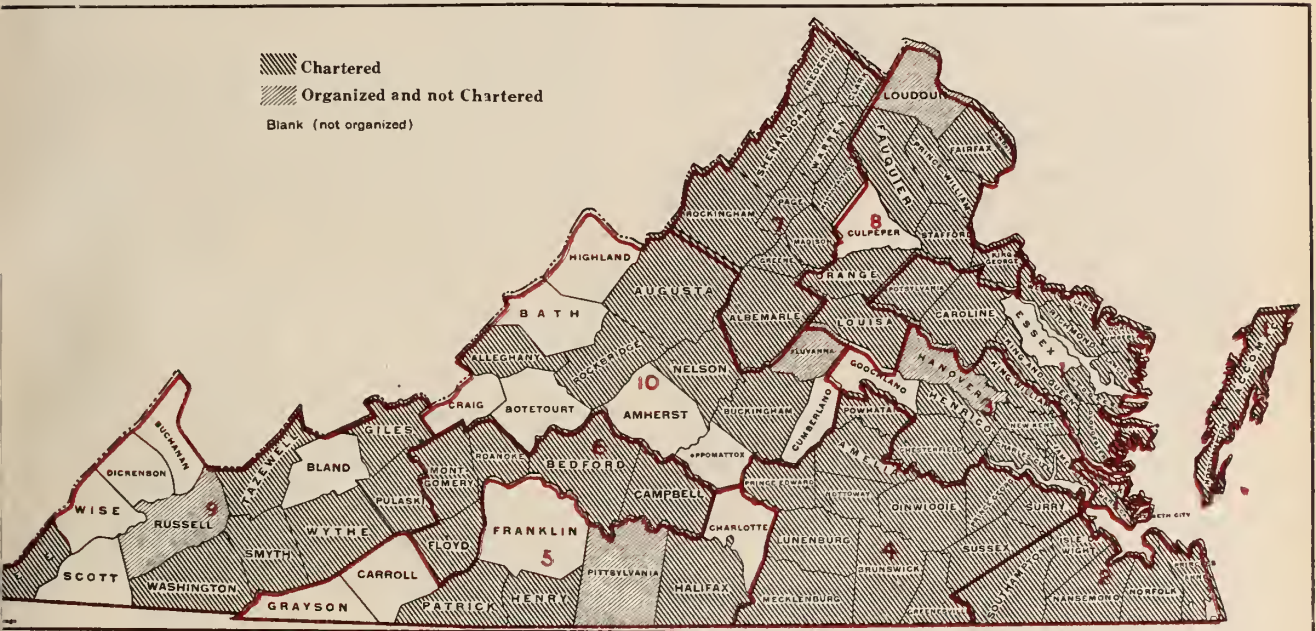
This question is one of the most far-reaching and extreme importance to the profession of Virginia and to every individual member

*Read before the Medical Society of Virginia, at its forty-sixth annual meeting, at Richmond, October 26-29, 1915.

thereof. The progress of our organization work has reached a stage where it is necessary that we have a full, frank and free discussion of certain important details, and settle for all time some uncertainties that seem still to exist in the minds of a few.

The more we investigate the new plan of organization, the good results already accomplished in this state and its wonderfully beneficial effects as shown in other states, the more are we convinced that if pushed to full completion it will accomplish untold good for the reputable doctors of Virginia.

In 1912, careful investigation showed that there was much apathy among our members. From the distant sections the attendance was practically nil. The delinquent list was rapidly increasing. Something had to be done. In the early part of 1913 a number of local societies were formed as a basis for re-organization and at the fall meeting, after a full explanation of the situation, the Constitution was changed by an almost unanimous vote. The new plan, which was slightly modified again in 1914, provides for a local society in each county, which society has practically



MAP OF VIRGINIA. SHOWING THE STATE OF THE ORGANIZATION WORK

(Note.—Since this map was made Pittsylvania has been chartered; Wise is organized but not chartered.)

Let us for a moment review the history of the movement. In 1909, at Roanoke, an attempt was made to adopt the full plan of organization as suggested by the A. M. A. This would have carried but for strong opposition on the part of some of the best workers in the society. Our secretary at that time, the lamented Dr. Landon B. Edwards, gave practically his entire time and energy to the interests of the State Society, and by constant and laborious work kept in close touch with all of the members, thus maintaining one of the strongest and largest state organizations in the country. We also then had hardly any local societies. Dr. Edwards was much opposed to the change and his friends rallied to his assistance and defeated it.

entire control of its own affairs, electing its officers, making its own rules and choosing its members. It has also the power of suspension and expulsion. The local societies in each congressional district elect a Councilor to represent them in the Council of the State Society. Each local society is a component unit of the State Society. Membership in the local society carries with it automatically membership in the State Society and the A. M. A. In the same way suspension or expulsion in the local society acts automatically in the State and A. M. A. No one can join the State Society except through a local society. Very properly, the local society collects the dues of its members for the State Society.

Any other arrangement would lead to untold confusion.

Personally, I am in favor of a House of Delegates, which would give the local societies more intimate representation in, and more entire control of the State Society. This point should receive full consideration at your hands during this meeting.

The work of organizing has developed steadily and satisfactorily. It would have been entirely completed but for the fact that our committee has had no funds, has had to pay all of its own expenses and has not been able to send an organizer to the doubtful counties.

Several counties have too few physicians for separate societies. It is arranged that those can join the State Society through the nearest organized societies.

In the few remaining counties, productive work has been done, a strong sentiment aroused, and it will be easy in a short while to get them all chartered.

Five counties are organized and have not applied for charters through some misunderstanding. I hope they may be straightened out at this meeting and through this discussion.

The only real obstacle that we have encountered has been the ignorance of the doctors in certain remote sections in regard to the tremendous advantages of the new plan and our inability to reach those sections and explain matters fully.

Only two objections have been mentioned: First, the fear that this is a scheme of the A. M. A. to get control of the physicians through state and county societies. This is entirely incorrect. The new plan puts practically all of the influence and power in the hands of the local society.

Second, and most important. Many object to paying their state dues through their local treasurers; why, I cannot imagine. It is more convenient. The local treasurers do not object to the arrangement. How could it be done otherwise? The local society arranges its own membership, which it may change from time to time by resignation, suspension or expulsion. It would interfere seriously with this prerogative if the State Treasurer undertook to collect from the individual members, and might cause serious complications. One prominent organized but as yet unchartered society, reports that it hesitates to come in because some of its members do not wish

to join the State Society. The individual doctors of Virginia, regardless of allegiance, should be ever grateful to the State Society for its magnificent work in ridding the profession of the iniquitous state tax, thereby saving each doctor from \$10 to \$25 a year. Surely they ought to be willing to pay the small sum of \$2 for membership, even if they do not desire any of its other privileges and advantages. As I see it, the \$2 is simply a tax on each local society for each of its members and is necessary for the support of the state organization. This is exactly the same plan as that followed by many of the fraternal orders.

To those of you who come from sections where societies have not been organized or gotten into complete and active shape, it will be most pleasing and gratifying to know what splendid results have already been obtained in some of the counties where the plan has been put fully into effect. There much interest and enthusiasm exists. The doctors in each county have been brought more closely together than ever before. The best of professional feeling exists. Little differences have been forgotten. The meetings are being held frequently and are being well attended. In a business way, the good effect of the organization is already being felt in better fees and better collections. The educational side is being steadily developed and the members vie with each other in the character of the papers and discussions.

This is, of course, the part of the work which is destined to yield the most fruitful results in advancing the interests of the profession of the state and of the individual physicians.

It behooves us as a State Society to see to it that not only shall every county of the state (where feasible) have a separate organization, but that these various local societies shall meet regularly and reap all the tremendous advantages of the up-to-date county organizations, social, educational and pecuniary.

Under our new constitution, each councilor shall be organizer, censor and adviser of the counties in his district. I hope to see the time in the very near future when our county societies shall be all in working order, and when each respective councilor shall be in such close touch with the societies in his district that if any one seems lagging in its work or interest, he shall visit it, advise and

stimulate its membership and bring it up to a useful and influential standard.

That is, my friends, the ideal condition, and one now easy of attainment. The profession has shown so deep an interest in the work, and has assisted so splendidly in its development, that, by active co-operation of officers and councilors, we shall in a short time have all in good and permanent order. And the profession demands it.

This is no longer a day of stagnation and of make-shift work, but a time of progress and development. If the men who are already in practice do not stir themselves, notwithstanding their wide and valuable experience, the new men who are now leaving the colleges so splendidly equipped with up-to-date methods will rapidly out-distance them. In every line of business competition is keen, and competition is good for us all. In all lines of our profession, progress is the order of the day—education, increase of knowledge, newer and better methods.

The county society is the place of all others where such advancement may take place. Frequent meetings, interchange of ideas and advice, discussions of books and journals, and reports of clinics, will here do most for the development of medical knowledge with the least expenditure of time.

The possibilities for advancement and development are untold. Many states are already reaping benefits which await us in the near future. The President of the State Society of Alabama told me a few days ago that in his state every county has a society, every applicant to practice medicine in the state has to stand the required state board examination, and this includes homeopaths, osteopaths, chiropractics, and opticians. The State Society has complete control of the State Health Department and of the examining board, and enjoys many other advantages of a complete and compact organization. In Kentucky especially, has the educational part of the work been highly developed.

It would be well to consider the advantages and possibilities of the fully completed plan of county organization under the following heads:

First. Business—Proper compensation for the medical man is a subject with which only a strong local organization can cope. The public has never fully appreciated the monetary value of the doctor. Although the doctor

deals directly with health and with life itself, yet his services are valued most low. The public is not doing the doctor justice, and is not doing itself justice. The physician cannot give the best service without good equipment, and that costs money. He cannot keep up with medical knowledge and advancement without considerable and repeated expense; and, of course, he must have the proper support for himself and family. The doctor's bills should be the *first* instead of the *last* to be paid, and he should receive living prices. As a matter of self-preservation, our local medical organizations must take up promptly the matter of compensation, fixing the proper fees for various communities, and arranging among its members to prevent imposition by patients going from one doctor to another to avoid paying bills. Let it be understood, however, most positively, that the medical profession stands ready at all times and places to care for the poor and needy.

The general practitioner, especially in the rural district, is the worst sufferer from small fees. The result has been to make general practice in the country unattractive to the younger medical men. And can we wonder at this when we realize how many of their predecessors, after years of most laborious and devoted work, have died, leaving their families almost penniless! An examination of their books would show enough in uncollected bills to make a handsome competence. The country doctor does not expect unreasonable results from his labors, but he has a right to demand that he be fairly compensated, that he be given a proper exchange for his wares.

Contract Work—If our profession continues at its present rate of success in educating the public in the principles and practice of preventive medicine, I believe the time is not far distant when the family physician will be employed by the year to keep its members in good health, as well as to minister to them when sick. I realize that I am treading on doubtful grounds when I even mention the contract system, which so far has caused the profession much trouble and disturbance, but I believe with a full development of our proposed medical organization, the difficulties may be easily overcome. We are gradually drifting towards some such plan. The unselfish efforts of our profession (without compensation), are so rapidly checking the development of preventive diseases that some way

will of necessity have to be devised to provide the medical man with his living. To my mind, a proper contract system, carefully and thoroughly worked out on ethical lines, might be most satisfactory to the physician and of untold advantage to the public. Consider the tremendous lessening of the death rate and the amount of sickness by community work, as already accomplished in up-to-date sections, and then imagine how much these good results may be augmented by the individual work of the family doctors among their patients.

Second. Legislation—It is necessary only to mention the repeal of the state tax to show what organization can do. For ten years the legislative committee had worked faithfully and vigorously to repeal that unjust and iniquitous levy, and finally succeeded. At the recent special session of the legislature a strong attempt was made by the finance committee to re-impose the tax. The secretaries of all the organized societies were notified and requested to communicate at once with their representatives and explain fully the situation to them. The response was prompt and effective. This saves the doctors of the state over \$40,000 a year. In Norfolk the local society conducted a similar and vigorous campaign of education among the members of the city council, with the result that they almost unanimously repealed the local tax, resulting in a saving to the profession of about \$3,500 a year. A similar movement should be conducted in every community of the State where a local tax is enforced. In Norfolk we showed the councilmen that the doctors were in various ways saving the city between three hundred and five hundred thousand dollars a year and each one should be paid at least \$500 a year instead of being taxed. They compromised by repealing the tax.

A strong local society in every county could keep the respective legislators fully informed in regard to all medical and health matters, and, working thus in unison, would influence and direct much badly needed legislation, such as increasing the scope, work and power of the State Board of health, strengthening the laws regarding the practice of medicine, giving more support to the "T. B." Sanitarium and state hospitals, and improving general health conditions of the state.

Third. Education of the public in regard to preventive health measures can be greatly facilitated by organized effort through the

local societies. It is hardly necessary to mention the details here. The prevention of scarlet fever, diphtheria, typhoid fever and malaria, the prevention and early recognition of tuberculosis and cancer are vital matters which can be developed and handled best by the small society whose members come intimately in contact with the people.

Fourth. Education of the Physician—The county society as an educational force for the profession has a wonderful and but little considered opportunity. There is no telling what may be accomplished. During the past few years, marked advances have taken place in medical education. The number of colleges has been markedly reduced, the standard of education has been elevated and systematized, and, as the result, fewer and better doctors are being turned out to practice. Advance does not stop here. Medical men and surgeons at the large centers are doing much to develop and increase useful knowledge among the profession at large. The habit is being rapidly formed among the profession in general of making regular visits to clinics, and of more largely attending medical gatherings. Our journals are becoming more perfected and being more widely read. In short, not only are improvements in medical and surgical practice being rapidly developed the world over, but the knowledge of the advances is being systematically diffused throughout the entire profession. There is no one way in which we can, as individual physicians, improve ourselves more certainly and more systematically than by meeting together frequently in the small local societies, where we may exchange views, report cases, ask advice of each other, discuss the journals, and thus broaden our views, *and make better doctors of ourselves*. The physician "who knows it all" is a dangerous man. The wisest physician is the one who realizes his limitations, and is continually striving after knowledge and betterment.

Advances both in medicine and surgery are being made so constantly and rapidly that much time and study must be given by the members of the profession in order to keep up-to-date and to produce the best results.

It is absolutely essential for the doctor to absent himself from his practice at regular intervals, and the public should encourage him in so doing, as it is as much to their advantage as to his. He should regularly attend the local meetings, the larger society meetings,

and visit the clinics best suited to his line of work.

Our profession has no secrets. Doctors give freely of their knowledge one to the other. With us, as with all other professions, all is advance and improvement.

Fifth. Social—One of the best results of the local society plan is that it necessarily brings the physicians of the community closely together. We are all forced to admit that unfortunately in some sections there is more or less bad feeling between doctors, as well as between people who are rivals in other kinds of business. *This should not occur with our profession, whose aims are so high and responsibilities so great.*

No physician has a right to speak ill of a brother physician or his work. It hurts him as much as the other and often more; it hurts the profession as a whole, and, worst of all, it weakens the confidence of the public. We all have a right to choose our friends and to have our likes and dislikes, and it is not necessary for any doctor in a community to be intimate with all of the other doctors. He should, however, treat each one *with the respect that his high calling demands.* We have our code of ethics which should be followed strictly. If one physician has a grievance against another, he should at once take it up either individually or through his local society. In ninety-nine cases out of a hundred it can be easily explained and settled. If he simply carries it in his mind as a grudge against the other, it causes much worry, unpleasantness and bad feeling. Life is too short for "fusses" and petty jealousies. Let us be broader minded, and more philosophical, and it will make it easier for us all, and will be most helpful to the profession at large. Of course, we have our "black sheep," but they are few and far between. With strict local organization, they can be readily handled and brought into line.

The new plan of organization is already a success, but it remains for us to so expand it that the profession of the state may reap all of the great possibilities and advantages that it offers.

Do You Know That

It's worry, not work, which shortens life?

A cold bath every morning is the best complexion remedy?

Poor health is expensive?

Clinical Reports.

DOUBLE NUCHAL DISPLACEMENT OF THE ARMS IN A LEFT SACRO-ANTERIOR PRESENTATION WITH FEET EXTENDED TO CHIN OF CHILD (Frank Breech).*

By VIRGINIUS HARRISON, A. M., M. D.,
Richmond, Va.

In the *Journal of Surgery, Gynecology and Obstetrics*, of January, 1916, Gordon G. Copeland, of Toronto, reports a case of "Double Nuchal Displacement of the Arms in a Footling Presentation, with Breech Anterior, Chin Caught Above the Symphysis Pubis."

He makes the following statement:—"Double nuchal or dorsal, displacement of the arms in a breech presentation is exceedingly rare. I have failed to find any mention of this condition in more than twenty standard textbooks consulted. It is suggested by Cameron and Webster in Jewett's *Obstetrics*, but there the matter is vague. It is mentioned by Monroe Kerr, who states the difficulties and the improbability of successful outcome. It is more fully discussed and well illustrated in DeLee's splendid work on obstetrics just recently published."

The reading of the above report, prompted me to record the following:

I saw on May 12, 1915, in consultation with Dr. B. L. Hillsman, Mrs. H. H. (803), white, age 26. Second pregnancy. Had been in labor for several hours, waters had ruptured, pains were strong and regular, yet no progress was made in descent.

On vaginal examination, I found a roomy pelvis, cervix obliterated, and external os fully dilated, the child presenting by the breech. On inserting my hand into the uterus I found the legs extended and reaching to the chin of the child. The arms and hands could not be felt. After some hard work, I finally brought down the anterior foot, and later the posterior foot; this had to be done with extreme care to prevent rupturing the uterus which was very thin in its lower segment. By gentle traction, the breech was delivered, but no further progress was made, so I reinserted my hand into the uterus, and then found the hands and forearms behind the neck of the child. The cause of this condition is usually attributed to the rotation of the body of the child during man-

*Reported at a meeting of the Richmond Academy of Medicine and Surgery, May 9, 1916.

ual extraction. That this cannot be true in this case, I think is proven by the fact that I could not find the arms at my first examination, and, secondly, by the fact that I did not have to rotate the child to bring the feet down.

To overcome this condition, I pushed the child a little further back in the pelvis, and with rotation of the body, assisted by my hand, I succeeded in bringing down one arm; this required some force, as rotation alone failed to liberate either arm. The first arm liberated was fractured near the shoulder joint; the second arm was more easily gotten down, and no further excessive difficulties were encountered. The child weighed nine pounds, a healthy boy, and under the surgical care of Dr Hillsman, soon had good use of his broken arm.

I saw this child today, one year after his birth, and he seems normal in every respect and weighs twenty-five pounds.

401 North Allen Avenue.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Reported by EMIL MAYER, M. D., New York, N. Y.

(Continued from page 149.)

Some Statistic Observations on Oto-Laryngologic Diseases Among Negroes, Based on Fifteen Hundred Cases.

By DUNBAR ROY, M. D., Atlanta.

It is surprising how few negroes present themselves for nasal diseases. Out of the total fifteen hundred, only three hundred and forty-one came for nasal complaints. Spurs and deviations are very rare. The writer has never seen a deviated septum in a full-blooded negro. In the writer's opinion, this is due to two causes. In the development of the maxillary bones you never see a contracted and high arched palate among negroes. This tends to substantiate Mosher's argument as to the importance of the premaxillary ridge in the causation of septum deviations.

2. Traumatism as a causal factor is rare, because of the protruding brow and soft resilient cartilages externally. Acute inflammation of the accessory sinuses was exceedingly rare, due, in the writer's opinion, to the free ventilation in the nasal cavities. Only chronic necrotizing ethmoiditis with polypi occurred more

frequently than other chronic sinus diseases. Hay fever occurred in only two cases, and did not differ in symptoms from that seen in the white race. Atrophic rhinitis was seen in one case only, which would seem to disprove that theory making large nasal passages a predisposing cause for this condition. No case of chronic maxillary abscess was seen. It is a well-known fact that few negroes have bad teeth. Syphilitic lesions were frequent, as also purulent rhinitis in the young, which readily yielded to antisyphilitic treatment of the old regime—i. e., mercury and iodid of potassium.

3. Pharynx, epipharynx and larynx. There were one hundred and six cases involving these parts, by far the largest percentage. Diphtheria is exceedingly rare in spite of the poor hygienic surroundings of many of these people. Laryngeal tuberculosis occurred only twenty-three times; laryngeal and pharyngeal syphilis, two hundred and seventy. Adenoids and enlarged faucial tonsils occurred two hundred and ninety-six times, which refutes the statement made several years ago that adenoids are very infrequent among the negroes.

DISCUSSION.

Dr. Charles W. Richardson, Washington: In the main my observation is in accord with Dr. Roy's, but this is not the case with regard to the apparent immunity of the negro to diphtheria. For a number of years I had charge of the diphtheria ward in the Government Hospital in Washington, which was, in fact, the municipal diphtheria ward. There were practically no negroes in it. I do not remember a case of laryngeal diphtheria in any of the wards. I never intubated a negro child in my whole experience.

My experience is not in accord with Dr. Roy's with regard to the presence of adenoids and enlarged faucial tonsils in negro children. I think some of the worst cases of adenoids I have ever seen and operated on have been in negro children. Some years ago I was inclined to believe that negroes do not have this condition, but latterly, probably in consequence of school inspection, they come into the clinics in great numbers.

Syphilis among negroes is quite general in Washington as well as in Atlanta.

(To be continued.)

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

International Clinics. By leading members of the medical profession throughout the world. Edited by HENRY W. CATTELL, A. M., M. D., Philadelphia, and Collaborators. Twenty-fifth series, 1915. Philadelphia and London. J. B. Lippincott Company. 8 vo. Cloth. Price, \$2 each.

Volumes I, II, III and IV of this series of the International Clinics contain from 303 to 384 pages of clinical lectures and especially prepared original articles on various subjects in medicine and surgery, and other topics of interest to students and practitioners, and are well illustrated with plates, charts and diagrams. These books always embody papers of a high grade and deal with live subjects.

Bodily Changes in Pain, Hunger, Fear and Rage. By WALTER B. CANNON, M. D., Professor of Physiology, Harvard University. D. Appleton & Company, New York.

The influence of emotional states on digestive processes had been observed from time immemorial. The reaction of the alimentary canal to psychic stimuli is a well known fact in man and animal. Cannon, in a series of personal investigations concerning the effect of pain, hunger, fear and age, has demonstrated clearly how those reactions could be considered as expressions of adaptation to the individual's preservation.

After considering the anatomical arrangement of the visceral nerves concerned in emotions, also the physiology of the adrenal system, he takes up in detail the state of blood and of the arterial system under the influence of the sympathetic system and of adrenalin secretion. The adrenal secretion, the increase of blood sugar, the specific role of adrenin, the coagulation of blood—these are the preliminary subjects treated by the author in a masterly manner. Finally he considers the energizing influence of emotions, the utility of bodily changes and the alternative satisfaction in emotions. The entire work is written in a clear, concise and scientific style. It should be read by both physiologists and psychologists.

ALFRED GORDON, M. D.

Editorial.

County Medical Societies.

With a view to encouraging county medical societies throughout Virginia in sections where organization is not yet perfected, as well as to aid in various ways those societies already formed, Dr. Southgate Leigh, of Norfolk, Chairman, and his Committee on Component County Societies of the Medical Society of Virginia, beginning with this issue, expect to contribute items in each number of the *Semi-Monthly* from now until the State Society meeting in October, 1916. They hope thereby to stimulate interest among members of the profession in building up an organization that will wield a more powerful influence for good in all things pertaining to the advancement of medical science in this section.

A glance at the map which appears in this issue shows the state of organization work in Virginia as it has been developed to the present time, and represents a much better situation than many had supposed, due chiefly to the energetic efforts of Dr. Leigh and his associates.

The new department in the *Semi-Monthly* devoted to the County Society will be under the direct supervision of the Committee on Component County Societies, who will be glad to answer all inquiries addressed to 109 College Place, Norfolk, Va.

Health Insurance.

Twenty-five out of every 1,000 employees in American industries, according to recent statistics, are constantly incapacitated by sickness, the average worker losing approximately nine days each year on this account. This "non-effective rate" for the great army of industrial workers in the United States barely suggests the total money loss to employers and employees.

That much of this loss is nothing less than preventable waste and that this waste can be largely reduced by a properly conducted system of governmental health insurance for wage-workers are conclusions set forth in a Public Health Bulletin, containing the results of a study of "Health Insurance—Its Relation to the Public Health," recently issued by the United States Public Health Service. The preventive value of health insurance is given especial emphasis in this study.

Such a system, it is shown, would

1. Provide cash benefits and medical service for all wage-earners in times of sickness at much less cost than is now possible. Adequate medical relief would thus be placed within the reach of even the lowest paid workers who are most subject to ill-health.

2. Distribute the cost among employers, employees, and the public as the groups responsible for disease causing conditions and afford these groups a definite financial incentive for removing these conditions. This can be done by means of small weekly payments from employees, supplemented by proportionate contributions from employers and government at a rate reducible in proportion to the reduction of sickness.

3. Become an effective health measure by linking the co-operative efforts of the three responsible groups with the work of National, State and local health agencies, and by utilizing these agencies in the administration of the health insurance system.

4. Afford a better basis for the co-operation of the medical profession with public health agencies.

5. Eliminate the elements of paternalism and charity-giving by making employees and the public as well as employers, joint agents in the control of this fund.

The Bulletin concludes with the statement that a governmental system of health insurance can be adapted to American conditions, and when adapted will prove to be a health measure of extraordinary value.

The Association of Surgeons of the Southern Railway,

At its annual meeting in Chattanooga, Tenn., last month, selected Jacksonville, Fla., for the next place of meeting, and elected the following officers: President, Dr. Cooper Holtzelaw, Chattanooga; vice-presidents, Drs. Wm. H. Armstrong, Rogersville, Tenn., Thos. F. Robinson, Bessemer, Ala., J. H. Taylor, Columbia, S. C., and Henry McHatton, Macon, Ga., and secretary-treasurer, Dr. J. U. Ray, Woodstock, Ala., re-elected. Prizes offered by the *International Journal of Surgery* for the best papers were awarded to Drs. Edwin T. Newell, Jr., Chattanooga, J. H. Taylor, Columbia, S. C., and Martin D. Delaney, Alexandria, Va.

Re-appointed on State Board of Health.

Dr. George Ben Johnston has been re-appointed by Governor Stuart as a member-at-

large of the State Board of Health, and Drs. J. B. Fisher, of Midlothian, and Lewis E. Harvie, of Danville, have been re-appointed as members from the third and fifth congressional districts, respectively. Their terms of office will be for four years each, from July 1, 1916.

Soldiers' Families to have Free Medical Care.

At a called meeting of the Augusta County Medical Association, Inc., the latter part of June, Dr. W. F. Hartman, Swope, presiding, the following resolution presented by Dr. M. J. Payne, was unanimously adopted:—

"We hereby tender the gratuitous services of the members of the Augusta County Medical Association, Inc., to the dependent families of enlisted men serving in the national guard from Augusta, County and the City of Staunton, when so requested by the family or any member of such family."

At a mass meeting held in Fredericksburg, Va., to consider means for providing for the families of Fredericksburg men with the National Guard, the physicians tendered their services free to the families of soldiers, and one of the druggists volunteered to furnish medicine free to all of the families.

The Virginia Health Department

Has revised its rules and regulations for the protection of the public health and will send a copy of the bulletin containing these to any one upon request. The revision was undertaken by Commissioner Williams in consultation with various health officers in this and other states. Few radical changes have been made, the most important being in the length of quarantine and isolation for the communicable diseases of childhood, and the adoption of a series of standard disinfectants to be used in all cases requiring the disinfection of quarters, clothing, etc. A rule was adopted which does away with the practice of keeping children suffering with whooping-cough in the house but allows them the benefit of outdoor life, if wearing a distinctive ribbon, so that others may be warned to stay away.

The Southwestern Virginia Medical Society

Held its twenty-sixth convention at Radford, June 28-29, with a good attendance and a large number of interesting papers were read. The members were met at the trains with automobiles and were entertained during the entire meeting as the guests of St. Albans

Sanatorium. The committee of arrangements was composed of Drs. J. C. Bowman, J. C. Noblin, W. B. Fuqua, G. B. Denit, and J. C. King. Drs. W. K. Vance, of Bristol, and A. B. Greiner, of Rural Retreat, are president and secretary, respectively, of this Society.

Dr. Ennion G. Williams,

Of Richmond, has been re-appointed to succeed himself as State Health Commissioner of Virginia, for a period of four years, beginning July 1. Dr. Williams has filled this office since its creation in 1908 and has made for himself an enviable record.

The Southside Virginia Medical Association

Held its last quarterly meeting in Suffolk, June 13, with a good attendance and an interesting program. Dr. H. A. Burke, Petersburg, is president, and Dr. E. F. Reese, Jr., Courtland, secretary. The reception committee who looked after the entertainment of the visitors and arranged for a supper was composed of Drs. F. J. Morrison, E. R. Hart, and D. L. Harrell.

Staffs for City Hospitals.

The Administrative Board has named the following medical staff for the Virginia Hospital: Dr. Douglas Vander Hoof, chief of medicine; Dr. A. Murat Willis, chief of surgery; Drs. Manfred Call, W. L. Peple, R. C. Bryan, McGuire Newton, Greer Baughman, Frank M. Reade, J. W. Henson and A. G. Brown. Also, the following specialists were appointed: Drs. C. Wilbur Mercer, M. C. Sycle, Beverley R. Tucker and C. C. Coleman.

The appointments to the City Home, upon recommendation of Dr. Leslie B. Wiggs, chief of the staff, were as follows: Drs. Beverley R. Tucker, W. J. Hayes, Wm. T. Graham, Lawrence T. Price, Frank M. Read, Karl S. Blackwell, Robt. S. Preston, Wm. B. Porter, Fred M. Hodges, Frank S. Johns and E. L. Blankenbaker.

Members of the staff in charge of Pine Camp are Drs. P. D. Lipscomb, J. Garnett Neslon, J. H. Smith and H. A. Bullock.

The Hopewell (Va.) Medical Society,

Of which Dr. B. L. Naiman was secretary, has joined the Prince George County Medical Society, of which Dr. W. B. Daniel, of Disputanta, is president, and Dr. R. T. Hawks, of Carson, secretary.

Married—

Dr. Elbert Berkeley Talbot and Miss Made-

line Wallace Loram, both of Richmond, June 28.

Chattanooga Medicine Company vs. American Medical Association.

This case tried in Judge Landis' court in Chicago, in which the Chattanooga Medicine Company asked that it be given \$100,000 for alleged libel, resulted in a verdict against the Association and damages were assessed at one cent. The trial, lasting about three months, however, must have cost the Association a large amount.

The Interstate Association of Anesthetists

Will hold its second annual meeting in Louisville, headquarters at Hotel Seelbach, July 26 and 27, in connection with the National Dental Association. Information of the meeting may be obtained of the secretary, Dr. F. H. McMechan, Avon Lake, O. Dr. E. M. Magruder, of Charlottesville, Va., is among those on the program for a paper.

Dr. H. Stuart MacLean,

A prominent surgeon of this city, has been offered an appointment as surgeon in the American Hospital at Neuilly-sur-Seine, France, in succession to Dr. Robert C. Bryan, with whom he is associated at Grace Hospital, and who will return to this country about the first of September. Dr. MacLean informs us that after due consideration, however, he has cabled declining the appointment.

Dr. and Mrs. James H. Culpepper,

Of Norfolk, Va., with a party of friends, recently went to Atlantic City for a visit, which included the Fourth.

Dr. Rufus L. Raiford

Has returned to his home at Sedley, Va., after a visit to relatives at Highland Park, Richmond.

Dr. N. Thomas Ennett,

Medical director of the Richmond Public Schools, was designated vice-chairman of the mental hygiene section of the American School Hygiene Association, which met in New York City, early this month.

An Illustrated Lecture,

On the various biological products manufactured by Parke, Davis & Co., was given by Dr. J. T. Beavers, of Baltimore, on the evening of June 29, in the amphitheatre of Memorial Hospital.

A Bronze Medal

Has been awarded Dr. J. Shelton Horsley, of this city, by the American Medical Association, for the work shown in his scientific exhibit at the Detroit meeting.

Dr. J. W. Henson,

Of Richmond, is away from the city for several months, doing clinical work in a western Hospital. His work here is in charge of an assistant during his absence.

Dr. Claude C. Coleman,

Richmond, on returning from the meeting of the American Medical Association, in Detroit, stopped over in Charlottesville, Va., for a visit to Dr. J. Fulton Williams.

New York Restaurants Being Inspected.

During the first week of inspection of restaurants and cafes in New York City, according to *Medical Record*, 300 eating places were visited. Of these, only one was rated as "good," and only ten "fair" on first inspection. In view of this state of affairs, the Health Department has determined, in order not to be unfair, not to grade a restaurant until after re-inspection.

Dr. and Mrs. Cary T. Grayson

Have returned to their home in Washington, D. C., after spending their honeymoon at White Sulphur Springs, W. Va.

Dr. and Mrs. Lucien Lofton,

Of Richmond, visited their old home, Emporia, Va., the latter part of June.

Dr. W. Brownley Foster,

Health officer of Roanoke, Va., was a visitor to relatives in this city the latter part of June.

Dr. W. B. Pettit,

Of New Canton, Va., has again sailed for Europe, this time for an English port. He went as physician to the British ship *Hydaspes*.

The Mississippi Valley Conference on Tuberculosis

Is to meet at Louisville, Ky., October 4-6, 1916, for which meeting a most interesting program is being arranged. Any information in regard to this Conference may be obtained of the secretary-treasurer, Dr. Dunning S. Wilson, of Valley Station, Ky.

Prevention of Typhoid Fever.

The Department of Health of Norfolk, Va., has issued a bulletin giving precautions to be observed to prevent contracting typhoid fever. It advises all people on their vacation in the country, and especially those on automobile and camping parties, unless they can be assured that the milk and water supply is pure and uncontaminated, to boil drinking water for 15 to 20 minutes and to use no milk unless pasteurized, which may be done by heating to 145 degrees for 20 minutes. It also calls attention to the use of typhoid vaccine, which is inexpensive, safe and sure.

The State Health Department, in a recent bulletin, also calls attention to the fact that a large number of cases of typhoid may be prevented by giving scrupulous care to the early cases to keep from spreading the disease-carrying germs. The number of cases in Virginia in May was 143, which is 36 less than in the same month in 1915. The minimum for 1915 was in March, when there were 145 cases and the maximum was in August when there were 859 cases. The bulletin issued by the State Board of Health on "Bedside Directions for the Care of Typhoid Cases", may be had free upon request.

Dr. H. A. Royster,

Raleigh, N. C. has been commissioned an assistant surgeon of the Medical Reserve Corps of the U. S. Navy, from May 15, 1916.

Dr. and Mrs. Charles M. Clark,

Of Hampden-Sidney, Va., motored to Richmond, recently, going later to Washington for a visit.

Dr. Elisha Barksdale,

Of Lynchburg, Va., recently went for a brief visit to his former home in Halifax County, Virginia.

Surgeon General W. C. Gorgas, U. S. A.,

Has been granted a leave of absence of four months, and with a party of physicians, is making a tour of a number of South American countries for the purpose of studying methods of yellow fever eradication.

An Epidemic of Infantile Paralysis,

Which threatens to exceed that of 1907, is now visiting New York. The Health Department has decided to placard the houses in which the disease exists and to maintain a

quarantine for eight weeks from the beginning of the illness. The disease is prevalent chiefly in the tenement districts and these are being cleaned and garbage and ashes deposited in the halls are being removed. Many new cases are being reported daily and through July 3, there had been reported eighty-two deaths from this disease since the beginning of the epidemic.

Dr. Roy K. Flannagan,

Of the Virginia State Board of Health, attended the meeting of the American School Hygiene Association in New York, this month, and read a paper on "Results of the Inspection of 18,500 Rural School Children of Virginia."

Dr. St. Julien Oppenheimer

Has been re-appointed surgeon of the police force of Richmond, for a term of three years.

Dr. and Mrs. H. Gilbert Leigh

Have returned to their home in Petersburg, Va., after some time spent at Blue Ridge Summit, Pa. Dr. Leigh is much improved in health.

The Richmond Health Department

Has been taken in charge by the Administrative Board of the city, beginning July 1, in accord with the amended city charter. At the last meeting of the old board, of which Drs. William T. Oppenheimer, Ramon D. Garcin and M. D. Hoge, Jr., were the professional members, a silver loving cup was presented to the Board and placed in the custody of Dr. Oppenheimer, the president of the Board for the past ten years. Following the business meeting, the members adjourned to Rueger's Hotel, where a farewell supper was served.

Dr. Hubert Lee Wyatt,

Of Raleigh, N. C. a recent graduate of the Medical College of Virginia, Richmond, has located in Petersburg, Va.; and will be associated with Dr. H. A. Burke.

The Association of Medical Officers of the Army and Navy of the Confederacy,

At its annual meeting in Birmingham, elected the following officers for the ensuing year: President, Dr. Carroll Kendrick, Kendrick, Miss.; vice-presidents, Drs. J. C. Loggins, Ennis, Tex., and E. H. Sholl, Birmingham, Ala., and secretary-treasurer, Dr. Samuel E. Lewis, Washington D. C., re-elected.

Dr. B. H. Gray,

Of this city, is spending the summer months at Fisher's Island, N. Y.

Michigan to Spend \$60,000 for Child Welfare.

According to plans of the Michigan Child Welfare Convention, \$20,000 for the next three years will be expended for the welfare of children in Michigan. This will be used to establish a related plan of recreation for children in the State.

Dr. and Mrs. J. Wyatt Davis

Have returned to their home in Lynchburg, Va., after a visit to Atlantic City.

Dr. Frank Redwood,

Of this city, is spending some time in New York City studying in his specialty.

The American Academy of Medicine,

At its annual meeting in Detroit, in June, elected the following officers:—President, Dr. J. E. Tuckerman, Cleveland, O.; vice-presidents, Drs. Frederick van Sickle, Olyphant, Pa., and Ray Connor, Detroit; and secretary, Dr. T. W. Grayson, of Pittsburgh, Pa.

The American Journal of Tropical Diseases and preventive Medicine,

Beginning with July, will be incorporated with the *New Orleans Medical and Surgical Journal*, in the pages of which it will continue its good work.

The Va. Pharmaceutical Association

Will hold its annual meeting in Staunton, July 11-13, for the first time in thirty-five years, under the presidency of Mr. John F. Bauer, Richmond. Much pleasant entertainment has been planned for the visitors.

Dr. and Mrs. Armistead Gills

Have returned to their home in Richmond, after a visit to Panacea Springs, N. C.

The Training School for Nurses,

Of the Petersburg, Va., Hospital, held its graduating exercises June 27, at which time three nurses were presented with diplomas by Dr. Claiborne Jones, who also delivered the address on this occasion.

Germans Have Little Typhoid in Army.

The surgeon general of the German Army recently announced at the German Congress of

International Medicine that, in the worst typhoid month since the present war began, December, 1914, the number of typhoid cases was only one-fourteenth of the number in the worst typhoid month during the Franco-Prussian War, when there was a much smaller German force than now. This he attributed to the use of anti-typhoid vaccine.

Dr. Ernest C. Levy

Was on June 30 re-elected health officer of Richmond, for a term of two years beginning July 1.

Dr. and Mrs. Henry A. Bullock

Have returned to their home in this city after a wedding trip to New York and the Bermudas. They also motored from Richmond to Dr. Bullock's former home in North Carolina and spent a few days.

The American Society of Tropical Medicine,

At its last meeting decided to hold its 1917 meeting in the same place and at about the same time as the A. M. A. meeting, and elected the following officers:—President, Dr. Bailey K. Ashford, San Juan, Porto Rico; vice-presidents, Drs. C. C. Bass, New Orleans, and Henry J. Nichols, San Francisco; secretary-treasurer, Dr. John M. Swan, Rochester, N. Y.

Dr. and Mrs. Don P. Peters,

Of Baltimore, Md., were the recent guests of Dr. and Mrs. Charles Page, of Orange, Va.

A School of Hygiene and Public Health

Is to be established by the Rockefeller Foundation in connection with and as a part of Johns Hopkins University. It is designed primarily to benefit health officers and those who intend to give their lives to the administration of scientific sanitation. It is expected that the school will be opened about October 1917, as it is estimated that it will take about a year to erect and equip a suitable building and gather together the staff of teachers. Dr. William H. Welch, of Johns Hopkins, will be the director of the school.

For Sale—Complete office equipment, instruments and one of the finest medical libraries in the State of Virginia, which belonged to the late Dr. W. B. Payne, of Covington. Residence with offices adjoining will be sold if desired. For particulars, write to *Mrs. W. B. Payne, Covington, Va.*—(Adv.)

Obituary Record.

Dr. Thomas A. Ashby,

Well known as physician and surgeon, teacher and author, died at his home in Baltimore, Md., June 27 and was buried near Front Royal, Va., where he was born 68 years ago and spent his boyhood days. After graduating at Washington and Lee University, this State, he studied medicine at the University of Maryland, from which he received his diploma in 1873. He was one of the founders of the *Maryland Medical Journal* and aided in establishing the Woman's Medical College in Baltimore. He was connected with the faculties of the University of Maryland Medical School and Baltimore Medical College, and, at the time of his death, was professor of gynecology in the University of Maryland. Several daughters survive him.

Dr. Paul Paquin,

A well known authority on tuberculosis, and for many years a resident of Asheville, N. C., died in Kansas City, Mo., where he had made his home for the past several years, June 22d, from tubercular meningitis. He graduated from the University of Missouri, at Columbia, in 1887 and was prominently identified with the medical profession in Missouri and North Carolina. He was 55 years of age.

Dr. Thomas S. Young,

The oldest physician of Spotsylvania County, died at his home at Partlow, Va., June 19th, of general debility. He was eighty-six years of age and unmarried. He was a graduate of Jefferson Medical College, Philadelphia, in 1852.

Dr. Thomas Miller,

Of Fincastle, Va., died at his home, May 29, after a lingering illness, aged 79 years. He graduated from the University of London, England, in 1859.

Dr. Francis Sorrel,

Medical director of the General Hospital, in Richmond, Va., in 1865, and from 1849 to 1856 an assistant surgeon in the U. S. Army, died at his home in Washington, D. C., June 30. He was born in Savannah, Ga., in 1827 and graduated in medicine from the University of Pennsylvania in 1848. His wife died in 1900. The burial was in Roanoke, Va.

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Original Communications.

THE MANAGEMENT OF OCCIPITOPOSTERIOR POSITIONS—WITH REPORT OF CASES.*

By JOHN F. MORAN, M. D., F. A. C. S., Washington, D. C.

This subject is offered for your consideration, not because of its newness, for it is as old as mankind; likewise the accepted rules of its management of today, based upon certain mechanical factors and physiological principles, have been known and practiced for centuries. And, yet, despite these facts, posterior occipital positions are a large contributor to the intrapartum fetal mortality, maternal injuries and puerperal morbidity because of ignorance and neglect of observance of the governing principles of their mechanism and treatment.

In this connection I wish first to emphasize the importance of a knowledge of the mechanical disadvantage that hampers posterior positions and how Nature's mechanism usually overcomes it; second, to protest against the unwarranted and growing numbers of Cesarean sections that are being performed for this mechanical disadvantage that is amenable to obstetric art, and, lastly, to give material expression to the subject matter by a clinical report of cases seen in private and consultation practice during the past year.

Approximately thirty per cent. of the cephalic presentations pass through the pelvic brim with the occiput directed posteriorly. In the vast majority of the cases the occiput finally rotates forward and delivery occurs spontaneously; but the mechanism by which this rotation is effected is so delicately balanced that it is always liable to defection; and this, if it occurs, necessarily results in a persistence of the posterior position, which, though not in-

compatible with a natural delivery is attended by greatly increased risks to both mother and child.

The mechanical disadvantage is due to the irregular shape of the fetal head and pelvic brim. In anterior positions the head enters the brim easily, with the wide bi-parietal diameter corresponding to the long line drawn from the sacro-iliac notch to the pubes; while the lesser bi-temporal diameter corresponds to the

L. O. A.

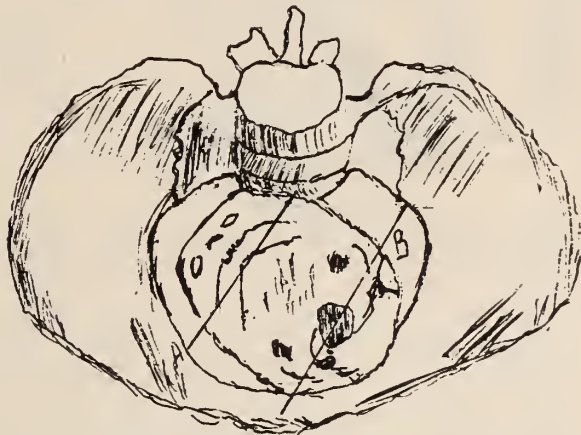


Fig. 1. Adaptation between the fetal head and the brim of the pelvis in anterior positions of the occiput. (American Text Book of Obstetrics.)

short line drawn from the side of the promontory of the sacrum to the ilio-pectineal eminence; but, conversely, when the head enters the posterior position its wide bi-parietal diameter is opposed to the narrow oblique space between the promontory of the sacrum and the ilio-pectineal eminence, while the bi-temporal diameter is loosely fitted into the space afforded by the anterior portion of the pelvis. Two factors of difficulty are thus produced: First, the widest portion of the fetal head finds itself in apposition to a narrow portion of the pelvis and, therefore, requires a powerful driving impulse to force it through the brim; second, this retarded widest portion of the

*Read before the Medical and Surgical Society of the District of Columbia, April 6, 1916.

head is situated on the occipital end of the head lever, while the sincipital end is almost free. This situation, therefore, always tends toward a too rapid descent of the sinciput—that is, toward the production of extension,—but the degree of extension produced varies with the relative size of the pelvis and head.

Depending upon the degree of this relative disproportion and the operating cause, the favored deflection may convert the posterior occipital presentation into a brow or face presentation, or lead to arrest of the head in any plane of the cavity, or shunt the occiput to the hollow of the sacrum, through anterior rotation

R. O. P.

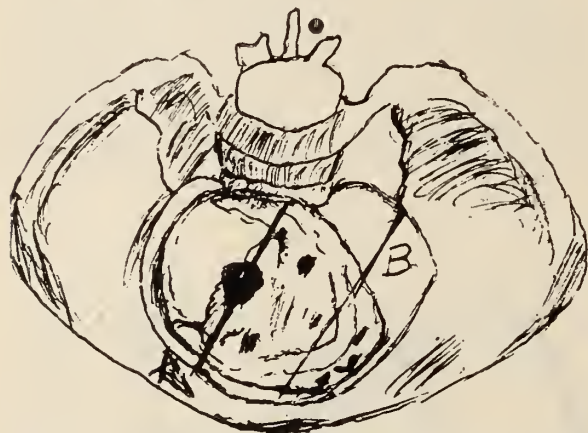


Fig. II. Adaptation between the fetal head and the brim of the pelvis in posterior positions of the occiput. (American Text Book of Obstetrics.)

of the sinciput. If the head rotates to the sacrum, extreme flexion occurs, the forehead impinges against the pubes, the perineum becomes greatly overstretched and the occiput escapes over it or through it by tearing.

The mechanical disadvantage incident to occipitoposterior positions is reflected in the clinical course in a characteristic and suggestive manner. Not infrequently the bag of waters ruptures early, the pains are irregular, variable and ineffectual, yielding a tedious dilating stage. As a rule, considerable moulding is necessary to effect engagement of the head, and its descent and rotation depend upon the degree of flexion. Deflection, therefore, is the crucial disturbing factor in the mechanism and upon its degree and persistence the delivery may be protracted, difficult and even impossible without intervention.

Spontaneous delivery in unrotated occipitoposterior positions requires great effort of the expulsive forces because the head traverses the

pelvic floor with its largest diameters, and the back and head have to pass through the pelvis together. This maladaptation necessitates marked flexion and moulding for the child to even approximately accommodate itself to the angular birth-canal, and its extrusion with face to pubes is usually attended particularly in first labors, with perineal lacerations.

Aside from the inherent danger of occipitoposterior positions, the mortality and morbidity are greatly augmented by unnecessary and unskillful interference. It is in this class that "meddlesome midwifery" obtains much of its merited opprobrium in the tinkering with the cervix and the abuse of the forceps. Manual dilatation, or more correctly speaking, forcible divulsion of the cervix, to "speed on" the labor is irrational and dangerous and invites infection. That it does not promote retraction, a necessary factor in the dilatation and effacement of the cervix, is proven by the relaxed state of the cervical barrier after such manipulation. Not infrequently the labor is further retarded by the inadvertent or intentional rupture of the bag of waters, thereby interfering with the mechanism of labor and removing this valuable fluid protector of the child and cervical dilator.

The abuse of the forceps in occipitoposterior positions through unskillful application is expressed by many deaths from asphyxia, intercranial hemorrhage, and subsequent paralysis of the child and mangled soft parts of the mother.

The great mistake that many make is to apply the forceps regardless of position and whether the head is engaged or not. The cardinal rule is that forceps should never be applied to a head that has failed to enter the brim of the pelvis, for in a very large percentage disaster is sure to follow.

Careful examination of the case before labor will disclose whether there is a relative or actual disproportion between the size of the child and the capacity of the pelvis, and the existence of other conditions that may require attention. Effort should be made at this time to promote anterior rotation by knee-chest posture, and if this is not feasible, by instructing the patient to recline at intervals on the side to which the occiput is directed, with the hips elevated.

It is common for these posterior cases to have irregular pains for hours and even days before the onset of actual labor. The dilating

stage, because of the mechanical difficulty which confronts it, is usually protracted and tedious and the attendant's attitude therefore, during this period should be that of patient observation. The bag of waters should be preserved, if possible, until complete cervical dilatation occurs. There is no danger as long as the membranes are intact, for the uterine contractions are at this time equally distributed over the child's body and the fetus is able to withstand a relatively long labor without serious harm. When the membranes have ruptured, the fetal vitality decreases with the duration of the labor and the intensity of the pains. The escape of the waters soon leads to the formation of the retraction ring and, finally, impaction of the body, so this possible complication must be constantly kept in mind and guarded against.

After the engagement of the head in the pelvic brim the attendant's attitude must still continue to be that of expectancy, unless there is indication for interference. As the head descends into the cavity of the pelvis the pelvic resistance usually promotes flexion and rotation. Flexion is the keynote to the successful outcome of the labor whether it be invoked naturally or artificially. Flexion and rotation may be effected by posture and also by upward pressure on the occiput during the pains. If the patient shows signs of exhaustion or the child's heart action indicates danger, it is time to intervene. The line of action must be regulated by the position of the head. If it is high and not engaged and the cervix undilated, the *colpeurynter* should be employed. If the head remains high after complete dilatation, manual rotation of the head anteriorly and impressing it into the pelvis by combined manipulation, or drawing it down with forceps and then leaving the case to Nature unless immediate delivery, is indicated. This procedure is to be preferred to version, which is unfavorable to the child.

When the head is at the inlet and intervention becomes necessary, push up the head, rotate manually, and apply the forceps in the opposite oblique diameter. By this pelvic adaptation of the forceps the head is grasped over the malar and opposite parietal bones. Several tentative but not forcible tractions should be made, and if the head does not come through the brim the forceps should be removed and the case subjected to some cutting operation, preferably some variety of Cesarean section.

It is with these borderline cases that we have so much difficulty, and they require the most exacting care in deciding how best to act in the interest of the mother and child.

After the head is brought through the pelvic brim into the cavity, the forceps should be removed and reapplied to the sides of the head and changed repeatedly to favor rotation and prevent injury.

If the occiput becomes arrested or impacted in its original position in the cavity, manual rotation and forceps should be the operation of election. If manual rotation is not feasible, then the double application or Scanzoni method may be employed, or the forceps can also be adapted to the sides of the head with the front of the blades looking toward the occiput. Forcible rotation is dangerous, but traction and gentle rotation simultaneously in a spiral direction, is permissible, provided the head shows a tendency to yield to the maneuver; otherwise, the forceps must conform to the intended mechanism, and be delivered accordingly. The instrument must be frequently re-adjusted to minimize the risks to mother and child.

In occipitosacral positions assistance is often required and should be rendered by forceps extraction with extreme flexion. Episiotomy should supplement the procedure as perineal lacerations are inevitable.

The forceps is the most valuable and most abused instrument in the obstetric armamentarium. When the indications for its employment are observed and the application properly made, the chances of the child are increased and the suffering of the mother frequently shortened.

Surgical intervention has, in recent years, been a great boon in the treatment of certain obstetrical difficulties. The aseptic technic and the steadily decreasing dangers of operation have led to the frequent adoption of Cesarean section in cases of mechanical obstructions that were formerly delivered by forceps or version, frequently resulting in the death of the child and mutilation of the mother. It was inevitable then that the success in this field would lead to its exploitation by some in the protracted labors of occipitoposterior positions, through *misinterpreting the clinical evidence of the mechanical disadvantage for an actual obstruction*. In four of the following series, Cesarean section had been considered in two cases, proposed in one and performed in one other.

In this series there are 21 cases—18 are right occipitoposterior positions and 3 left occipitoposterior ones; 11 were primipara and 10 multipara.

Ten cases terminated by natural forces; one was aided by pituitrin. Eight of these rotated anteriorly and one to the sacrum.

Six cases were delivered with forceps, and two with manual rotation and forceps by me, and two were delivered with forceps by the attending physicians.

One case was delivered by Cesarean section by the attending physician. All of the mothers recovered and one child was delivered dead. This death occurred in the case of a dwarf who had a justo-minor pelvis, but not a true cephalopelvic disparity, as the child was correspondingly small. The labor progressed apparently

satisfactorily until about the completion of the cervical dilatation, when the patient was seized with a convulsion. The labor was terminated by the attending physician by an easy forceps extraction. The fetal heart was not examined at the time of delivery, so it is impossible to say whether the death was due to asphyxia induced by the convulsion or by the extraction.

I examined this case about a week before labor at the request of the attending physician who said his inclination was to do a Cesarean section but wanted to have a check placed upon him if the operation was not indicated. In the absence of a true cephalopelvic disparity I decided that a test labor would be advisable, with possibly later assistance with forceps. The subsequent easy extraction would seem to have supported this advice.

Case	Age	Para	Measurements	STAGE			Delivery	Child	Puerperium	Remarks
				1st	2nd	3rd				
1—L.O.P	40	4	Normal	11 hrs.	1 hr.	Crede	Spontaneous. Face to pubes.	Living 8.2 lbs.	Normal.	Relaxed pelvic floor. Head rotated to sacrum.
2—R.O.P. Consultation.	39	4	Normal	5 Artificial rupture 1 hr. before birth	1	O. K.	Natural.	Living 8 lbs.	Normal.	Eaby born before my arrival.
3—R.O.P. Consultation	—	4	Normal	12	3	O. K.	Forceps. Face to pubes.	Living 7 lbs.	Normal.	Relaxed pelvic floor. Head rotated to sacrum.
4—R.O.P. Consultation	35	1	Normal	24 Waters ruptured artificially at delivery.	—	O. K.	Forceps. Scanzoni. Intrauterine application for inertia.	Living 7 lbs.	Normal.	Seen in consultation three hours before delivery. Inertia due to pyelitis complicating pregnancy.
5—R.O.P. Consultation	33	1	Normal	53 Waters broke at end of 1st stage.	7	Post-part. hem.	Forceps, mid., for persistent posterior.	Living 9 lbs.	Normal.	Attempt made to rotate occiput forward, manually, and failed. Forceps applied for Scanzoni, but failed to rotate, and was delivered face to pubes. Perineal laceration to second degree. Excellent results obtained from peri-neorrhaphy.
6—L.O.P. Consultation	26	1	Justo-minor 17.5 cm.	72 Waters broke 24 hrs. before pains began.	—	Crede	Manual rotation and forceps for persistent posterior.	Living 6.3 lbs.	Normal.	Patient first seen 18 hours before delivery. General condition good. Examination showed small child. Cervix dilated two inches, head well engaged, occiput to left and posterior. Pains regular and fetal heart sounds good. Advised continuance for further moulding and dilatation of cervix. Second visit six hours later. Head moulding, cervix about same as at previous visit. Condition satisfactory. Advised giving sedativa. Twelve hours later cervix completely dilated. Delivered by manual rotation and forceps.
7—R.O.P. Private	26	2	Normal	12 Waters broke 9 hrs. before pains	2	Crede	Forceps, Scanzoni. Persistent posterior.	Living 9.5 lbs.	Normal.	Deficient expulsive pains.

Case	Age	Para	Measurements	STAGE			Delivery	Child	Puerperium	Remarks
				1st	2nd	3rd				
8—R.O.P. Consultation	26	1	Normal	19	4	Crede	Forceps, Scanzoni. Persistent posterior.	Living 8.5 lbs.	Normal.	Flagging pains. First degree laceration. Perineorrhaphy.
9—R.O.P. Private	27	1	Normal	20 Waters ruptured at end of 1st stage	2	Crede	Natural.	Living 7.5 lbs.	Normal.	Final pains severe. First degree laceration. Perineorrhaphy.
10—R.O.P. Consultation	25	1	Ext. conj. short.	33	?	O. K.	Forceps, mid. Episiotomy. Cesarean section proposed. Not agreed to.	Living 7 lbs.	Normal.	Cesarean section proposed by attending physician. Examination showed the occiput to the right and posterior, head well engaged, pains regular and fetal heart sounds good. Advised continuance of labor and forceps later if necessary. Delivered with forceps by attending physician seven hours later.
11—R.O.P. Consultation	—	1	Not given	18	—	Manual	Cesarean section. Not approved of.	Living 7.5 lbs.	Normal.	Cesarean section proposed. Not agreed to. Head reported to be floating. Examination showed head engaged, waters intact. Cesarean section performed by attending physician. The head had to be released from brim of pelvis by traction over shoulders.
12—R.O.P. Consultation	32	1	Justo minor ext. conj. 16 cm.	21 Waters broke before pains began.	4	O. K.	Forceps, mid.	Dead 6 lbs.	Normal.	Requested by attending physician to see patient with view of considering the advisability of Cesarean section. Examination revealed a justo-minor pelvis but a corresponding small child. I advised test labor. Onset of labor one week later. Waters broke before pains began. Cervix nearly dilated at end of 21 hours. Condition of mother and child good. Three hours later had convulsion. Forceps delivery, child dead. Fetal heart not examined at time of delivery.
13—R.O.P. Consultation	21	1	Normal	14	10	Crede	Forceps, Scanzoni. Dystocia caused by prolapsed hand.	Living 7.1 lbs.	Morbid.	Suffered pain in left lower quadrant following delivery and sedatives had to be given. Subsequent examination showed condition of pelvic organs to be satisfactory.
14—R.O.P. Private	42	7	Normal	5	2	Adherent placenta.	Pituitrin.	Living 8.5 lbs.	Normal.	Pituitrin given in lieu of using low forceps for flagging pains. Manual removal of placenta.
15—R.O.P. Consultation	26	1	Normal	24 Waters broke before pains began.	2	O. K.	Natural.	Living 8 lbs.	Normal.	Examined two hours before delivery and, condition being satisfactory, advised continuance.
16—R.O.P. Consultation	26	3	Normal	4 Waters ruptured before complete dilatation.	4	Crede	Natural.	Living 9 lbs.	Normal.	Advised knee-chest posture by telephone. Baby born before my arrival.
17—R.O.P. Private	32	1	Normal	4 Waters broke at end of 1st stage.	1	Crede	Natural.	Living 7.1 lbs.	Normal.	Only in labor 5 hours.
18—R.O.P. Private	35	2	Normal	3 Waters broke at end of 1st stage.	1	Crede	Natural.	Living 7.5 lbs.	Normal.	

Case	Age	Para	Measurements	STAGE			Delivery	Child	Puerperium	Remarks
				1st	2nd	3rd				
19—R.O.P. Consultation	32	5	Normal	18 Waters ruptured artificially 5 hrs before delivery.	1	O. K.	Natural. Perineum intact.	Living 10.5 lbs.	Normal.	Examination one hour before delivery showed the cervix was rimming the head, which was not firmly fixed in the pelvic inlet. During the examination there was a strong uterine contraction, the cervix retracted and the head descended rapidly to the pelvic floor and rotated anteriorly.
20—R.O.P. Consultation.	25	2	Flat pelvis Ext. conj. 18 cm.	9	5	Crede	Manual rotation and forceps.	Living 11.5 lbs.	Normal.	Attempt made to deliver with forceps by attending physician had failed. Head rotated manually and forceps applied to sides of head. Moderate traction released the head from the brim and it was brought down to the vulva and forceps removed, and birth terminated naturally. Knot in cord.
21—R.O.P.	26	2	Normal	7 (?)	1 (?)	Crede	Natural.	Living 10.8 lbs.	Normal.	Membranes ruptured, artificially at vulva. Cord around neck and arm and one knot in cord

There is no variety of labor in which easily avoided ill results are so commonly incurred as in posterior positions of the vertex and there is certainly no subject in obstetrics that deserves the attention of the physician more than the means of detecting extension and preserving or re-establishing flexion in these cases.

The labor in occipito-posterior position cases is proverbially slow and tedious because of the mechanical disadvantages incident to them. The essential requisites for success in management are patience and watchful expectancy; not the watchful expectancy of the untrained attendant trusting that all will end well, but the watchful expectancy of the competent physician who, from knowledge, experience and judgment, acts in concert with Nature's mechanism so that all must be well.

To those whose obstetrical vision has been dazzled by the allurements of surgery in resorting to Cesarean section for the relative difficulties in labor, their mental strabismus needs to be corrected by cultivation of the fitting knowledge of the science and art of obstetrics. Let this knowledge and skill be developed, with due appreciation of Nature's powers and possibilities to overcome these difficulties, and, if she fails, let us be prepared to render assistance, not by the scalpel of expediency, but by the proper application of those measures, whose value time and experience have fully proven. Let us be conservatively progressive or progressively conservative to "prove all things, and hold fast to that which is good."

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TREATMENT OF GONORRHOEAL CONJUNCTIVITIS IN THE NEWBORN AND THE ADULT.

By J. HERBERT CLAIBORNE, M. D.,
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Gonorrhœal conjunctivitis should be considered from the standpoint of the new-born and the adult. Ophthalmia neonatorum or gonorrhœa of the new-born, may be said to be acquired in the passage of the child through the genital tract. Gonorrhœa which affects the eyelids of the new-born is, by no means, as severe a disease as that which affects the lids of the adult. The thing which is surprising

to me is that there are not more cases of gonorrhœa of the new-born as well as gonorrhœa of the adult.

For my part, I think the vaginal tract of every woman who is going to be delivered should be examined for bacterial flora.

Notwithstanding the great benefits which have accrued in the way of prevention from the procedure suggested by, and recognized as that of Crede, the treatment of both is more or less alike, but the prognosis is decidedly different in the two cases. Even though there may be gonococci in the genital tract of the pregnant woman, I think it may safely be said

that if the Crede method of instilling a few drops of a two per cent. solution of nitrate of silver into the conjunctival cul-de-sac immediately after birth is followed, all or almost all of the cases of gonorrhœal conjunctivitis of the new-born may be avoided. This fact, of course, is known to everyone, and has taken such firm hold of the minds of practical and theoretical men, that legislation in many of the states has made it a criminal act for the physician who confines a woman to fail to employ it. Nevertheless, let it be remembered that every case of acute inflammation of the lids, following birth, is not caused by the gonococcus. If, as I suggested, the flora of the vaginal tract be determined before the birth of the child, useful information may be obtained as to the cause of any inflammatory condition of the lids following birth. However, in every case the secretion which appears should be examined, and in case of doubt, subjected to the inspection of an expert. It is well known that the streptococcus is a frequent inhabitant of the genital tract, the staphylococci to some extent; in fact, any other microbe, when it enters the new-born conjunctiva, will produce inflammations which stimulate gonorrhœal conjunctivitis.

A differential diagnosis is very necessary for many reasons: First, with reference to the prognosis and gravity of the case and its treatment; secondly, with reference to the social or moral side of the case. I have known several parents to be unmercifully condemned by the physician, who has proclaimed an inflammation of the lids in the new-born as being due to the gonococcus, without a bacteriological examination. Much domestic infelicity, and sometimes even divorce, has been caused by this lack of scientific accuracy.

It behooves every man, therefore, to be certain of what he is doing, and I frankly think that it is proper, if not the duty, of the physician in charge, to prevaricate at times. Physicians owe something to the happiness of a couple, as well as to the eyesight of the patient.

It may be said once again, that the prognosis of gonorrhœal conjunctivitis of the new-born is distinctly good, if the treatment is the proper one. I think that the two per cent. nitrate of silver solution should be employed every other day, or the interior of the eyelids, and the eyes should be kept clean with boracic acid solution. If the lids are much swollen,

ice should be applied from time to time. But I wish to lay a very strong embargo upon too much manipulation of the lids. If the lids cannot be opened so that the conjunctiva can be easily seen and touched, slight pressure on the upper and lower lid will partly evert them, when a drop or two of the two per cent. solution may be instilled. But judgment must be exercised as to the continuance of this treatment, as from time to time nitrate of silver will be found excessively irritating. It is safe to say it should be employed, unless there is a contra-indication, until the secretion commences to diminish when simple boracic acid may be used.

This treatment refers particularly to ophthalmia, which is taken in the beginning. If the case is seen after great thickness of the lids has taken place, there is a membrane over the mucous membrane, and the latter is brawny—I counsel against nitrate of silver at all, but advise rather the use of a thirty per cent. solution of argyrol. Some, indeed, use this agent entirely, and omit the nitrate of silver. I am frank to admit that nitrate of silver should be used very judiciously, and it requires some experience to tell when to cease using it, whereas, argyrol, in the percentage mentioned, may be used without any fear of injury.

Most of the new-born will cry as soon as the eyes are touched, and the swelling, which is induced by crying is often taken for swelling of the lids. A certain amount of judgment here again is necessary in order to differentiate between the two things, and I caution everyone to avoid handling the lids roughly. The nails should never be placed upon the soft tissues. The ball of the thumb and forefinger should be used simply to separate the lids. I have frequently in my life stopped all treatment of ophthalmia neonatorum, with the exception of the use of salt water or boracic acid solution on account of the puffy swelling produced by rough handling, and I remember to have seen one case in which the nurse had caused the upper lids to become perfectly black through persistent turning, many times a day, on the end of a lead pencil, at the suggestion of the attending physician. I saw this once at Bellevue when I was passing the window of one of the wards, and, though it was none of my business, I entered, found that nurse, and cautioned her. She took it in good part, and later I saw the child; the

swelling went down immediately after she had ceased touching the eye.

Sometimes there are ulcers of the cornea, which occur after the disease has been running a long time, and there seems to be a nervous disposition on the part of some surgeons to inspect the cornea. I fail to see what good inspecting the cornea does. If there is an ulcer, you can not do anything about it. You should not cauterize it, and the only thing to do would be to use atropine in addition to the above mentioned treatment. The use of atropine, in a one per cent. solution, I counsel, even though the cornea is not seen when the lids are intensely thick. Therefore, cease trying to inspect the cornea. Rough handling, in case there is an ulcer, may cause rupture of the cornea and the destruction of the eye. I have saved several cases from this fate, in my opinion, in consultation.

After the discharge has ceased, and the lids have gone down, the occasional use of nitrate of silver on the succulent lids, will promote recovery.

So that, in ophthalmia neonatorum, the safest advice, in a nut-shell, is nitrate of silver in two per cent solution, delicately and judiciously applied, and, safer still, thirty per cent. argyrol, with warm boracic acid solutions, iced cloths, according to circumstances and delicate handling with the bulbs of the fingers. A case taken in the beginning will always recover under this treatment, and it is the safest treatment, even for the severest cases.

When gonococci are not present, the above outlined treatment will cure the case with great rapidity. I believe the above suggestions are within the limits of reason, good judgment and good practice.

Gonorrhœal conjunctivitis of the adult is, in my opinion, with the exception of diphtheria of the conjunctiva, the most serious acute inflammation that can attack the lids. I have never known a case of diphtheritic conjunctivitis to recover. I have cured a number of cases of gonorrhœal conjunctivitis, but I have seen more lost. The thing which surprises me I repeat is that with the innumerable number of gonorrhœa cases, for example, today in Greater New York, acute or chronic, there are not more cases of gonorrhœal conjunctivitis. Our patients are notoriously careless with regard to their hands, and the infrequency of this disease is simply incomprehensible. I believe

it occurs less frequently now than formerly. Our general practitioners are becoming more and more acquainted with the dreadful effects of the infection.

I cannot give any statistics in regard to the fatality to the eyesight from gonorrhœal conjunctivitis, but I can assure you that before the discovery of argyrol, the percentage of loss was greater than now. It is my personal opinion that if a case of gonorrhœal conjunctivitis is seen at the end of five or six days of infection, when the lids are extremely swollen, brawny, and covered by exudate, the disease is almost invariably fatal to the eyesight. It is in those cases which are seen early that we can hope for the best results.

Usually there is a history of gonorrhœa present, but I have had two cases in which the patients were infected with gonorrhœa of the lids, when there was no gonorrhœa of the urethra, and the individuals were unaware of how the disease had been obtained.

I saw a gentleman, a clubman, who had no gonorrhœa of the urethra, who complained that his eye had commenced to itch the night before. When I saw him there was a bead of yellowish pus in the inner corner of the eye, and it had that angry and serious look which leads the expert to suspect gonorrhœa. Examination of the secretion showed gonococci in great quantity.

In this case I had made up my mind to do a bold thing—the thing which I had always intended to do from my early days of practice.

It is usually held by eye surgeons that nitrate of silver should not be used in gonorrhœal conjunctivitis of the adult, but I had always thought that if the case could be taken in the beginning, the same good result might be obtained in the adult as in the new-born. Holding this view, I sealed the sound eye hermetically, put the patient to bed, washed out the conjunctival sac, and instilled six or eight drops of a two per cent. solution of nitrate of silver into it, with the upper lid turned, allowing the solution to remain in contact with the lids from twenty to thirty seconds. I then washed this out with a 1-3,000 solution of bichloride, put a day and night nurse on the case, and had ice applications made as often as was necessary to keep the lids chilled. Every hour the nurse, by gently lifting the upper lid with the thumb, would wipe away any secretion that formed, and

instill into the conjunctiva as much boracic acid as she could with a pipette. The main object was to wash away the secretion which formed. The lids swelled to some extent, there was a slight œdema of the conjunctiva of the ball, but in forty-eight hours I saw I had the disease under control. From time to time, I, myself, gently turned the upper lid and washed off the secretion with boracic acid solution. No argyrol was used.

This eye went on to uninterrupted recovery, but the opposite eye, notwithstanding my efforts, became infected in about fifty-two hours from the first one. The same yellow bead of pus was found in the inner corner of the eye, and exactly the same treatment was employed in the second eye, the very same course was run by the disease, and in forty-eight to fifty-two hours the second eye likewise was safe. The patient left the hospital at the end of a week, and in two weeks there was nothing left except a slight redness of the lids.

Singularly enough, within a few months after this case, I had another one, a young Italian, who admitted he had gleet. I found in one of his eyes a very severe infection, with a yellowish bead of pus in the corner of the eye, the clinical mark of gonorrhœa. Examination under the microscope proved the case to be gonorrhœa. Practically the very same treatment which I employed in the first case was used here, first one eye and then the other becoming infected. Within a few days the eyes were safe and this patient recovered in two weeks as the first one had done, without the slightest injury to the cornea.

Up to this time, in spite of my views, I had experienced great fear whenever I was treating gonorrhœa of the eyelids, and, though "four swallows do not make a summer," I have now no fear for myself, for I feel that I can always command the services of some younger colleague, who will be willing to obey my orders, in my own case perchance, and who will not destroy me by persistence in his own views. I am contented and satisfied with what I have found to be possible.

I published these cases, and have been told by my colleagues that there was nothing extraordinary in them—that the same result could be obtained by argyrol. I cannot combat this latter statement, as I have not used argyrol in an acute attack of gonorrhœa of the eyelids, but I know that the nitrate of

silver cut short the inflammation in two cases, or four eyes, in which the disease had been underway from twelve to forty-eight hours. I am satisfied to rest my case upon that experience.

But the treatment of gonorrhœa, after it has reached the brawny stage, is different from this. Nitrate of silver in this stage is certainly contraindicated, and I can only commend to you a thirty per cent. argyrol solution, ice applications, atropine and cleansing with boracic acid solution.

Some of us employ cold, and others employ heat, and some, by way of indecision, employ both, alternately. Heat certainly increases the growth of microbes—cold inhibits this growth. Cold affords comfort to hot and inflamed areas; heat does not; in my opinion, ice applications are best. The cornea sloughs by reason of the pressure of the brawny tissue upon it, and through the action of the microbe upon the raw, exposed surface.

I repeat, I can give no statistics concerning the loss of eyes which are seen first in the brawny condition, and when I come in contact with such a case, I offer but little hope to the family of the patient. If it were in my own person, I should give up the eye for lost, and attempt to save the other one by hermetically sealing it. Infections of the second eye, if they take place late in the course of the disease, are not as serious as in the beginning. In fact, I have surprised one or two patients and students at the end of a number of days of treatment, by taking off the hermetic covering of the sound eye, and stating that it was no longer a matter of importance. Late infections amount to very little, and are very easily controlled, and by "late infections" I mean infections that come from eyes when the brawn has disappeared and the secretion is lessening.

The subsequent care of these cases will be regulated by the judgment of the surgeon. Towards the end, when the mucous membrane is soft again, a two per cent. solution of nitrate of silver may be employed from time to time. Atropine should be used at all times when the eye is infected with gonorrhœal conjunctivitis, for the sake of preventing iritis.

These are, in a general way, the suggestions which I make from my own practice, and from the observation of others. The prognosis—in the new-born eye is almost always good—certainly if the case is seen in the be-

gining. The prognosis of the disease in the adult is at all times grave after the third or fourth day of infection, and is serious at all times. The four eyes saved by myself, by the method described, I consider to be something of an achievement. Antecedent to that time, I have allowed these cases to run a classical course, and take their chances.

I trust these remarks may be of some advantage to those who have not had as much experience as myself in the treatment of this disease.

8 West Fortieth Street.

THE NEED OF EXAMINATION OF GASTRIC CONTENTS IN THE CARDIO-PATH.*

By ALEXANDER G. BROWN, JR., M. D.,
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A patient was seen by me with a "breast pang" at 8 o'clock on Friday evening; he had eaten a hearty meal (in company with his wife) at a down-town restaurant at 2 o'clock that day. He was stripped and examined; he showed an ashy pallor, great abdominal distention; his heart sounds were very remote and difficult to hear; no murmurs; rate 82 per minute. Diagnosed "pseudo angina;" admonished; given directions for relief and was left. He called on me at my office the following Sunday night with a like seizure—breast pang with pain in both arms, sense of oppression. He was stripped and examined; heart was moving smoothly; sounds were soft with no murmurs; marked abdominal distention; acknowledged excessive and imprudent eating at Sunday dinner; was admonished and given (usual) treatment and directed to return next morning for stomach analysis and other examinations. He was not heard from until 11:20 Tuesday night, when his wife 'phoned that he was suffering again, that he had eaten freely of cottage cheese, syrup, cream, bread and corn beef for supper. Directions were given over the 'phone, as I was at that time a considerable distance from the patient's home, and in fifteen minutes he was relieved and his wife 'phoned he was all right. At 6 A. M. he was found in bed: dead. The patient, a white man, merchant, 62 years old, had had diabetic history, but had been sugar-free for several years; negative Wassermann; blood pressure 150 mmhg. Urine, slight trace

of albumin and few casts. Such in brief is the story of a patient who died this morning.

May not one who is constantly in touch with many varieties of cardiopaths justly raise the question: is there not a greater need than is now felt by practitioners for the use of the most exact means at our disposal for the study of digestive disturbances of the stomach in the cardiopath?

In the case so crudely cited above there was no apparent lesion of the valves, yet following three distinct indiscretions of excessive and imprudent eating, there came a dramatic syndrome upon the chest and upper arms, accompanied by a sense of alarm and apprehension. The first two were relieved by emptying the stomach.

No clinician would set up the claim, I am quite sure, that the association of so-called "indigestion" and so-called "neuroses of the heart" are not frequently observed. On the contrary, frequently is this association recognized, not only by physicians but also by the laymen themselves. How frequently it is that one observes patients who show palpitation of the heart, tachycardia, bradycardia, irregular heart, Stokes-Adams' syndrome or breast pang accompanying and apparently excited, if not caused by, evident gastric symptoms like eructation or belching, pyrosis, epigastric distention, so-called gastralgia, nervous vomiting, epigastric oppression, and other stomach symptoms following a direct history of gastric intake of food. If this is true that stomach states or diseases aggravate or disturb diseased hearts, is there not a need for the study of the digestive powers of such stomachs? To ask the question is to answer it. One *should study the stomach digestion* in such cases. But as one of the means for studying this organ requires that a test meal be given and that the contents thereof be expressed within certain periods of time, and as the patients under consideration are cardiopaths, it may be well to observe that the usual measure of the introduction of a stomach or duodenal tube or bucket may be a matter of grave apprehension and fear on the part of the clinician in such cases, and is totally contraindicated in other serious heart maladies. With this condition granted, there are remaining, however, a large number of so-called cardiopaths whose gastric digestion exaggerates the heart embarrassment, while the introduction of

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the stomach or duodenal tube, when done with average skill, subjects the patient to no new danger from its employment,—certainly, be it said, with all safety, the small duodenal tube, whereby specimens may be obtained throughout the whole period of gastric digestion, can be used. It is not at all within the scope of this communication to discuss the question of value of examination of the stomach contents or to describe methods of obtaining same, whether once or several times during the process of digestion of a test meal, as a means of arriving at the diagnosis of stomach diseases in general. I know that some have expressed grave doubt of the exactness and accuracy of the interpretation of such examinations. Yet, clinically, particularly as a result of studies recently conducted with the stomach and duodenal tube in a large number of stomach and duodenal cases, much therapeutic knowledge and practical-interpretations have been secured. Personally, it is in connection with the cardiopath and a study of the stomach contents, after the manner just mentioned, that material benefit has been obtained in removing distressing, if not dangerous heart signs and conditions. It is my purpose to bring to your attention then only a few of the stomach states where study of its digestion has helped to relieve the stomach with marked good effect upon the behavior of the heart.

Cardiopath with Chronic Gastrorrhœa—Reichmann's Disease. The form of hypersecretion of the stomach, first described by Reichmann, occurring apparently without the exciting cause of ingestion of food, is not infrequently seen. When one remembers that "only a cubic centimeter of fluid contents are normally found in the fasting stomach," it is not difficult to reach the diagnosis in Reichmann's disease, when large quantities of fluid may be expressed after prolonged fasting. This condition, as you know, may follow previous hyperchlorhydria and may be caused by prolonged dietetic errors. Its symptoms are slow in onset and may be mild in degree. There is fulness and pressure in epigastrium and a burning and boring pain usually appears one or two hours after eating. Frequently, when the stomach is known to be free from food because of prolonged abstinence, food relieves the patient.

The cardiopath during a paroxysm may suffer greatly from difficulty of breathing, from intermittency of the heart, from palpitation, and one may find, although the strain of

the act may seriously jeopardize his life, great relief in copious vomiting of the usually large quantities of greenish watery fluid, amounting to several quarts in some cases. Only recently a "heart" patient in the Memorial Hospital in my service, after traveling all day without any food, fearing to eat because of the punishment it inflicted, and the heart pang it gave, was given the usual test meal of two slices of dry bread and a glass of water, and in fifty minutes a half gallon of greenish watery fluid was secured through the stomach tube. X-ray examination in this case showed the bismuth meal nearly all retained after six hours and fundus of stomach down to the crest of the ilium. In this disease of the stomach, the cardiopath has serious impediment. The diagnosis made, the stomach should be treated.

The treatment of this condition is certainly imperative, for heart remedies, as such, will be of little use without previously removing or reducing decidedly the distress of this stomach condition. It is only through the study of the stomach contents that the clinician can obtain an adequate idea of the dietetic and medicinal needs and whether lavage or physical treatment should be prescribed. This may be directly observed in this condition by the results of study of the gastric contents after the patient has taken a meal of meats and starches, when it is observed that the meat remnants are few, if not absent, while the starch digestion, being suspended by the neutralization of ptyalin, gives gross evidence of incompleteness. Hence, barring kidney complications, one may rightly prescribe meat and fats also, as fats tend to diminish secretion of hydrochloric acid. This practical point is mentioned to show the value of gastric analysis. In these cases, I find lavage of the stomach, either just before bedtime, or before breakfast, or both, helpful. In connection with these points of treatment, good results follow the use of frequent small dry feedings, while liquids should be permitted in moderation only.

Chronic acid gastritis, or hyperchlorhydria, is also a complicating factor in the cardiopath, as there is a secretion of normal amount but of excessive percentage of free hydrochloric acid. While some clinicians claim that hyperacidity is merely another statement for hypersecretion at an earlier stage, yet it seems quite clear that this excessive stimulation of acid-producing glands of the stomach gives rise to quite a well-defined group of symptoms the understanding of

which is necessary in order to combat the continuance of them. Cardiopaths having this form of gastric disturbance, at the height of digestion in the stomach suffer epigastric distress or pain, varying in intensity from soreness to a great cramp resulting from pylorospasm. Chronicity of these symptoms is characterized by a mild grade of stomachic distress. In connection with this there is usually distention of the upper abdomen with gas. These conditions set up or aggravate the cardiac symptoms, and excite that organ to a distinct "heart attack." The interpretation of the significance of these symptoms of the stomach as well as the proper line of its treatment, so necessary in the successful management of heart lesions and conditions is largely dependent upon examination of the stomach contents.

In this connection, it may be well to observe that, as this condition of stomach secretion is very often a result of uncorrected simple digestive disturbances, and the practice of neglecting the ordinary rules of mastication of food and hygienic living, it is of utmost importance, particularly in the cardiopath, that a change of hygienic rules of eating be urged as it is of essential importance in the treatment.

Achylia gastrica is an absence of gastric secretion, certainly with absence of hydrochloric acid, free or combined, if not an absence of the ferments. While we know that achylia gastrica accompanies wasting diseases like cancer, profound anemia and tuberculosis, it may also accompany, although in its milder forms, some of the heart disturbances and lesions. It may, in this way, appearing under the more liberal terms of hypo-acidity or sub-acidity, set up in the cardiopath disturbing symptoms of digestion which markedly aggravate the cardiac lesion and interfere with its treatment. Its understanding and interpretation make the management and the treatment far simpler and more successful. In this condition, there are loss of appetite, sensations of pressure, fulness of the stomach, eructation and pain after eating. Food passes quickly into the duodenum, it being insufficient and patent owing to the absence of hydrochloric acid, setting up serious gastrogenic diarrhea and intestinal distention. Thus, in cardiopaths that show intestinal diarrhea and pyloric insufficiency, nothing more greatly aids the physician than a study of the gastric contents when secured.

In this condition great particularity is re-

quired in the dietetic management. As Einhorn says, the vegetable kingdom may be favored while the animal kingdom is forbidden in selecting the food. Ewald recommends ascending doses of dilute hydrochloric acid until large and commanding doses are given.

Acute dilatation of the stomach is also an important entity in the consideration of heart disease. It is now recognized as a most ominous complication of surgical operations following narcosis immediately or occurring at any time during the post-operative period. It is also recognized as serious in pneumonia. It is likewise an important consideration in myocarditis and other cardiac lesions. It is recognized by the history of an overloaded stomach, by evidence of abdominal distention, epigastric pain, shock, feeble pulse, irregularly labored heart action, anxious alarmed expression, difficulty of breathing and signs of collapse. In this condition, while gastric analysis is not called for, the immediate use of lavage and emptying of the stomach should receive mature consideration. Some may object that an attempt to pass a stomach tube under conditions of this sort is dangerous for the patient. While in the very aged this may be true, yet nothing is more dangerous than to permit a continuance of the gastric distention that portends the total suspension of cardiac action. Such cases, after the imminent danger is past, should receive the careful study of gastric digestion, which may be done, at least in part, by an analysis of the stomach contents during its period of activity and function following intake of a standardized meal.

It would seem needless to add further to the paper to show the value of the study of gastric function in heart diseases. The value of such a procedure has been forced upon me as I have treated many cardiopaths and, after digitalis and strophanthus appeared to fail to produce salutary effects, the study of the gastric functions and the adjustment of the diet and medication to meet the needs of the stomach has brought the serious cardiac state from the zone of danger into a safe and comfortable life.

Now, just a word in regard to the dangers and difficulties. If the heart case appears to be one where the introduction of a stomach tube would likely cause serious shock or fright, it is important to place such a patient in the hospital and study him carefully. It is in the duodenal tube, by which the examinations may

be done on fractional amounts of the gastric contents throughout the whole period of gastric digestion, that stomach digestion can be most satisfactorily and accurately studied and therapeutically dealt with. Patients offer far less resistance to its introduction and submit with greater acquiescence to its retention for hours, and longer, if needed, for feeding, than they do to the introduction of the ordinary stomach tube. This agent offers much in the study and treatment of stomach and duodenal states in general and as an agent assisting in the prolongation of the life tenure of cardiopaths, I strongly commend it.

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THE TREATMENT OF DRUG ADDICTION.*

By GERALD A. EZEKIEL, M. D., Richmond, Va.

To arrive at a satisfactory treatment of any condition, it is necessary to understand the pathology of that condition. In the case of users of narcotic drugs it is necessary also to have a correct appreciation of their personality. The cause of starting the use of the drug should be ascertained, since permanent cure can scarcely be effected unless such underlying cause is ascertained and corrected.

The continued use of the drug seldom leads to any organic change. The distressing symptoms so universally present are purely functional, and are those of a marked auto and drug intoxication. The continued taking of an opiate causes inhibition of liver function, constipation, an accumulation and absorption of toxins. As soon as the narcotic effect of the last dose wears off withdrawal symptoms appear and another dose is taken. Greater inhibition of liver function results, with more severe constipation, and so the disease, once started, perpetuates itself in this vicious circle—constipation, pain, relief by opiates—and thus around and around, requiring more opiate and producing greater damage. The other symptoms of chronic morphinism, sallow skin, loss of weight, contracted pupil, nervous phenomena, etc., do not directly concern us in treating the condition.

I wish to make my position clear as to what I mean by understanding these people. They start using this drug either through the indiscreet handling of it by a physician during an illness, or as a dissipation. When the lat-

ter is true they have no knowledge of the hold the drug will get upon them. After a comparatively short while any pleasurable effects from its use are lost, and contrary to popular opinion, these cases usually long for relief. These addicts are in many cases normal individuals. The idea that a "dope fiend" is a moral degenerate, who will steal, lie and do everything low or degrading, is wrong. The large majority are to be looked upon as unfortunate diseased people who are honorable and can be trusted in all respects except where their drug is concerned. Even in this respect they are to be trusted so long as they have no difficulty in getting their drug, but, so insistent is the demand of this master, that they must lie or even steal if the drug is to be had in no other way.

At the very beginning, it is important to gain the confidence of these patients by assuring them that they can be cured without any great amount of suffering.

When the patient enters the hospital, he is at first given his drug in the manner and dosage to which he has been accustomed. Unless the patient is kept comfortable during this preparatory treatment, his mind becomes inevitably and intensely focused on the need of his drug, and when a dose is given—as, of course, must be done until the treatment proper is begun—the relief is so great as to strengthen the mental hold which the drug has on him. If he is kept comfortable this does not occur. The same objection applies to all slow withdrawal methods. Here for days the patient suffers greatly, and nothing but the drug brings relief. The effect of this is to make repeated mental impressions of a bad kind. That which will take him from torture to comparative comfort must, he feels, be the remedy par excellence for every sort of bodily and even mental ill. This impression is likely to be so great that it remains even after the taking off is complete.

On the evening of the first day, the patient is given the following purgative, as recommended by Pettey:

R
Calomel
Ext. Cascara ää gr. x
Powd. Ipecac gr. 1
Strychnia Nit. gr. 1/4
Atropine Sulph. gr. 1/50
M.—Make caps. No. IV.

One capsule is given at four P. M. and this

*Read before the Piedmont Medical Society, Gordonsville, Va., January 15, 1916.

is repeated at six, eight and ten P. M. The object of the large dose of strychnia is to overcome the paralytic effect of the opiate on the intestinal tract.

No opiate is given after ten P. M., nor until the bowels have moved freely the next morning. To insure free movement, one-twentieth of a grain of strychnia is given hypodermically, followed one-half hour later by two ounces of Epsom salts. After free purgation, the opiate is given at the usual hours, but in reduced amounts. A patient taking ten grains or over will stand a reduction to one-half the usual dose; one using four to six grains will stand about a one-third reduction and be as comfortable as they formerly were on the full doses. On the third evening, the purgative is repeated, followed by strychnia and saline the next morning. After the bowels move freely from this second purgation, no more opiate is given. When the patient feels the need of his drug he is given hyoscine hydrobromide hypodermically and kept under the influence of this drug from thirty-six to seventy-two hours. My best results have followed the use of the hyoscine for sixty hours.

I wish to explain fully the use of the hyoscine. When the patient first feels the need of his drug, he is given $1/200$ of a grain of hyoscine, a half hour later another $1/200$, and one hour later, if not asleep, $1/100$ of a grain of hyoscine is given. The nurse is then instructed to show the patient some article. At the end of a half hour, the patient is asked what was shown to him a little while ago. If memory is present he is given $1/400$ grain of hyoscine and shown another object. If memory is absent at any half-hour test no hyoscine is given at that time but another object is shown, and so on until the effect of the hyoscine has worn off to the point where the patient remembers the last object shown him one-half hour before. Hyoscine is then given, the dose being regulated according to the interval between the last preceding dose and the return of memory. If this interval is one-half hour, $1/400$ grain is given; if one hour $1/200$ grain; and if two hours or over, $1/100$ grain. In some cases an initial dose of $1/400$ grain of hyoscine is given instead of $1/200$. This is determined by the general condition of the patient.

While the hyoscine is being administered, I do not allow these patients to be left alone for a moment. Some remain quietly in bed and

do not attempt to get up. They will arouse when addressed, tell you their names, talk intelligently, and in a moment the mind wanders and they go into a state of low grade muttering delirium. They have absolutely no memory of this period of the treatment, other than that they have been dreaming. Some remember pleasant, others unpleasant dreams or delusions. The former usually remain quietly in bed and smile, while the latter are always troubled and begin to tell you of their delusions, as soon as you approach the bedside. Throughout this, the active stage of treatment, purgatives are continued, castor oil, salines, blue mass and sodium hyposulphite being the most useful. After about forty-eight to sixty hours of the hyoscine and purgative treatment, and usually after there have been one or more dark green stools containing mucus, the patient says he is comfortable and has no further desire for his accustomed drug. The hyoscine is then discontinued and the treatment proper is over.

I cannot lay too great stress on the care to be observed in administering the hyoscine. Not only must so powerful a drug given in the size doses used in this method be carefully handled on its own account, but, while under its influence, serious conditions may be masked by the action of the hyoscine and thus be unrecognized. In one of my cases the urine had been tested and found negative. About the beginning of the third day of active treatment, I noticed that the patient seemed unusually apathetic, and would not respond to questioning, as the normal case does, but was in a semi-comatose state. I immediately ordered another urine analysis to be made and the presence of albumen and acetone was reported. This patient was rapidly developing coma, due to acidosis and uremia, which conditions responded quickly to suitable treatment.

When the hyoscine is discontinued, the patient should have no craving for his drug, but he is weak and may also suffer from insomnia. Some hypnotic, trional or veronal, is given if necessary to assure a good night's rest. The use of the hypnotic is discontinued within a few days—always within a week's time. The patient is given a tonic if it is indicated. During the convalescent period, I try to teach the patient to live without medicine, that he does not need medicine for every slight ailment. The appetite is usually good, and the patient is cautioned to eat slowly.

At the time of discharging a patient, I instruct him if sick to consult a physician. I advise him to tell the physician of his previous addiction, just as he does of former disease, typhoid, pneumonia or malaria. I further advise that, should the physician assume the wrong attitude—one of distrust—in spite of this frank statement, it is best to get another doctor. The physician should understand the nature of the trouble and regard it as a disease.

The treatment just described is essentially that of Pettey. The regulation of the dose of hyoscine according to the memory test of the Freiburg Clinic was, so far as I knew, original, but I found that this method had been used by Dr. W. C. Ashworth, Greensboro, N. C. I did not know of this until some months after I had myself been using the method.

In very old or debilitated persons, I give some opiate with the hyoscine. I adopt in these cases the reduction schedule of Lambert, arranging the giving of the purgatives so that their action will not be blocked by that of the opiate. There is probably less shock produced in this way.

The basis of the modern treatment of narcotic drugs is free purgation followed by abrupt withdrawal of the narcotic and the use of drugs of the belladonna group. Hyoscine hydrobromide seems to give the best results. There may be said to be two schools as to the explanation of the way in which the cure is brought about. Lambert refers to his (or rather Towns') mixture of belladonna, hyoscyamus and xanthoxylum as a "specific," but this specific acts as such only when liberal purgation is used. Pettey, on the other hand, regards elimination, largely through purgation, as the keynote of the treatment, and hyoscine (or some similar drug) is used only to control withdrawal symptoms until elimination is accomplished.

Whichever of the above may be the true explanation of the method of the cure, there is no question but that treatment on these fundamental principles enables us to bring about a cure of drug addictions far more quickly, surely and comfortably than by any previous method.

I am not prepared at the present time to make any definite claims as to the permanency of the cure. So far as I know, only a small percentage of my cases have relapsed. But it is too soon to speak of really permanent

cures, when so large a proportion of these cases have been treated within the past ten months. My cases have so far corresponded to Pettey's, and as the treatment is that advocated by Pettey and he has a large percentage of cures. I likewise have every reason to expect a high percentage of permanent cures. I feel that the way in which the opiate is handled in this method of treatment is of great advantage. I have already contrasted it with the slow reduction method. The enforcement of the Harrison Act is another reason for these cases not relapsing.

I have found that a careful study of each case is very essential to make the cure permanent. The presence of any other co-existing disease must be determined and proper treatment instituted. The patient must be educated mentally as to the use of narcotic drugs and medicines in general. These patients should be under observation at least two weeks after the active treatment, the last week of which period no medicine should be given. To the best of my knowledge no case has relapsed in which the above outlined principles were employed in the hospital, and these cases should only be treated in an institution. In every instance, except one, in which the patients have left the hospital against my advice, they have returned to the use of the drug.

Careful study of a number of these cases has caused me to request Wassermann test, with the result that syphilis has been diagnosed. Syphilis has been responsible in some cases for diseased conditions leading to the prescribing of opiates by the physician, and in other cases has served as a contributory depleting condition, adding to the distress of the patient and making him fall more easily a victim to drug addiction.

No paper on the treatment of drug addiction would be complete without reference to the "cocaine habit." The use of this drug is a habit and not a disease. The treatment consists in giving cocaine on the day of admittance. Purgatives are given the same afternoon and the next morning. The patient is able to do without cocaine the next day, experiencing varying degrees of nervousness, which condition may be controlled by sedatives, such as the bromides or mild hypnotics. Uncomplicated cocaine cases are able to stop of their own accord for a while, to take it up again at their pleasure.

Morally, the cocaine fiend, is a worse sub-

ject to deal with than the morphine addict. He is morally weak.

Often we are called upon to treat patients who are using both drugs. In my experience about twenty per cent. of the morphine cases used cocaine as well. There is no reason, from a standpoint of treatment, why the two drugs should not be stopped simultaneously. It is a known fact, however, that when this is done there is a large per cent. of relapses. This is attributed to the fact that the use of cocaine has altered the individual morally and mentally to such an extent that there is not the foundation on which to build. Pettey recommends that these cases be treated first for the cocaine habit, and thus converted into straight morphine cases. If they show sufficient strength of purpose to remain off of cocaine for a year they are then treated for the morphine addiction.

I have endeavored in the foregoing paper to discuss only the most important points in the treatment of drug addiction. To do more than this in a paper of ordinary length is impossible.

The Shenandoah.

Analyses, Selections, Etc.

Oral Hygiene in Its Wider Range.

The daily care of the teeth, the "tooth-brush drill" for children, etc., is a subject not at all beneath the dignity of the physician, though so obvious that it is not necessary to repeat platitudes. But, or so it seems, few physicians have studied the outreaches of the subject, thus realizing the importance of ordinary oral hygiene.

The confined abscess and the pyorrheal pocket is as great a source of metastatic infection as is trouble in the crypts of the tonsils, and perhaps more so, since a crypt drains more readily than does an abscessed tooth. Joint-inflammation is as apt to result from a bad tooth as from a defective tonsil. What we call rheumatism is most apt to come from just such a focus of infection. These foci are dangerous. At present we have a case of septic meningitic due to a pus-tube. Vaccines can do little so long as septic organisms are working in any blind pocket, be it tonsil, tooth cavity, ovarian tube, or what not.

Some dental cases actually become bed-ridden, develop endocarditis, have disturbances of

blood-pressure, and may even develop albumin in the urine; they need the joint care of a physician and a dentist. Dental-path infections are not sufficiently regarded by the physician nor by many dentists. Indeed, the criticisms by Hunter, of London, angered many dentists not so long ago, for they were guilty of unhygienic practices in technic Hunter charged against them.

Pathogenic organisms on the tooth surface may work down under the gum-margin to the endothelium of the vessel ends, induce a cloudy swelling, block the return flow in the venous capillaries, thus inducing endarteritis and edema. The result is a calcareous deposit on the tooth's root surface, which may be sharp and become a mechanical irritant and foster bacterial growth.

The tooth set in its socket is really part of a joint, and it is just as liable to infection as is any other joint, and even more so, since it has no protecting capsule. This gomphosis joint moves just enough during mastication to set up considerable inflammation when conditions are abnormal, and the inflammation becomes a continuous process until after the removal of the calculus or the tooth itself. The application of emetine or other drugs in such conditions is only adjuvant to necessary dental surgery.

Pyorrhea is an extension of the process outlined above, and millions of micro-organisms are proliferated daily, largely streptococci and amebae. There is some destruction of the perice-mental fiber. The calculus and pitted coat must be curetted away, lightly touching the alveolar process to induce the formation of new bone. After callus forms, the patient must use antiseptics, emetine-bearing tooth washes or pastes, and daily massage the gum tissues about the tooth, causing it to shrink and close off the entrance of infecting agents. This massage is, also, a sort of autovaccination.

Decay of the tooth and exposure of the dental pulp opens a path to infection in another direction. This is especially apt to occur in old roots, which should be extracted or, if of sufficient size and in some cases, crowned. Dentists, in treating the root canal preliminary to filling, should carefully exclude saliva and sterilize the canal. The saliva constantly carries organisms productive of myocardial degenerations.

Pulpless or dead teeth are more liable to abscessing than are live teeth; but with proper aseptic and antiseptic technic, the pulpless tooth may be preserved for years. But this takes careful oral hygiene, both on the part of the dentist and of the patient. Adults have as great, or greater, need for careful oral and dental hygiene as have young people.

Many cases of rheumatism are cured by eliminating dental infection. On the other hand, rush work on a number of suppurating teeth may *cause* rheumatism, for such work imposes upon the leucocytes an overload of bacteria. Especially does the *Streptococcus viridans* from confined dental abscesses produce rheumatism. Dentists should be especially careful not to unnecessarily stir up streptococcic pockets and canals; and the most rigid asepsis should be the rule, else rheumatism and chronic joint infections may result. And it must not be forgotten by dentists and physicians that both the teeth and the tonsils may be septic at the same time and both require attention. Don't work upon both teeth and tonsils at the same time; and it is to be noted that vaccine treatment may aid in the management of these cases.

A good antiseptic to use about abscessed teeth is made as follows: Incorporate in Merck's beechwood creosote as much iodine as it will dissolve. Apply this full strength and immediately follow with a liberal application of a saturated solution of tannic acid in glycerine. This will stick to the parts for a day or two.

In addition to dental troubles many infections may occur in the mouth, such as stomatitis, noma, syphilitic lesions, and many surgical troubles. These must be considered as a part of the problem of oral hygiene.

The foregoing shows that oral hygiene is no amateur or simple affair when considered in its wider range. But the range may not become wide if proper and persistent attention be given to the daily and, yes, thrice-daily attention to the mouth from infancy to old age. The toothbrush, antiseptic washes, dental powders and pastes, the use of floss instead of the toothpick, the avoidance of too hot and too cold substances in contact with the teeth, with skilled dental and medical attention to the teeth, tonsils and other tissues, will save a world of trouble in the mouth, as well as serious rheumatic infections and cardiac lesions due to neglect.—

(*Editorial Medical Council*, July, 1916.)

Elimination of the Narcotic Action of Alcohols and Poisons by Fats.

In our boyhood days we were in the habit of taking the dogs along when going a-fishing or game hunting on the creeks, inland lakes and in the woods. The dogs were often in a fight with snakes—rattlers and water-moccasins. The invariable results were the death of the snakes, but occasionally the dog received an almost deadly dose of poison from the fangs of the reptile. The physiological action of the poison was almost immediate, as shown by difficult breathing and a head so swollen as almost to close up the eyes of the faithful animal. We would hasten home and administer about four pounds of raw fat cut from the thick fat edge of a side of hickory smoke-cured bacon, the dog eating the entire amount ravenously, as conscious of its curative effects—which cure it did accomplish, for within twelve hours the swelling had almost subsided and the dog quite himself again. We were never sure of the exact whys of the curative effect or of the anti-poison properties in the fat bacon, but the article from M. Sulzmann, in *Archiv. Exper. Path., Nouveaux Remedes*, raises the question whether the action of the fat bacon as an antidote to the reptile poison is not similar to the effect of fats in diminishing the powerful narcotic effects of hypnotics and the toxic effects of alcohol. He says, as quoted by *Western Druggist*:

"The harmful narcotic action of alcohols of the fatty series may be eliminated or greatly modified by administering simultaneously fixed oils or fats. In the case of amylene hydrate or of paraldehyde, if fat be introduced into the stomach at the same time, the narcotic action of these hypnotics may be entirely eliminated, so that doses which, by themselves, would be powerfully narcotic, are rendered quite inactive. *With ethyl alcohol, the simultaneous administration of fat has also a very marked action in diminishing the narcotic effect.* It is even possible to obtain a cessation of the effects of alcoholic intoxication in cats by administering cream to the animals, provided the dose of alcohol has not been too great. This action is remarkable and unexpected. It is not at present explicable. The author has never experienced the excitant action which is stated to follow the administration of amylene hydrate. This is probably due to the indirect excitant action of the drug on the gastric mucous membrane, which may be entirely avoided by careful prescribing."

The County Society.

This department is conducted by the Committee on Component County Societies. It is proposed to bring to the attention of the individual doctors of the State the many and great advantages of organized effort.

The Committee is composed of Drs. Southgate Leigh, chairman, R. S. Griffith, T. V. Williamson, C. P. Jones, E. H. Terrell, Joel Crawford, G. A. Stover, J. R. Garrett, D. M. Kipps, Stephen Harnsberger and W. H. Ribble, Jr.

The Committee will be glad to answer all inquiries addressed to 109 College Place, Norfolk, Va.

Extracts From the Councilor's Bulletin.

No *organization* can live or grow that is occupied exclusively with the question of maintaining its own existence. There must be some aim, some external purpose, something beside mere self-perpetuation, to render any life, either of the individual or of the organization, justifiable and valuable. The broad general question then, is, How can the medical profession be of the greatest possible value to itself and to the world? Since there must be system and method in all work, it is manifest that proper and efficient organization must precede any attempt to answer this question. But organization is always a means, not an end. Of itself it accomplishes nothing. It is merely an orderly arrangement of forces, not a battle, much less a victory.

Organization, then, is only preparation. That machinery is most effective which accomplishes the maximum amount of work with the minimum amount of exertion and friction. The uniform system of organization now adopted by practically all the states provides such machinery. A local society in every county capable of sustaining an organization, formed of all the reputable physicians in the county, all the county societies united to form a state society, all the state societies united to form the American Medical Association—this plan is simple, yet adequate, capable of local variation, but still uniform. The scheme should be completed as soon as possible, yet, this being completed, the work is only begun. The question still to be answered is, "How can the organized profession be most useful to society?" Ignorance, superstition, credulity, avarice and lethargy, both in the profession and out of it, must be done away with before the limit of usefulness is reached.

ideals, and our ideal is a society in every county, containing as many as three or four medical men, embracing in its membership every reputable physician in the county, and existing solely for improvement and helpfulness in everything relating to the prosperity and well-being, not only of every member and of the profession as a whole, but of every citizen of the jurisdiction. This would mean a universal system of County Societies, meeting weekly, or oftener if possible, with a definite course of study, after some well-modeled postgraduate or university extension plan, and exerting a constant and intelligent supervision over every business, social and other interest of the profession.

Assuming that the urgent need for such a reform is generally recognized, attention will be given, first, to its possibilities on the competency of doctors in the performance of their every-day work. Medical science is advancing with rapidity unknown in any other branch of human knowledge, and it is well understood that very few physicians can remain competent to practice with safety to the people who have not the constant incentive to study which comes from frequent visits to medical centers or from work in an active local society. The former is available to comparatively few, while the latter can and should be brought within easy reach of nearly everyone in this country, and all can and should be induced to attend on and profit by its meetings. There is no literature or source of information open to the profession of Berlin, London, New York or Chicago which, by proper and concerted effort, can not be brought within reach and adapted to the practical needs of the members of any County Society. This being true, it is a reproach to the profession and a standing menace to the health and lives of the people over a large part of this country that such opportunities are not utilized in such a way as to make them of practical value in the daily life work of every one who takes on himself the responsibility of treating human ills.

Every family in this land is entitled to a competent modern doctor, one who can give its members the benefit of the latest developments and discoveries, and if the public was properly instructed it would cheerfully support the profession in such a way as to make this possible. The public is really more interested in this reform than the profession, and for

No great reform is possible without high

this reason leading laymen should be invited to attend and take part in frequent meetings where matters of common interest can be discussed.

WHAT'S THE MATTER WITH YOUR MEDICAL SOCIETY?

If your attendance is poor, your interest low, dues hard to collect, meetings go by default, and your society has assumed an asthenic condition, it is probable that you have neglected to make the meetings valuable. Most men will come where they will receive something. In order to improve the conditions, better programs must be presented. This can be accomplished by a few members adopting proper plans and making scholarly preparation. If your members have been allowed to choose their own subjects, for hasty text-book dissertation, adopt some plan of consecutive study. Plan a symposium and divide the themes among your members. Adopt courses of study on some one or two branches of medicine, and appoint a half dozen or so of your members to present at successive meetings various portions of the subject. Plan to do a little microscopical, chemical and clinical work. Appoint a joint meeting with your clergy, another with your lawyers. Set a business meeting or two at which business methods will be discussed, including a consideration of fees and collections, drug store prescribing and substitutions, consultations, contract practice, and other live subjects. It is not impossible to borrow pathological material, or chemical and microscopical apparatus in case the community does not possess a sufficient outfit, or to secure the services of some one especially equipped for such work. The assistance of the councilors, of the editor of this journal, and medical teachers might be freely sought to assist in the establishment of courses, and for direction in securing the proper literature and equipments to make courses profitable and interesting. "The fault, dear Brutus, is not in our stars, but in ourselves." Two or three interested men are sufficient to begin and maintain a wonderful work in any county society. The benefit to them is even greater than to those it is designed to interest.

Show us your secretary and we will tell you whether your society is a success or a drag. If he is prompt, active and energetic the society is bound to be a good one. We firmly be-

lieve the society is just what he sees fit to make it.

For your secretary always pick a busy man. It is a mistake to say Dr. Blank does not have much to do and will make a good secretary. The busy fellow is the chap you want. He does not get weary half as soon as the idle fellow, who generally does not have time to answer his letters or to pay his bills. Pick a young man, if you can get him with the requirements, but don't turn him down if he happens to be 50 and busy.

Nowhere is the truth of the old adage: "In union there is strength," more forcibly exemplified than in the case of the medical profession.

Medicine is defined by Gould as being the science and art of preserving health and preventing and curing disease.

Can there be any rational reason why those engaged in so honorable a calling should not band together?

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Gynecology. By WILLIAM P. GRAVES, M. D., F. A. C. S., Professor of Gynecology at Harvard Medical School. Octavo: 770 pages with 424 original illustrations, 66 of them in colors. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$7.00 net; half Morocco, \$8.50 net.

This volume is designed both as a text-book and general reference book of gynecology. To meet these requirements, the subject matter has been divided into three distinct parts and classified, so that—Part I deals with the physiology of the pelvic organs and with the relationship of gynecology to the general organism. Part II includes a description of essentially gynecologic diseases, encumbering details having been subordinated with a view to making the volume more compact and useful for the student. Part III is devoted exclusively to the technic of gynecologic surgery, and presents only those operations which the personal experience and judgment of the author have

seemed to indicate were best suited to the special requirements of a given condition. In preparing the work, however, the author has gathered material not only from his personal experience, but, as he states, to a still greater extent from the work of others, both for new material and for corroboration of his personal observations.

The more carefully one inspects this book, the more fully convinced does he become of its splendid worth from a practical standpoint. The array of facts is full, but not so formidable as to sidetrack even the student into a too technical discussion of fine points. Illustrations occur in large number and are unusually clear and helpful. A thorough general index of 34 pages is a feature meriting mention. The volume is handsomely printed on heavy glazed paper, and the whole make-up of the book, including binding, is one that must cause a sense of satisfaction to both author and publisher as a work well done.

Studies in Surgical Pathological Physiology from the Laboratory of Surgical Research, New York University. 1915. Volume 1. By several authors, JOHN WILLIAM DRAPER, M. D., Editor. Cloth. 8 vo. Over 300 pages, including numerous illustrations.

In stating the purpose and value of this book, we cannot do better than to quote the "Foreword," by Dr. William J. Mayo: "There is a growing tendency among groups of men studying different aspects of the same subject to collect and republish in one volume the results of their investigations. This practice is most helpful and it is one which will be greatly appreciated by other investigators.

"The present volume of papers by associates in the Laboratory of Experimental Surgery of New York University, bearing as it does on vital subjects in scientific medicine, is a happy example of such efficient cooperative effort and one which may well be emulated by others. The contents should be familiar to every surgeon since its subject matter is representative not only of the surgery of today but of tomorrow."

The thermometer was invented by Galileo in 1597.

The telephone was first used for business purposes in 1876.

Reed & Carnrick's Date Book.

Editorial.

Infantile Paralysis.

As we know that he speaks with authority we look to Doctor Simon Flexner, of the Rockefeller Institute of Medical Research, for the latest word on infantile paralysis, and in discussing it we cannot do better than to briefly abstract an address delivered by him at the special meeting of the New York Academy of Medicine held last week for the discussion of this subject. From this we learn that infantile paralysis is an infectious and communicable disease, due to a specific virus which exists constantly in the central nervous organs and upon the mucous membranes of the nose, throat and intestines in persons suffering from it.

The virus enters the body by way of the nose and throat and is known to leave it in the secretions of these organs, and consequently distributed by sneezing and coughing and by means of fingers and various articles contaminated with these secretions.

In the experimental disease in monkeys the virus is usually destroyed in the interior of the body in two or three days, but persists for several weeks in the mucous membrane of the nose and throat.

In human cases the virus disappears from these mucous membranes within four weeks, but it has been known to persist for a number of months after the subsidence of the acute symptoms, thus emphasizing the part that may be expected to be played by chronic carriers in transmitting the disease. The healthy carrier will have to be contended with, for the virus has been recovered from the mucous membranes of healthy persons who have come into contact with patients suffering with the disease.

The theories that certain biting or blood-sucking insects are capable of transmitting the disease were discredited by reason of the fact that the virus has never been demonstrated in the blood of those infected.

On the other hand, it has been demonstrated that flies and other insects act as mechanical carriers in transmitting the virus from the nose or mouth of one infected to these organs of another or to his food.

There seems to be no reason for the belief that paralysis occurring in domestic animals

is similar to this disease and as such is responsible for its spread.

After infection there is a period of incubation which varies from two days to two weeks, but is usually about eight days.

The danger of contagion is greatest during the early days of the attack, as the virus is usually destroyed in the body during the first four or five weeks, except in unusual cases of chronic carriers, when a period of six weeks is considered as abundantly long for quarantine.

That immunity is conferred by one attack is proven by the fact that the virus is destroyed by contact with the blood of persons who have recovered from the disease, and this property of the blood is known to exist for more than twenty years after the paralysis occurred.

A large number of persons seem to possess a natural immunity to it, inasmuch as it is not as readily transmitted as others of the communicable diseases. With further study it is expected there will be found a large number of abortive cases in which paralysis does not occur. If so, there will be a corresponding reduction in the proportion of those naturally immune.

The mortality rate varies with the character of the epidemic. In the isolated cases it is very low, while in the severe epidemic it varies from five to twenty per cent., with twelve per cent. as an average.

From the abortive attacks recovery is complete, and this is so in a considerable proportion of those who are paralyzed, the paralysis disappearing rapidly or gradually over a period of several months. In those that are severely paralyzed there is to be expected a constant though gradual improvement extending over several years, the extent of which depends very largely on the care and treatment that the patient receives during that time. As yet there is no means of inoculation or vaccination, but the fact that it is so rarely communicated to others in hospitals in which the disease is treated indicates that its spread is controlled by the use of modern precautions.

No specific serum or other treatment has been developed thus far. The drug that is most useful is hexamethylenamin; consequently, the treatment is symptomatic. However, much can be done to limit deformity by so supporting the affected limbs as to prevent over-

action of the unopposed muscles, and to prevent its weight from dragging on the paralyzed muscles and further weakening them.

In closing, Dr. Flexner said, "The present experience, severe and serious as it is, is not something new; the disease has been severely epidemic before and was brought under control. The knowledge regarding it now is far greater than it was in 1908; the outlook, therefore, should not be regarded as discouraging."

McGUIRE NEWTON, M. D.

Epidemic Reported Checked.

As we go to press, we note that Dr. Emerson, health commissioner of New York City, states that there is a cessation in the infantile paralysis epidemic in that city and he believes that the "high curve" mark of the epidemic has been passed. From the beginning of the epidemic on June 26, there were reported in New York City to July 15, 1,853 cases and 369 deaths. Quarantine against the disease has been rigidly enforced in a number of the cities and towns near New York and other states have also taken precautions. In our own State, since the beginning of the epidemic in New York, infantile paralysis has been placed on the list of diseases which physicians are required to report immediately upon diagnosis.

Dr. William F. Drewry,

Superintendent of the Central State Hospital, Petersburg, has been appointed by Governor Stuart as a member of the State Board of Health of Virginia, to fill the vacancy caused by the sudden death this month, of Dr. O. C. Wright, of Jarratt.

Married—

Dr. Charles E. Flowers, Columbia, N. C., and Miss Carmen Poole, Rocky Mount, N. C., at Oceana, Va., July 12.

Dr. Harry Gilmore Carter, Emporia, Va., and Miss Mabel E. Holland, Baltimore, Md., June 28.

Dr. Ernest Brubaker Miller, Elkton, Va., but who has been serving as interne in Mercer Hospital, Trenton, N. J., since graduation from the University of Virginia in 1915, and Miss Mary Regan, of Trenton, this month.

Dr. Cyril Iredell Sease, Prosperity, S. C., interne at Virginia Hospital, this city, since graduation from Medical College of Virginia in 1915, and Miss Mary Magdalene Dyson, Richmond, July 5.

Dr. D. D. Willcox,

Of Petersburg, Va., and a party of friends left July 8th, on Dr. Wilcox's launch, "Nancy Stair," for a week's cruise in James River, Hampton Roads, Chesapeake Bay and its tributaries.

Dr. E. P. Tompkins,

Of Roanoke, Va., spends week ends with his family and that of Mr. E. M. Coulter, also of Roanoke, who are sojourning for the summer months at their permanent camp near Natural Bridge, Va.

Alexandria County Health Board.

Dr. Robt. V. Palmer, Cherrydale, has been appointed full time health officer of Alexandria County, Va., and Drs. R. N. Sutton, Clarendon, and R. M. Slaughter, Alexandria, R. F. D., have been appointed members of the County Board of Health.

Dr. R. A. Davis

Has been appointed to succeed Dr. Thos. J. Pretlow, deceased, as health officer of Newport News, Va.

Suffolk Raises License Fee on Physicians.

While we were aware that there were still left a few places which imposed the special license tax on physicians, we were surprised to note from the *Journal of the A. M. A.* that Suffolk, Va., has raised this fee from \$20 to \$25 a year.

The American Proctologic Society,

At its annual meeting in Detroit, in June, elected Dr. Alfred J. Zobel, San Francisco, Cal., president; Dr. Granville S. Hanes, Louisville, Ky., vice-president, and Dr. Collier F. Martin, Philadelphia, secretary-treasurer.

Medico-Chirurgical College Merged.

The Medico-Chirurgical College of Philadelphia and the University of Pennsylvania have signed all necessary papers and the formal merging of the former school with the University of Pennsylvania occurred June 30. The Medico-Chirurgical College had just completed its thirty-fifth year of service.

Dr. F. E. Hamlin

Has succeeded Dr. W. S. Whitmore, resigned, as health officer of Staunton, Va.

Typhoid in Norfolk.

In spite of all precautions, what is feared will be a typhoid epidemic has started in Norfolk, Va., seventy-four cases having been reported to 10 P. M., July 15. Thirteen of these cases were reported in the last twenty-four hours.

Graduate Nurses Needed.

The medical department of the U. S. Army has established a number of base hospitals along the Mexican border and for this purpose a large increase is needed in the Army Nurse Corps. Graduate nurses who desire to make application may obtain full information from the Superintendent of the Army Nurse Corps, office of the Surgeon General, War Department, Washington, D. C.

Wassermann to Succeed Ehrlich.

We note from the *Bulletin of the Department of Health of the City of New York*, that Prof. August von Wassermann has been chosen to succeed Dr. Ehrlich as director of the Institut für Experimentelle Therapie at Frankfurt.

Dr. Virgil H. Carson,

A 1914 graduate of the Medical College of Virginia, since finishing his year as interne at the City Hospital, Blackwell's Island, New York, has gone to Santo Domingo, where he is serving as interne in a hospital.

The Westbrook Sanatorium, Inc.,

Of this city, we note, has bought a tract of land lying between Brook Turnpike and the Hermitage Road for \$10,000.

Dr. W. W. Koontz,

Of Spring Creek, Va., was one of five whose barns were struck by lightning and destroyed during a terrific storm which visited that section of the State on July 2.

Virginia Doctors Nominated for Medical Reserve Corps.

President Wilson, early this month, nominated Drs. Rowland D. Wolfe, Norfolk; Robert Shackelford, The Plains; Joseph N. Barney, Fredericksburg, and William F. Merchant, Manassas, all Virginia doctors, to be first lieutenants in the Medical Reserve Corps.

Dr. Finley Gayle, Jr.,

A graduate of the Medical College of Virginia in 1915, who has been studying in Philadelphia, has returned to Richmond, and will be associated with Dr. Beverley R. Tucker, in whose hospital he served as interne after graduation.

Dr. L. E. Flannagan,

Of Charlottesville, Va., has been appointed to succeed Dr. R. L. Robertson as health officer of that place. Dr. Robertson resigned to take service in the Medical Corps, U. S. A.

Dr. Perry W. Miles,

Formerly of Milton, N. C., is now located at Ringgold, Va., where he is practising his profession.

Dr. and Mrs. Lloyd B. Whitham

Have returned to their home in Baltimore, after a motor trip in the Valley of Virginia.

Dr. W. B. Thornhill,

Of Lynchburg, Va., was among the visitors at Natural Bridge, early this month.

Bequest to Retreat for Sick.

Mrs. Anna F. Rahm, who recently died in this city, left a bequest of \$500 to the building fund of the Retreat for the Sick, Richmond.

Dr. E. C. Levy,

Chief health officer of Richmond, by unanimous vote of the Administrative Board, has been given entire supervision of Pine Camp, the local tuberculosis camp.

Dr. J. R. Gildersleeve,

Who spends his winters in Richmond, is now at Yellow Sulphur Springs, Va. Later he will go to Sweet Chalybeate Springs for a visit.

Dr. Joseph A. White,

Of this city, president of the Medical Society of Virginia, has been elected eye, ear and throat specialist at Virginia Hospital, this city, which position he has previously held as a member of the staff, but this year, he serves independently.

Dr. M. J. Payne

Has been elected president of the Country Club of Staunton, Va.

The Virginia Pharmaceutical Association,

At its annual meeting in Staunton, this

month, elected T. Ramsey Taylor, of Norfolk, president; C. H. Goldsborough, Culpeper, and G. E. Thompson, Chatham, vice-presidents; E. L. Brandis, Richmond, secretary, and H. S. Eley, Suffolk, treasurer. The next meeting will be held at Old Point Comfort.

Dr. and Mrs. E. R. Hart,

Of Suffolk, Va., accompanied by their children and a few friends, enjoyed a motor trip to the mountains of Virginia early in July.

Dr. and Mrs. Paul Howle,

Of Richmond, motored to Mountain Lake, this State, for a visit early in July.

Dr. and Mrs. H. Grant Lind,

Of Low Moor, Va., were guests of relatives in Harrisonburg, Va., early this month. Dr. Lind was en route to New York.

Dr. and Mrs. J. Allison Hodges

Have closed their home in this city and opened their home in the suburbs for the summer months.

Dr. and Mrs. Beverley R. Tucker

Have taken a home in Westhampton, a suburb of Richmond, for the summer months.

Dr. and Mrs. Hugh McGuire,

Of Alexandria, Va., were recent guests of relatives in this city.

England Threatens Medical Conscription.

The Surgeon General of the English Army has appealed to the medical profession to mobilize voluntarily for service, otherwise recourse may have to be had to medical conscription. Many members of the British Medical Association say this is unnecessary. The Royal Army Medical Corps has already 11,000 doctors taken from private practice to attend an army of about 4,000,000 and, if the additional 4,000 asked for are conscripted there would only be about 15,000 left at home to attend a population of 41,000,000 men, women and children. How grave this condition would be is suggested by the fact that there are more than 500,000 industrial casualties in England every year.

Dr. B. B. Bagby,

Of West Point, Va., who was recently operated upon for appendicitis at Stuart Circle Hospital, this city, is reported as getting along satisfactorily.

Dr. Fred Steere

And family have moved from West Point, Va., to Petersburg, where they expect to make their home.

Dr. B. H. Kyle

Has been named chairman of the home nursing courses of the Lynchburg, Va., branch of the American Red Cross Society.

Dr. J. H. Smoot

And a party of friends of Woodstock, Va., left about the middle of the month for a motor trip to Philadelphia, Baltimore, Washington and Atlantic City.

Dr. William L. Gills,

Of Roanoke, Va., expects to leave in the near future for a twenty months' course of study in New York, preparatory to taking up special practice in eye, ear and throat diseases.

Dr. B. Ryland Hudnall,

Formerly of Lignite, Va., has moved to Low Moor, Va.

Dr. Hugh Hodge Hill,

Of Locust Dale, Va., has been spending some time at Mountain Lake, Va.

Dr. Andrew J. Osborne,

Of Lawrenceville, Va., was a recent visitor to this city.

Dr. and Mrs. Manfred Call.

Of this city, were recent visitors at Ocean View, Va.

Dr. J. Warren Knepp,

A surgeon in the National Guard of Virginia, accompanied Company F, of Roanoke, Va., to the Mexican border.

Novocain Not Subject to Provisions of the Harrison Bill.

Novocain, a synthetic chemical, and a frequently used local anesthetic, was recently determined by a jury in the United States Court, before Judge William I. Grubb, to be without the prohibitory provisions of the Harrison Anti-Narcotic Law in that it was not a derivative or compound of opium or coca leaves.

Dr. Louis Loeb

Is the newly elected city physician of Newport News, Va.

Dr. W. E. Harwood

Has been re-elected as a member of the

School Board of Petersburg, Va., his new term of office commencing July 1.

Dr. and Mrs. E. J. Moseley, Jr.,

Of this city, recently paid a short visit to Atlantic City.

Dr. R. B. James,

Of Danville, Va., has been a recent visitor at Crockett Springs, Va.

Dr. and Mrs. A. P. Traynham,

Of this city, who have been motoring through Virginia, stopped for a short stay at Blue Ridge Springs.

Dr. S. Westray Battle,

Of Asheville, N. C., has recently been on a motor trip with a party of friends to Knoxville, Tenn.

Nurses Plan to Endow Bed at Catawba.

Having aided in making the last payment on a seven room cottage at Catawba Sanatorium for tuberculous nurses, the Richmond Nurses' Club is now planning to raise \$6,000 for the endowment of a bed in the hospital. The purposes of the nurses of the State in building the cottage were to avoid the long list always awaiting admission at Catawba Sanatorium, and to allow nurses a longer time at the sanatorium since they often have no homes to which to return during recuperation.

Dr. May Farinholt Jones,

Resident physician of the State Normal College, at Hattiesburg, Miss., is visiting her parents in West Point, Va., after attending the National Educational Convention in New York.

Large Number of Coroner's Cases.

The semi-annual report of Dr. William H. Taylor, coroner of this city, shows that in the past six months he was called upon to investigate the deaths of 175 people, who died from violence or without the presence of a physician.

Dr. and Mrs. H. Ward Randolph,

Richmond, have been recent visitors at Mrs. Randolph's old home at Reedville, Va.

Dr. and Mrs. O. J. Henderson,

Of Montgomery, W. Va., accompanied by their son, have been spending some time with Mrs. Henderson's mother near Heathsville, Va.

Do You Know That

- Intelligent motherhood conserves the nation's best crop?
- Heavy eating like heavy drinking shortens life?
- The registration of sickness is even more important than the registration of deaths?
- The U. S. Public Health Service cooperates with state and local authorities to improve rural sanitation?
- Many a severe cold ends in tuberculosis?
- Sedentary habits shorten life?
- Neglected adenoids and defective teeth in childhood menace adult health?
- A low infant mortality rate indicates high community intelligence?

For Sale—Complete office equipment, instruments and one of the finest medical libraries in the State of Virginia, which belonged to the late Dr. W. B. Payne, of Covington. Residence with offices adjoining will be sold if desired. For particulars, write to *Mrs. W. B. Payne, Covington, Va.*—(Adv.)

Physicians—Attention!

Static Electric Machine, made by Van Houton & Tenbroeck Co. of New York, practically new, can be bought cheap. Has insulated platform, head attachment, stand and electrode, brush discharge electrode, single point electrode, abdominal attachment and others, including an X-ray. Address: *Mrs. S. C. Holliger, Administratrix, Crewe, Va.*
(Adv.)

Obituary Record.

Dr. Joseph A. Gale,

One of the most beloved physicians of Roanoke, Va., died in that city, July 5, following a general breakdown after a long and useful life. Dr. Gale was born in Norfolk, Va., December 3, 1842. At the outbreak of the Civil War, he enlisted as a member of Capt. Huger's battery of field artillery. After a service of about eighteen months in this division, especially in the battles around Richmond, he was transferred to the medical department as a steward in Chimborazo Hospital, Richmond, where he continued until the close of the war. He was permitted to matriculate at the Medical College of Virginia while in this service,

and at the close of the war, entered Bellevue Hospital Medical College, New York, from which he graduated in 1866.

An enterprising and public spirited citizen, Dr. Gale was also an active and interested member of various medical organizations and was president of the Medical Society of Virginia in 1903-4. He had for a long number of years been chief surgeon of the Norfolk & Western Railway, being the first and only doctor to hold this position. In his work in this field, he had by his genial manner and attention to duty won for himself a host of friends in this and other states among the officials of the road and the doctors who were associated with him in this work.

In March of this year, the Roanoke Academy of Medicine and Surgery, in token of their esteem for him, presented Dr. Gale with a beautiful silver loving cup as a jubilee token.

He is survived by his wife, a daughter, and one son, Dr. Sparrell Gale, of Roanoke.

“At a called meeting of the Roanoke Academy of Medicine on July 6th, the undersigned committee was chosen to draft resolutions of respect to the memory of Dr. Joseph A. Gale, which resolutions we herewith submit, and recommend that they be spread upon the minute book of our Society, and given to the daily papers for publication.

“With sentiments of profound sorrow, the Roanoke Academy of Medicine learns of the death of Dr. Joseph A. Gale, for many years a valued fellow of this organization. In the passing of Dr. Gale to his eternal reward, we recognize the loss to the community of an esteemed citizen; to the profession, an honored member; to a host of individuals, a life-long friend and beloved family physician.

“We desire to tender to the bereaved family our warmest sympathy.”

E. P. TOMPKINS, M. D.,

G. M. MAXWELL, M. D.,

J. W. PRESTON, M. D.,

Committee.

Dr. Otho Clement Wright,

Of Jarratt, Va., together with two small boys who accompanied him, was instantly killed July 8, when his automobile, in which he was returning from a professional call, was struck by a freight train about four miles from his home. Dr. Wright, who was one of the most widely known physicians in Southside

Virginia, was born in Pittsylvania County, this State, September 29, 1867. His medical education was received at the College of Physicians and Surgeons, Baltimore, and upon graduating from that institution in 1893, he took up the practice of his profession in his native State and had always taken an active part in its medical work. He was one of the organizers and an ex-president of the Southside Virginia Medical Association, a member of the Seaboard Medical Association, member and president in 1911 of the Medical Society of Virginia, a member of the State Board of Medical Examiners, being examiner for hygiene and preventive medicine and medical jurisprudence, and had at one time served as a member of the board of the Eastern State Hospital. In addition to his professional work, he was identified with the business interests of his section and was president of the Bank of Jarratt.

Dr. Wright was highly esteemed by those who knew him and his death was a great shock to his many friends throughout the State. He is survived by his wife and one daughter and several sisters and brothers, one of them being Dr. Fletcher J. Wright, of Petersburg.

Dr. Charles P. Wertenbaker,

For nearly thirty years prominent as a surgeon in the U. S. Public Health Service, died July 12, at University, Va., where he had made his home since retiring from active work several months ago on account of failing health. He was 56 years of age, and a native of this State. He graduated in medicine from the University of Virginia in 1882 and six years later entered the U. S. Public Health and Marine Hospital Service. He was sanitary director of the Jamestown Exposition and, while in Norfolk, was active in anti-tuberculosis educational work. He was instrumental in the organization of the Virginia State Anti-Tuberculosis Association in 1909, and was an ex-president of the Association of Military Surgeons of the United States. His widow and one daughter survive him.

Dr. Andrew Jacob Koontz,

Of Independence, Va., died at the home of one of his patients, where he had been called professionally, June 20, 1916. He was born in Lexington, N. C., May 5, 1859, and studied medicine at the College of Physicians and Surgeons, Baltimore, from which he graduated

in 1887. In 1892, he located at Independence where he had since practiced his profession and greatly endeared himself to the people in that community. He was progressive in his profession, having twice taken post-graduate courses, was an enthusiastic and zealous Mason and ever took a deep and active interest in the moral and social development of the town and community in which he lived. His widow and a large family connection survive him.

Dr. James Fuller Crane,

For many years one of the city physicians, until forced by ill health to retire from active work, died at his home in this city July 11. He was born in Orange County, Va., 66 years ago and studied medicine at the Medical College of Virginia from which he graduated in 1875. He was an ex-president of the former Church Hill Medical Society of this city, and was at one time adjunct professor of diseases of children at the University College of Medicine. The Richmond Academy of Medicine, of which he was a member, met and passed resolutions of sympathy upon his death. He is survived by his widow and three children.

Dr. Herman G. Tarter,

Of Chilhowie, Va., died July 15, at the home of his father, Dr. J. E. Tarter, in Wytheville, Va., after a short illness from acute Bright's disease. He was thirty-one years of age and had graduated from the Medical College of Virginia in 1911. He is survived by his widow and a large family connection. Dr. Tarter was a member of his local and the State medical societies.

Dr. Nathaniel Alexander Orr.

We have just learned with regret of the death on June 21 of Dr. Nathaniel Orr, a prominent physician of Belmont, N. C., at his home in that place. Dr. Orr, who was 39 years of age, was a graduate of the University College of Medicine, Richmond, in 1904, at which time he was appointed one of the internes at Virginia Hospital, this city, for the usual term of service.

Prof. Elie Metchnikoff,

The famous Russian bacteriologist, renowned for his work at the Pasteur Institute at Paris, died a few days ago at his apartment in that city, aged 71 years. His death was not unexpected as he had suffered for sometime from heart disease.

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Original Communications.

FACTORS IN GALL STONE RECURRENCE: WITH SPECIAL REFERENCE TO PRE- VENTION OF CALCULUS FOR- MATION.*

By JOHN C. A. GERSTER, M. D., New York, N. Y.

Cases of recurrence in gall stone disease can be divided into two groups: one, in which the stones have been left behind at the primary operation; the other, in which the stones seem to have reformed. The histories in this second group are somewhat as follows: A cholecystectomy for cholelithiasis is performed; the common duct at this time is found empty. Convalescence is uneventful and the patients are free from trouble for a number of months; then typical attacks of gall-stone colic, with or without jaundice, set in. At a second operation the common duct is exposed and opened. Instead of revealing one or more common duct stones as expected, some bile containing cholesterolin crystals in suspension escapes, or perhaps there is a little bile sand or even soft conglomerate stones. There is no obstruction at the papilla, consequently no marked dilatation of the common duct. There is no cholangitis. Apparently temporary impaction of bile sand at the papilla had given rise to the attacks of colic.

Up to the present time in such cases, all that the surgeon could do, was to establish prolonged drainage of the common bile duct,—all that he could say, was that the patient had an inherent tendency to formation of biliary sand, the correction of which was beyond his control.

In still other cases of this second class, when the common duct was opened, it was filled with

clear bile and exploration with the probe demonstrated no obstruction of duct or papilla.

Here the surgeon had to assume that a stone had been present, had caused obstruction, and had then been passed into the bowel. He probably blamed himself for failure to remove it at the first operation.

The writer has operated in three such cases during the past two years. In the first case, the primary operation had been done by A. G. Gerster; in the others, both operations were performed by the writer. It was the author's good fortune to have the metabolism of the last patient investigated by M. A. Rothschild.¹ Studies of this patient's blood after the second operation revealed a steadily increasing concentration of cholesterolin in the blood. To control this hypercholesterinemic tendency, Rothschild² put the patient on a strict diet, poor in lipoids. The over-concentration subsided, and the cholesterolin content of the blood has remained within normal limits for more than a year; there have been no more attacks of colic and the patient volunteers the information that she feels better than at any time during the previous ten years.

This dietary method of preventing undue concentration of cholesterolin in the blood and bile is based on Aschoff's theory of gall-stone formation. This theory³ has received fairly strong confirmation and amplification from other sources. It may be stated briefly as follows: Certain individuals have a distinct cholesterolin diathesis just as certain others have a gouty (uric acid) diathesis. Persons with this tendency, even upon an ordinary diet, retain their lipoids; there is a steadily increasing cholesterolin content of the blood as well as a saturation of the bile with cholesterolin.

1. The studies were made in the Physiological Chemistry Laboratory of Mount Sinai Hospital.

2. Amer. Jour. Med. Sci., 1916.

*Read before the Tri-State Medical Society of Virginia and the Carolinas, at its eighteenth annual meeting, at Richmond, Va., February 16-17, 1916.

3. For a brief reference in English, see *Progressive Medicine*, June, 1914, p. 160.

Sooner or later a sudden precipitation of the cholesterol in the bile in the form of gall stones takes place. (At the time of such precipitation there often is an attack of gall stone colic *without fever*). According to Rothschild, coincident with precipitation in the bile, there is a diminution in the cholesterol content of the blood often to the normal or even below it. Gradual reaccumulation begins, again ending in due course of time in another cholesterol "shower."

If the stones are small enough to be passed into the gut, there will be no more trouble until a new accumulation and precipitation takes place. If the stones are larger and cannot be passed, the chances for frequent attacks are increased. In support of his theory, Aschoff adduces the following frequently observed condition: In some gall bladders a single cholesterol stone will be found blocking the mouth of the cystic duct; often there is not the slightest microscopical evidence of previous or present inflammation of the walls. Such a stone is not faceted but rounded. It consists of nearly pure cholesterol. Upon transverse section there is no layering,—presumptive evidence that it is the product of but one period of precipitation. In some instances the gall-bladder above such a stone is empty; in others it is filled with faceted stones of a different character from the solitary rounded one blocking the neck. Such stones, besides being faceted, show layering on section, and are composed of bile pigment and salts as well as some cholesterol. These represent the product of inflammation added to cholesterol concentration, while the pure cholesterol stone is to be considered solely as the result of metabolic concentration. As said above, Aschoff points out that first attacks of gall stone colic are rarely febrile, and that many gall bladders containing only pure cholesterol stones fail to show the slightest evidences of inflammation. He explains the finding of gall bladders filled with pigment stones but showing no solitary cholesterol stone by the fact that the latter has been passed.

To express it in another way, stones are first deposited as a result of an error in metabolism (over-concentration of cholesterol in the blood and bile), and their presence in a gall bladder favors subsequent infection. The pigmented layered stones are the result of over-concentra-

tion of bile plus inflammation of the bile passages.

Rothschild has shown that the cholesterol content of the blood and the bile depends on the type of food upon which animals subsist. Herbivora eat material poor in cholesterol; their blood shows relatively small quantities of cholesterol. Carnivora and omnivora (man) live upon material richer in cholesterol, and their blood and bile show correspondingly higher quantities of cholesterol. In other words, the amount of cholesterol in the blood depends on the amount of cholesterol in the food. As mentioned above, there are certain individuals who, under identical conditions of nutrition, have a stronger tendency to retain their cholesterol than is normally the case,—they have a cholesterol diathesis; their blood shows a hypercholesterinæmia.

To digress for a moment, the relation of hypercholesterinæmia to gall stones is but one aspect of a many-sided problem. It (hypercholesterinæmia) is present in physiological as well as pathological conditions, as shown in the appended table.

HYPERCHOLESTERINAEMIA.

Physiological	Pathological
Pregnancy, Lactation, Dietetic excess of: Eggs, brain, shad roe, fat fish or meats, or legumes.	Jaundice, Obstructive cholelithiasis, Atherosclerosis (non-syphilitic), Nephritis, Diabetes, Diathetic (upon ordinary diet).

Rothschild's diet for patients with a hypercholesterinæmia is as follows: Eggs, cream, butter (all fats), meat, and fish, are forbidden.

All vegetables, except beans, peas and lentils, are permitted; likewise cereals and sugar, skimmed milk and fat-free buttermilk. This diet is so strict that, according to Rothschild, the majority of patients refuse to maintain it for a long period. He, therefore, has devised feast and fast-day periods. For three or four days a week, the patient lives on a strict, lipid-free diet, as outlined above—the so-called fast-day period. For the next three or four days a more liberal diet is permitted—the so-called feasting period. Now, in addition to the articles allowed in the fasting period, well-cooked lean meats and fish (excluding salmon,

shad and blue fish) are permitted. Oleomargarine is given in place of butter.

The tolerance of the individual should be determined from time to time, as is customary in ascertaining the sugar tolerance in diabetes. In this way the diet may be intelligently regulated.

With this regime, Rothschild was able to reduce the cholesterin content of the blood from 0.330 per cent. to 0.233 per cent. within fourteen days (normal is 0.160 per cent. to 0.180 per cent.) It is unnecessary to enter into the technical details of estimating the cholesterin percentage. Let it suffice that but 2 cc. are required by the physiological chemist for his examination. The blood can be obtained by pricking the finger or lobe of the ear as in making the ordinary blood count. It is not necessary to tap a vein. At first, specimens are taken every few weeks; later, at longer intervals. The laboratory report can be obtained within 24 hours after the specimen has been received⁴. For further details the reader is referred to the writings of M. A. Rothschild.

Given a case of gall stone colic some time after operation, it must be remembered that absence of hypercholesterinamia does not mean absence of stones. Stones are often present in patients with no excess of cholesterin in their blood, the cholesterin shower having occurred previously. In the absence of acute inflammatory symptoms or obstructive jaundice, the surgeon may safely wait. If the passage of bile sand through the papilla has caused the colic, there will be no further trouble for a long time (until a hypercholesterinamia has again developed). Reformation of calculi can be prevented by dietary measures. On the other hand, if attacks persist, it is safe to assume that stones are present which cannot be passed; naturally their operative removal should precede any dietary treatment.

Finally, in the light of our present knowledge, it seems advisable that a month or two after an operation for gall stones, the blood should be examined for its cholesterin percentage. This should be repeated from time to time in order to recognize an impending hypercholesterinamia and to prevent the re-

formation of calculi by the simple measure outlined above.

34 East 75th Street.

SOME REFLECTIONS UPON THE PREVENTION OF BRIGHT'S DISEASE.*

By J. H. HIDDEN, M. D., Pungoteague, Va.

When we consider the many phases of Bright's disease, its origin, course and development, and see it at times ushered in with the horrors of a brain-storm, and again, as a most insidious enemy, destroying, unobserved, some of the vital structures of the body, I feel no need of an apology for presenting this subject. Indeed, when we review its universal prevalence, its varied pathology, its often lingering and distressing symptoms, its peculiar affinity for the higher classes, its obstinate, progressive nature, and its alarming mortality, we can hardly avoid the pertinent question, "What shall I do with Bright's disease?" This question has been one of great import ever since Dr. Bright associated, in 1827, the symptoms of albuminuria and edema with lesions in the kidney.

It is needless, in a paper of this character, to attempt a comprehensive history of the scientific researches which have been made in the study of this disease; for this would cover a volume indeed. It is, therefore, sufficient to say that for several decades the pathologist, urologist, the clinician and the surgeon have all labored to obtain and classify their knowledge in every form of Bright's disease, until we now have the minutest distinctions of every phase and stage in its varied pathology. Moreover, the faithful work of these men has not stopped here. Every form of the disease has been studied as a complication or sequel of other diseases, including not only those of an infectious type, but also those of nervous origin, degenerative change, or disordered metabolism. Bright's disease in pregnancy has also been a fertile field for research, and Bright's disease following an acidosis from prolonged anesthesia has by no means escaped the surgeon's attention. We may note here, also, that within the last decade a radical departure in research work has been undertaken in the study of Bright's disease. Animal experimentation has opened up a new field, and

4. Recent improvements in technique are said to enable the chemist to render his report in a few hours.

*Read before the Seaboard Medical Association of Virginia and North Carolina, at Norfolk Va., December, 1915.

Dr. Christian, of Harvard, Smith and others have been producing the disease artificially in rabbits by the injections of uranium nitrate, potassium bichromate, mercuric chloride, cantharidin, arsenic, etc. The advantage of these procedures is very apparent. They allow the physician to experiment upon the disease in its various forms, acute, subacute and chronic, as well as to deal with its various stages, shifting from one to the other, as it is artificially produced in a given number of animals, and advancing or retarding the disease at will. It is interesting to know here that in these experiments when a tubular nephritis has been so produced, the granular casts are soon found in the urine, and that the hyaline casts are a later formation.

In reviewing these experiments, another point of interest has been found. Morbid changes in the kidneys can be artificially produced in animals very similar to the pathological changes which occur in the human kidney in acute nephritis, chronic parenchymatous nephritis, and even in the interstitial variety. And these various forms of nephritis are produced by varying the kinds of irritants used, the size and strength of the doses, the intervals at which they are used, and the frequency and length of time they are continued (Christian). Moreover, not only can the histological changes of cellular degeneration in the uriniferous tubules be produced by the injection of uranium nitrate, but even more extensive changes, as I have above intimated—those of varying degrees of intertubular connective tissue formation with the accompanying changes of atrophy. To these may also be added definite lesions in the walls of the vascular tufts of the glomeruli, and the symptoms of hydrops. Furthermore, amidst these atrophic changes, large, dilated, convoluted tubules are sometimes found, apparently in a state of compensatory hypertrophy. The dilatation of the capsular space with atrophy of the glomerular tuft, as the beginning of a small cyst has also been found, resembling closely the cyst formation often found in man in chronic interstitial nephritis, and regarded until recently as a congenital defect in the development of the kidney. Another point of interest, of still more striking character, is the production artificially in varying degree, of a cardiac hypertrophy. This occurs when a chronic nephritis in rabbits is produced by uranium nitrate. And this

cardiac complication corresponds to an astonishing degree to the familiar cardiac hypertrophy which we often find complicating Bright's disease.

I have dwelt at some length upon these recent animal experiments, not only on account of their intrinsic value, but to show that real Bright's disease can be artificially produced, and to emphasize more strongly the fact that the continuous elimination of irritants by the kidneys is a most potent factor in the production of Bright's disease. And in order for us to accomplish much in the prevention of this disease, we must be alert to protect the kidneys as much as possible from the action of irritants of every kind.

(a) Now, the first of these irritants for our consideration are often found in connection with infectious diseases, such as scarlet fever, diphtheria, tonsillitis, inflammatory rheumatism, pneumonia, erysipelas, tuberculosis, etc. And it is obvious that the application of the principles of modern preventive medicine to these diseases will eliminate in the future many of these factors of Bright's disease.

(b) Another source for reducing the annual number of cases of this disease is found in the restriction of the manufacture and sale of alcoholic liquors and drugs of a similar character. And here I would say, when it is generally conceded that the free and continued use of alcoholic beverages has a powerful tendency to form in the delicate structures of the body, such as the liver, arteries, spinal cord and the brain, degenerative changes of the sclerotic type, we should not be slow to recognize similar changes, or the effects of such changes, sooner or later, in the kidneys themselves. Indeed, owing to the peculiar and intimate relationship of the liver and kidneys to the digestive tract, these organs are especially susceptible to the toxic effects of alcohol; and this fact cannot be too earnestly stated in our dealings with the general public. For, as our people view the effects of alcoholic beverages, they see only the immediate stimulating and narcotic effects, and have little or no knowledge of the latent, degenerative tissue-changes which so often bring suffering and misery to the days of advanced life. A decided restriction in the manufacture and sale of these liquors should certainly be felt in our efforts to reduce the annual number of cases of Bright's disease in this country.

(c) Again, another factor in the etiology of

chronic Bright's disease, which is even more difficult to handle than the alcohol problem, is the general prevalence of injudicious eating. What shall I eat, when, how, how often and how much, seem too often mere questions of self-indulgence with the thought of animal gratification instead of questions of nutrition, assimilation and the preservation of health. Indeed, this reckless indulgence of the appetite often becomes a psychological perversion of our powers, rather than a physiological necessity. And oftentimes this persistent over-indulgence creates a morbid condition of discomfort—a feeling of extreme emptiness when the stomach is not full of food. In many such cases, even sickness itself does not seem to spare a man this morbid craving. Even here, while his eliminative organs are laboring under the burden of the toxic products of decomposition and putrefaction of an overloaded stomach, his imaginative powers convince him that his system still requires more food. And so the process of eating goes on. An eminent physician of Boston has said that, of all the animals of God's creation "man is the only fool who persists in eating when he is already sick." False conceptions about eating, the habitual perversion of the appetite along with the cultivated, vicious habit of eating as a measure to pass away time when the mind has little else to interest it, is largely responsible for this deplorable condition. While all this sort of epicurean debauchery continues, who can wonder that the abused kidneys should show evidences of fatigue and exhaustion, or that these organs should sooner or later give evidences of cellular degeneration and atrophy? Another point of interest which even adds to the abuse of the kidneys is frequently found in the acquired habit of drinking daily little or no water. I have seen in my own practice people suffering with headache, backache, more or less dyspnea, etc., sometimes with a full, hard pulse and high blood pressure, who, in answering my questions, acknowledge that they rarely drink any water. The very clothing of such patients often gives the characteristic odor of stale urine. It is often gratifying to see how quickly such patients will improve by simply increasing the daily consumption of drinking water.

(d) Again, another factor in the production of chronic Bright's disease is found in the often too strenuous character of our business

and professional lives. This is coming to be more fully realized as we consider the proportionately large number of cases of Bright's disease annually found among men of great activity in the highly intellectual type. And this observation has led many physicians to consider this disease as a disease of the central nervous system, accompanied with local secondary changes in the kidneys instead of a disease primarily of the kidneys themselves. Neiswanger, of the Chicago University, has advanced this view, and has undertaken to support it by claims of success in the treatment of many cases of Bright's disease by a course of repeated applications of static electricity—"that great equalizer of the nervous forces." Whether such claims are sufficiently founded or not, it may be well to bear in mind that there are two distinct processes in the functions of the kidneys, namely, that of filtration and that of secretion, and that there is a close, sympathetic relationship between these functions and some of the motor impulses of the central nervous system. And so we find that certain psychological impressions upon this nervous system are often followed with increased kidney action. Moreover, the continuation of such a process is more than likely to lead to renal fatigue and exhaustion. At this point in the treatment of renal disorders, Prof. Neiswanger's claims may appear plausible; but when the next stage appears, namely, that of renal cellular degeneration, followed later with more or less changes of atrophy, we then accept his claims with reservation.

(e) Again, from another standpoint we may ask, *how can persistent nervous strain produce chronic Bright's disease?* In the first place, the normal action of the kidneys is very largely dependent upon a normal digestion and assimilation. This normal digestion can hardly continue long under persistent mental strain, which deprives the stomach of its proper blood supply during the hours of digestion. And, as the normal quantity and quality of the gastric juice is dependent upon this blood supply, the deficiency or deterioration in this digestive agent is naturally followed with fermentation, decomposition and often putrefaction of food in the digestive tract. Now the trouble begins. Normal metabolism is disturbed, and the kidneys must take care of these irritating, toxic products of this undigested food; and, in order to do this

excessive work of elimination, another step is necessary. *Nature must raise the blood-pressure.* This rise in the blood pressure is often noticed with alarm; but it is nevertheless a conservative, compensatory measure. Without it, many cases would soon be overwhelmed with an auto-intoxication; yet, with it, we are confronted with nature's compromise of a threatening character. The constant stimulation of the uriniferous epithelial cells to overaction under a persistent high blood pressure is likely to be followed by cellular degeneration. And a blood pressure of this character, bordering upon the degree of a local hyperemia, in the presence of degenerative changes, is more than likely to be followed in the adjacent structures by the formation of fibrous tissue, and by changes of atrophy. It may be admitted just here, however, that in some cases of chronic Bright's disease the disturbances of digestion and metabolism seem so slight, and the successive steps in the renal pathology so ill-defined, that we are apt to lose sight of their causative factors. In the words of Osler, "Some cases appear only an anticipation of the gradual changes which take place in the organ in extreme old age." Such cases doubtless differ from the others largely in the subject's powers of resistance, and also in the degree of action in the causative factors of the disease itself. And in considering this class of cases it should be remembered that any very popular, faulty observance of the general laws of hygiene, when not accompanied with any immediate symptoms of warning or distress, is not likely to receive due consideration of any impending evil. This is especially true when this evil may not be realized for a distance of from five to thirty years.

(f) Further, continuous nervous strain acts as a causative factor of Bright's disease by disturbing the circulatory forces throughout the vascular system, and especially the blood supply to the kidneys themselves. Indeed, it is definitely known that only slight disturbances in the renal circulation are often followed by an albuminuria. I have seen in my own practice, an albuminuria in a young woman quickly disappear by simply replacing for her a retroverted uterus. The abnormal position of this organ had either directly or indirectly disturbed the renal circulation. It may be safely said, then, that whatever persistently disturbs the renal circulation favors an albuminuria, which, if allowed to

continue, is more than likely to develop into Bright's disease.

(g) Lastly, a continuous nervous strain interferes with the equilibrium of the renal circulation by frequently interfering with a normal amount of sleep, thus promoting prolonged vascular tension, and favoring a general high blood pressure. Indeed, the relationship between a continuous nervous strain, insufficient sleep, and the vascular tension of the renal circulation, is more intimate than is generally realized. During normal sleep the nervous energies of the brain are restored (as shown of late by Crile), the action of the heart is calmed, the blood pressure in the general vascular system lowered, and the work of the kidneys diminished, allowing to the delicate structures of these organs much needed rest. And so a continuous interference with this process of nature necessarily favors structural changes in the kidneys.

In conclusion, I may say, therefore, chronic Bright's disease, in a very large percentage of cases, is not caused by radically or criminally violating the most conspicuously recognized laws of health, but rather by a continuous disregard of such laws as are generally considered of minor importance.

Now, with a clear comprehensive view of these causative factors of Bright's disease, and with a reasonable co-operation in teaching and training the public along these lines, it is to be hoped that the annual number of deaths from Bright's disease in our country may be decidedly reduced—a number which, I am informed, now stands at the appalling figures of 175,000.

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URINARY CALCULI—WITH REPORT OF CASES.*

By C. S. LAWRENCE, M. D., Winston-Salem, N. C.

Calculi may be found in any portion of the urinary tract. The most frequent locations are: 1—the kidney pelvis; 2—at the junction of the renal pelvis and ureter; 3—at the ab-

*Read before the Tri-State Medical Society of Virginia and the Carolinas, at its eighteenth annual meeting, at Richmond, Va., February 16-17, 1916.

dominal portion of the ureter; 4—in the pelvic portion of the ureter; 5—in the bladder; 6—in the urethra.

Stones may be found in the kidney at any age, uric acid infarcts having been found in the new-born. The precipitation of salts in the urine is usually preceded by a catarrh of the renal tubules brought about by a highly acid condition of the urine. Stones in the kidney may grow to an enormous size with little or no subjective symptoms referable to that organ. They are found more often in the right than in the left kidney, but they are at times found in both kidneys and both ureters at the same time. Pain constitutes the most prominent symptom in the average case, the severity of which depends upon the roughness and movability of the stone, rather than upon its size. In practically every case blood and pus cells may be found in the urine at some time in the course of the disease. The extent of the disease should not be judged by the severity of symptoms, as cases often come for treatment with very few symptoms referable to the kidney, when on examination one finds almost complete destruction of that organ, as was found in the following case:

Case 1.—Male, white, age 38 years, by occupation a farmer and country merchant. Fifteen years ago he began to have attacks of acute pain in the right side in the region of the kidney and ureter. He had nausea and vomiting at the time, but thinks he had no rise of temperature. He has had frequent slight attacks since that time and has passed blood in the urine, but has never been incapacitated to the extent of having to lose time from his work. Ten years ago he had a Neisserian infection which left him with a rigid urethral stricture. One year ago he developed an epididymitis that supplicated and opened on the scrotum, and at present there is a discharging sinus. Had typhoid fever seven years ago. At the age of twelve he lost the sight of his right eye; cause unknown. He has a cataract on left eye that has been growing for the last twelve months.

This case was referred to me with a diagnosis of appendicitis. On examination he was found to be very rigid over the entire course of the right ureter. The kidney was very much enlarged and tender. Murphy's hammer percussion produced great pain. A small

sound passed preparatory to cystoscopy caused a severe chill, followed by temperature 103.2; pulse 124. Cystoscopy was abandoned. The urine was thick with pus and had a colon odor; albumin in filtered specimen. X-ray examin-



Photograph of kidney. Case 1.

ation showed a large shadow in region of the right kidney, a photograph of which I here present with the photograph of the specimen. Operation—nephrectomy, May 10, 1915. Kidney very large and densely adherent; large stone felt in pelvis. The whole kidney was one multilocular abscess, two of which were ruptured in separating the adhesions. There was necessarily a great deal of hemorrhage. The patient left the table in good condition and made an uneventful recovery. The suppurating epididymitis cleared up and has remained well.

Ureteral stones produce a somewhat different symptom complex due to the contractions of the ureter in its efforts to drive the foreign body on to the bladder. These contractions drive the sharp edges of the stone into the wall of the ureter, causing pain and hemorrhage, pain being the most prominent symp-

tem, and in most all cases immediately after an attack of colic blood cells may be found in the urine. The pain may be described as, first, the typical renal colic, in which the pain is sharp and cutting, coming on suddenly and being reflected down the course of the ureter into the vagina or into the penis, or it may be referred to some other organ of the body



Stone from kidney, Case 1. Weight 41 Gm.
Same size.

or to the opposite side; second, fixed pain, in which the pain is dull and aching in character and remains constantly at one point. The following case illustrates the latter character of pain:

Case 2.—Miss C., white, age 21, by occupation a stenographer. Four years ago she was operated on for right-sided pain, her appendix being removed. She was quite well for two years after this operation, when she began to have pain in the abdomen referred to the left side. The condition was diagnosed as adhesions, and laparotomy was performed for same, with little or no relief. One year later she was operated on again for adhesions, this time likewise without relief. The pain was located in the left side at the pelvic brim.

This case was under my observation in October, 1915, with the above history. On examination, I found the patient to be quite nervous and complaining of constant pain in the left side with the point of greatest tenderness at the brim of the pelvis. Cystoscopy: bladder normal; both ureteral orifices were normal, admitting catheters without resistance. The catheters were passed up both ureters to

kidneys without difficulty. Left urine contained blood cells. Two-hour function test with phthalein; left kidney secreted a slightly smaller amount of the phthalein than the right; otherwise normal. X-ray negative for stone. After a bismuth meal, X-ray showed a prolapse of colon into pelvis.

The patient was allowed to go home after this examination and undergo medical treatment. After two months of such treatment without relief, the patient was advised to re-



X-ray in case No. 1.

turn to the hospital for an exploratory laparotomy, with the probable diagnosis of a calculus in the left ureter.

On January 2, 1916, laparotomy was performed, and a great many adhesions of the omentum and cæcum to the abdominal parietes were noted. A calculus twice the size of a coffee bean was found 4 cm. below the brim of the pelvis. The ureter was incised and the stone removed transperitoneally. The incision in the ureter was closed with fine linen thread, a small drainage tube from the ureter through the abdominal wall was inserted, omental and cæcal adhesions liberated, the mesocolon plicated after the method of Coffey, and the abdomen closed. The patient made

an uneventful recovery and has remained well.

The mistake that was made in this case was that other methods of diagnosing ureteral calculi were not applied. Statistics show that 22.4 per cent. of urinary calculi are not detected by the X-ray. In these cases we have to depend on methods other than the X-ray; for instance, the wax-tipped catheter or ureterograms, neither one of which was used in this case because too much confidence had been placed in the X-ray. Several chemical agents have been used in the production of pyelo-and ureterograms. Argyrol, collargol, silver iodide, thorium salts, and argentide suspended in mucilage of quince seed. I have had no personal experience with these agents, as bad results have been reported from the use of the first two mentioned, and the last three have probably not been used long enough



X-ray. Stone in pelvic portion of ureter, passed twenty-four hours after injecting the ureter with normal salt solution.

to prove their innocence. The use of the wax-tipped catheter is a simple procedure and should be used by everyone doing this kind of work.

Ureteral calculus associated with appendicitis is probably more frequent than one would imagine. There is no doubt that a great many appendices have been removed for right-sided pain when the symptoms were due to ureteral

calculi in this location. A careful microscopic examination of the urine in all cases where the appendix is suspected would no doubt correct a great many of these errors. The following case illustrates this point:

Case 3.—Mr. C., white, age 28 years, by occupation a mechanic. For the past year he has had attacks of pain in the right side, which were sharp and cutting. These attacks did not lay him up, but after an hour or two he would resume his work. Two days ago he had a very severe attack of right-sided abdominal pain, nausea and vomiting, rise of temperature and pulse. He was seen by me 48 hours after the initial attack. Temperature at the time was 102, pulse 100, general abdominal tenderness, right side more rigid than left, and a mass was discovered on the right side at McBurney's point.

Blood examination showed—leucocytosis 17,500; 80 per cent. polys.

Urine contained red blood cells and trace of albumin. A diagnosis of acute appendicitis with probable ureteral calculus was made and operation advised at once. Through a right rectus incision an acute appendix, covered by a hood of omentum, was found and removed. A small calculus in the ureter just below the brim of the pelvis was found and removed transperitoneally. The incision in the ureter was closed with fine linen thread and a small drainage tube through abdominal wall was used. A slight drainage soiled the dressings for two days, and the tube was not removed until the fourth day. The wound healed by first intention, the patient leaving the hospital at end of second week.

This is the third case operated by me for stone in the pelvic portion of the ureter by the transperitoneal route with uneventful results. It is my opinion that this method of operating for stones in this locality is the most rapid and the most successful in cases where the urine is free from pus.

For the removal of ureteral calculi, the cystoscopic method should be employed in all cases that promise any degree of success. This procedure consists in dislodging the stone with a ureteral catheter, the injection of sterile fluids, the injection of sterile oil, the use of the thermo-catheter as advocated by Geraghty, and the use of the open cystoscope as advocated by Kelly. When these measures fail, it be-

comes necessary to resort to more major surgical procedures, depending upon the location of the stone.

Calculi in the urethra are probably found less frequently than in any other portion of



Stone in pelvis of kidney removed at operation.

the urinary tract. In looking over the literature for the past year, I found only one case reported, and that a man, age 42, who had had pain in the left side for the past five years. For the last six months symptoms had been more severe. On examination, urethral stricture was found with a stone acting as a ball valve. By internal urethrotomy with injection of oil the stone was milched out without difficulty.

My own case was that of a boy, age 5. For three years the child had been suffering with pain in the abdomen and at times passed bloody urine. The pain was paroxysmal, frequently bringing on convulsions. For the past six months micturition has been difficult, the urine passing drop by drop. The child was very nervous and every few minutes screamed with pain. Urine contained pus. On examination a stone the size of a quail's egg could be felt in the membranous urethra. Stone

removed by external urethrotomy and the child made an uneventful recovery.

There is no doubt that internal urethrotomy is the ideal method or removing calculi from the urethra in cases where the size of the calculus will permit. In cases where the size of the calculus prohibits this method, external urethrotomy is the method of choice.

Masonic Temple.

WHEN ARE WE JUSTIFIED IN ARTIFICIALLY AND PREMATURELY EMPTYING THE UTERUS IN PREGNANCY?*

By E. W. ROBERTSON, Onancock, Va.

As chairman of the Section on Obstetrics of this Society, it has occurred to me that the above subject would prove of interest. This question must necessarily be answered by presenting, and considering certain conditions; and the most prominent, as a rule, are the following:—A dead foetus; pernicious vomiting; eclampsia; an overlooked, or timely known pelvic narrowing; a renal insufficiency, etc.

In all these considerations there is one great point which obtains in all, namely, the question of life, and a plurality of life. The woman's life is obvious to all, layman or doctor; but the product of conception is not so readily obvious to the layman, especially if there be a strong personal interest, criminal, or extreme ignorance of the unborn embryo or foetus. As physicians, we know as soon as conception has occurred, new life has begun, and is entitled to all protection of law, human or Divine. If we physicians cannot accept this, we must not have well considered it. "Thou shalt not kill," applies to all human life. *After conception, life has begun.* Therefore, to wilfully take this life, no matter if it be born, or only just begun a life, though occult, it is a human life, though only sprouting. If a farmer goes to his neighbor's potato-bed, plucks up and blights his sprouts, he blights his crop as surely as though he were to pluck them from the list in his field.

Let us consider well, then, my fellows, when we deal with obstetrics; and here comes in the point of a plurality of council in dealing with the subject where we have the least opportunity for calling in an assistant. True, we may not have time beforehand in taking the ap-

*Read before the Accomac County (Va.) Medical Society.

parently necessary initiative, but, generally, we have ample time to have council. I am free to confess I have ignorantly produced an abortion, as I suppose all of us have, but never intentionally, and have spurned the proposed big fee had I acquiesced. Money is not everything in this life, be it ever such a friend. *Per contra*, the moral law says the lesser doubt must yield to the greater. Hence, there are times when, after all our best consideration, duty shows us a human life is in jeopardy by reason of a gravid uterus; and when we feel (without any criminal and mercenary chief object obtaining in our hearts) the greatest probability for good is that by emptying the uterus we can save one life, but by delaying, lose two; then by all the laws of loss and gain we should be active and empty the uterus in the most direct manner possible.

If we have a dead foetus, we should by all means empty the uterus. What excuse will there be for waiting? But we should not always take the say-so of the woman. During last month, I was called to a woman, aged 26 years, multipara, who believed her child dead, or said she had not felt it lately. When I first saw her she seemed to be in bad shape. She said she could not keep still, but had to keep moving about. Scanty urine was alleged. Systolic pressure 152; diastolic 80; pulse pressure 72. Pulse rate was 112, but temperature only 98.2-10. She had no headache, or other bad symptom. Put her on sparteine and bromide sodium, when she got better. She showed a desire that I should bring on labor, saying she ceased to feel the child. I then made a bi-manual examination, and, feeling movements, put to her the direct question, "Didn't you feel that?" she replied, "Yes, sir." So far as I now know, she continues to feel it and is doing well.

In 1893, I well remember being surprised on meeting at the door one day "an expect," who had reduced so much I scarcely could understand whether or not she had been delivered. Not long after this, with the assistance of a brother practitioner, we introduced a catheter or bougie in the cervical canal, this being followed by labor during the day and following night, the bilge water-like odor on delivery making an indelible impression on my nostrils. The patient, however, had a good recovery, notwithstanding the fact that she had carried needlessly this partly decom-

posed foetus overtime.

In 1908, I had a case of dead twins nearing term. We could not hear the foetal heart, though we did perceive the uterine bruit (which, by-the-bye, can be heard after birth of the foetus, being, I think it is claimed, strictly connected with the uterine circulation). By cervical pack, we started and ended a twin labor in 12 hours without any untoward sequence. Life and death cannot thrive together needlessly long without this most objectional associate fostering a down-grade.

I have had a number of cases of vomiting in pregnancy which produced a very harassing state of affairs. But, I believe, if this condition continued beyond 5 months, unless some let-up appeared, we should be on the *qui vive* to do something, if nothing more than stretching the os. I may never forget a case in point which I saw with Dr. F. The patient was about six and one-half months pregnant. We had faithfully tried rectal feeding, such as peptonized milk and eggs and other plans, to offset her inanition by reason of persistent vomiting. We were considering the induction of labor, when two physicians from Baltimore met us in the case, but neither acquiescing, soon returned, leaving us worse off than before their coming, because they ignored our proposition in spite of her deplorable state. However, with the consent of the husband and probably the patient, we packed the cervical canal, and a twenty-nine weeks' child was born under a minimum inhalation of ether, and the child was saved by being kept snugly swaddled in cotton. The child lived a year. The mother's stomach became retentive, though she afterwards developed a double ovarian cyst, which was removed by Dr. George Ben Johnston, of Richmond. However, her gastric symptoms returned and she died at the hospital. The lament of Dr. Johnston was that it was hard, after undergoing the ordeal of a surgical operation, that she should have died of a medical disease.

Eclampsia and renal insufficiencies might well be coupled together. In our present-day light we have less excuse than ever before in delay. It has not been many months since I saw with another doctor a violent eclampsia in the latter months of pregnancy, with some lameness in the kidney function. After using the best treatment available according to our knowledge, we concluded to dilate and by for-

ceps bring out the child. We succeeded thus in saving both the patient and her child, and the mother had no more convulsions.

During the past July, two of us saw a young primipara in eclampsia during the sixth month. Considering that our patient was twelve weeks ahead of time, we passed a bougie, which by the next morning had started up contractions, and under anesthesia and further manual dilatation and application of forceps, the foetus was brought out with no more convulsions on part of mother, having a good recovery, though the child only lived a few moments after its delivery.

I cannot but feel a sense of pity when we lose our fair ones from renal insufficiency, when a chance of delivery has not been tried, or scarcely considered.

Now, gentlemen, there is another—the criminal—field to be looked over. Men and women ask for a criminal abortion. A few weeks ago a woman called at my office offering *a dollar a pill* for a deliverance. I informed her we were not in this business, and told her the proper plan would be to allow the child to be born, in some private place, and let some one take the child by adoption.

Satan in the Garden of Eden was no more wily than some of these pleaders, some for themselves, some for others. I have heard intelligent men assert the early product was nothing more than a fish.

I have said before, and believe it still, that the medical profession is innocent for the most part of intentional blighting of a new life, without good cause. But I have reasons for believing there is much scarlet sinning among some women, who would not, if they could, permit their offspring to see the light of day; and of such, if I am to judge by rumor, a number are full graduates in the art.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Reported by EMIL MAYER, M. D., New York, N. Y.

(Continued from page 176.)

Tonsillectomy in the Adult—Are We Justified In Doing So Many Indiscriminate Tonsillectomies for Remote Infections?

By CHARLES W. RICHARDSON, M. D.,
Washington, D. C.

The paper deals with the ingrained feeling

in the profession that the tonsils are probably the sole focal source of general infection. This view has extended not only into the general profession, but has also become an obsession of the laity, so that there are a great many cases of tonsillectomy which are operated upon, in all probability, with an imperfect study of the cases, and the want of proper realization of the relation of causes and effect.

He also called attention to the number of other focal sources of general infection. He stated that there was no question of the necessity of tonsillectomy in a certain class of cases, where there was decided pre-existing or present evidence of local disease. He doubted that there was any necessity of removing the tonsils, except in unusual cases where there was no evidence of disease or tenderness or hypertrophy, wherein there was general infection, simply for the purpose of correcting such a condition. Dr. Richardson also disapproved of the removal of tonsils wherein there was simply the history of a previously existing case of tonsillitis preceding general infection, and wherein the tonsils seemed absolutely normal at subsequent inspections. A number of cases were given to bear out these contentions.

DISCUSSION.

Dr. Henry L. Swain, New Haven: The ideal way is for the general practitioner to send patients to us to ask if the tonsils should be removed, but most of us are confronted with the exactly opposite condition. The nurse, the relatives, or others will send a patient to the hospital "to have the tonsils removed." Some tonsils certainly do not need to be removed. Tonsillectomy is undoubtedly performed in many cases in which it is not needed; that is wrong. Any method which will lead to some way of estimating quickly and accurately as to whether a tonsil should or should not come out would be of tremendous advantage.

Dr. G. Hudson Makuen, Philadelphia: I have had several letters from Dr. French concerning his work. He promises to bring this subject before us at our next meeting in Washington. He is now able to tell whether or not a tonsil is diseased. He thinks he will be able to look in the mouth and tell whether or not pus or detritus of any sort is there, and whether or not it should be removed. It is not a question of whether or not the tonsil should be removed, but what should be done; it is a question of the prevention

of the trouble, just as the prevention of sinusitis is advocated. The cases of which I am proudest are those in which I have done the least operation. When pus is found in the crypt it is possible to cauterize the edges of the crypt, to open and drain, without trying to do an extracapsular, intracapsular or any other kind of an operation for tonsillectomy. Some of these cases are inoperable, and it is far better to give good drainage and to remove the possibility of infection. I think that can be done in a great many cases, and radical surgery thus be avoided.

Dr. William E. Casselberry, Chicago: I cannot say that I feel thoroughly in sympathy with the point of view presented. It goes without saying that we should not remove tonsils which we are sure are healthy and which will not give rise to systemic infection. It goes equally without saying that we should remove those which are harmful. I am unable to assure the internist that the tonsils are not the source of systemic infection, even after I have evulsed the pillars and have explored every repository of infection, because the tonsil is a sponge, and may be still the source of infection after such exploration. Many times when the internist sends us a patient for examination of the tonsil, and we find no infection there, we should look elsewhere for the source of the trouble; we should look above. There are ten cavities just above. Sinus suppuration is exceedingly common, and is not infrequently the primary source of infection in the tonsil itself. If we remove the tonsil we are still not sure that we have removed the source of infection. Our duty to the internist is to find the source of infection if it is not in the tonsil.

Dr. Thomas Hubbard, Toledo: Dr. Casselberry's remarks about finding the source of infection apply to the teeth. Given a case of some form of systemic infection, probably of focal origin, it will be our first duty to prove that the tonsil is or is not diseased, and then to find the real source. The method followed is extremely interesting. Dr. Price, of Cleveland, is able to study the condition of the peridental tissues, and, by culture of the various bacteria obtained, to tell the influence upon the system. In this way he has been able to exclude certain teeth and to find the diseased root which is the source of the active organism. In doubtful cases, where there is objection to operation, we should be able, by some such

method, to tell whether the tonsil is the source of infection.

Dr. Hanau W. Loeb, St. Louis: It is easy enough to exclude the teeth, or pyorrhea, or a small abscess at the roots; but it is not easy to tell when the tonsil is at fault. In a case of rheumatoid arthritis, getting worse for one, two, or three years, in which repeated examination revealed nothing, and in which the tonsils are not specially large, would you leave those tonsils? I have recently had such a case of rheumatoid arthritis, examined by various internists without result. I removed the tonsils, made a vaccine after the method of Rosenau, used it, and the patient got better immediately. Because the danger of increasing the pathologic process by a single attack of mild tonsillitis is so great, I think we are justified in removing the tonsils, provided, of course, the age and the general condition of the patient permit. While we should not remove tonsils indiscriminately, in the presence of disease which cannot be otherwise located we are justified in removing them.

The appendix and the tonsil are very closely related as to structure. The fact that removal of the appendix was followed by cure of the rheumatoid arthritis does not necessarily mean that the tonsils should not be removed.

Dr. James E. Logan, Kansas City: Nothing has been said of one source of infection which to my mind is very important—the vault of the pharynx. I think many infections come from failure to appreciate a condition in the vault of the pharynx which is there by reason of neglect of inflamed or degenerated adenoid tissue, possibly, a constant source of irritation. If we will clear out these vaults, clean out this adenomatous, fibroid or lymphoid tissue, we will get rid of many cases of systemic infection.

Dr. George E. Shambaugh, Chicago: The word indiscriminate would exclude all discussion, because no one believes in removing tonsils indiscriminately. However, the whole subject of removing tonsils for systemic infection is very important. The question of focal infection in systemic disease is much better appreciated by internists than by specialists. One of the most important chapters in medicine is the relationship of focal infection to systemic disease. Not only these rheumatic conditions, but Bright's disease, chronic neuritis, enlargement of the thyroid, appendicitis, have been traced definitely to tonsillar

infection. At the Presbyterian Hospital, in Chicago, where most of this work has been done, it has been found that there is a distinct relationship between appendicitis and tonsillitis. Duodenal ulcer, also, often results from focal infection. It is not always the tonsil, however, that is the source of the focal infection. Pus taken from focal infection anywhere else, injected into a guinea pig, will produce gastric ulcer. The infection is produced through some selective action. We are now merely on the threshold of this entire subject. These questions should not be worked out in an isolated way, by dentists, by nose and throat specialists, or others, but by all together.

The question is, how accurately can we tell when the tonsil is at fault? My opinion is that in most cases we can tell pretty accurately. One way of telling is by the history. If a patient has had an attack of rheumatism following an attack of tonsillitis, there is good reason to believe there is an association between the two. I would not take the risk of another attack of tonsillitis in a case of endocarditis. Many patients deny having had sore throat, and in many cases it is possible to find pus in the tonsils of patients who have never had tonsillitis. If we are not able to demonstrate any positive evidence of the tonsil being the source of infection, can we exclude the possibility of it being so? Before removing the tonsils in such cases I want a capable internist to go over the case; if he cannot find any focus, the tonsil is the most suspicious source. I may cite an illustrative case. A woman, of perhaps fifty years of age, consulted me two and a half years ago, saying, "I have neuritis in my right arm: I want you to take my tonsils out." I asked her why she thought she had tonsillitis. "Some of my neighbors," she said, "who have rheumatism, have had their tonsils taken out, and are better." She was under the care of Dr. Billings, and I sent her back to him. She came back after a week, saying he said take the tonsils out. I could express nothing from the tonsils. In removing one of the tonsils I opened an abscess. The patient got well of the neuritis. Another case in point was that of a physician who had had rheumatic fever for several years, an attack every year. He had had five attacks of tonsillitis. The internist could find no other source of infection. The man was seventy-one years old, and did not want to have his tonsils removed. He continued to have the attacks of rheumatic

fever. I finally took out his tonsils, but he was not improved. It was then found out that he had an urethral abscess; treatment of this cured the rheumatism.

Dr. Shambaugh, continuing the discussion: The internist is the one to help the patient to get the problem threshed out. Glandular infection has nothing to do with systemic infection.

Dr. Greenfield Studer, St. Louis: It seems to me that there are two problems, the solution of which will eventually clear up the question: first, the physiology of the tonsil; second, the perfection of Dr. French's work. The tonsil takes up what is put upon its surface very readily, this is quickly absorbed, and is thrown into the system beyond the tonsil.

Dr. Richardson, closing the discussion: After giving the title of this paper to the secretary last winter I was sorry several times that I had done so, because the more I thought of it the more I realized how difficult it would be to discuss the subject without incurring the ill will of one faction or another.

Dr. Casselberry agreed with me most thoroughly, without intending to do so. I am glad that Dr. French's work bids fair to solve the problem. Dr. Shambaugh has emphasized one point that I tried to bring out—that there are other points of focal infection besides the tonsil. It is our duty to be able to elicit these for the internist. Dr. Logan has called attention to the fact that there may be crypts in the pharyngeal tonsil which are as much diseased as the crypts in the faucial tonsil, and which are as apt to cause systemic infection. I recall a case, sent me by an internist, in which the patient asked me to look in her right ear. I did so, and found a chronic suppuration, which she said began when she was fourteen years old, following scarlet fever. She was then twenty-six. She had beginning rheumatoid arthritis. I did a radical operation on the ear, but did not touch the tonsils. She is well and working.

We must conscientiously go into these cases, examine the ears, the sinuses, the vault of the pharynx, the teeth, and note whether these will help us in the study. It is not only rheumatoid arthritis, but all the other forms of infection, that may be due to these focal lesions. In cases which cannot be made out thoroughly, even if the tonsils do seem to be infected, one must be on the lookout for syphilis and latent tuberculosis.

The Count y Society.

This Department is conducted by the Committee on Component County Societies at considerable trouble and expense, and a copy of the Journal sent to members of the local societies and to the doctors of the unorganized counties. All of this is done for the purpose of interesting you in the work, which we take to be a great one, and of getting your aid in promptly completing the organization, and developing the usefulness of the societies already chartered. The committee hopes you will read each word that is written, and show your interest by co-operating in every possible way.

The Committee is composed of Drs. Southgate Leigh, chairman, R. S. Griffith, T. V. Williamson, C. P. Jones, E. H. Terrell, Joel Crawford, G. A. Stover, J. R. Garrett, D. M. Kipps, Stephen Harnsberger and W. H. Ribble, Jr.

The Committee will be glad to answer all inquiries addressed to 109 College Place, Norfolk, Va.

From the Councilor's Bulletin.

Physicians get together little enough, and do not really know one another except through the report of friends or patients. A closer intimacy between physicians would clear away much of the malicious gossip that passes as medical news. The social side of the country physician needs stimulating. He is too apt to depend on his practice and environment for his idea of the life of a physician. Unless he is ready and willing to meet his brother practitioner in a friendly spirit, and to exercise his mental faculties in medical and non-medical topics, he soon drops into a rut from which there is no escape. His ideas narrow until he sees nothing but a thin and wavering medical line from which he dares not deviate. This brings discontent, discouragement, and failures, and the blame is frequently placed on innocent shoulders, when it actually should be borne by the physician himself. Every County Society is a medical index, and insures, to a greater or less degree, the standing of each member. Each meeting, however trite the papers and discussions, should contain some suggestion that can be profitably carried home by the members. True, some meetings are tiresome, but the inertia is due to the mental inertia of the members of the society; hence, the blame is distributed over the entire society. The presiding officer or the committee in charge of the program are usually responsible for the character of the meeting. No medical society is a success unless its officers are determined to do their part of the work. There is no excuse for a poor medical society, particularly if it has had a few

"experience" meetings. The fault can be easily located, and as easily remedied. Even in the small County Societies the exhibition of a specimen with a clinical report of a case will call out discussion.

Physicians are reserved, shy, or embarrassed in medical societies. They hesitate to express their views for fear of exposing their lack of knowledge or for fear of criticism. It is better to attack a subject openly rather than let some loose statement go unchallenged. It is better to attempt to talk to the point, even though the speaker has opposite views from the essayist, rather than hide one's light under the cloak of indifference. The activity, interest, and competition is what makes the large County Society or State organization a success. If you feel that your brother physician is too aggressive, display some aggression yourself; if you think the American Medical Association is conducted for the benefit of a few, get into line and be one of the pushers. Push is a force that is wholesome, and it is not flagrant advertising. Be modest if you please, but show what you know. If you know but little you will learn by the criticism of others. The man who expects to succeed does not fear competition; he makes himself heard, and his reward is commensurate with his worth. The evil of many medical societies is the "knocking" proclivities of its members. Petty jealousies have no place, and gain no rewards in medical societies. The best men do the best work, and the grumbler admits his failure. Medical men should come together for their own good, their social advancement, mental athletics, fraternalism, comparison of views, vigorous discussion, the recital of experiences, and exhibitions of their work. A clinic or a pathologic exhibit or the record of a case is sufficient reason for the congregating of medical men. A mediocre paper containing matter of common knowledge is usually a bore, but who knows but that one man may profit by it? A medical society without life or advancement should be rejuvenated by the injection of new blood into the committee, and the new material will awaken interest in spite of the old backsliders.—*Northwestern Lancet*.

JOURNAL CLUBS.

One of the most effective methods of "keeping up with the times" is for the local society to resolve itself into a "Journal Club," each member subscribing to one or more different

journals, and at the meetings making a brief report of their contents. In this way the members may be kept well informed on all advances in medicine and surgery. The plan is already in operation in several societies. Where the membership is large, additional clubs should be formed.

TO ORGANIZED, BUT AS YET UNCHARTERED SOCIETIES.

According to our information, active societies already exist in the following counties: Loudoun, Hanover, Fluvanna, Russell and Wise.

Members of these societies are urged to instruct their secretaries to apply for charters in the State Society *at once*. There is everything to gain and nothing to lose. Application should be made either to the Chairman of the Special Committee, or to the Secretary of the Council. There is no expense incurred. As soon as a charter is granted, the society becomes at once a component part of the State Society.

TO THE MEMBERS OF THE PROFESSION IN THE UNORGANIZED COUNTIES.

You are urged to hold organization meetings *at once*. Any one or more members have the right to call such a meeting. At the meeting, elect officers and apply for charter. Apply to the committee for full information or assistance. A member of the committee or the Councilor of your district will attend your meeting if desired. It is important that you *act quickly*. It is necessary to complete the work in time for the State Society meeting in the fall. The Counties reported to us as being unorganized are as follows: Essex, Charlotte, Franklin, Carroll, Grayson, Culpeper, Bland, Scott, Dickenson, Buchanan, Cumberland, Appomattox, Amherst, Botetourt, Craig, Bath and Highland.

The attention of County Secretaries is called to the following general principles:

1. Membership in a component County Society includes and carries with it membership in the State Association.

2. There are no individual dues for State membership. There is only an annual per capita assessment.

3. County Society dues should be the amount necessary for the local organization plus the amount necessary for the State organization. If the County Society needs \$2 per member,

and the State Society levies a tax of \$2, then the County Society dues should be \$4.

4. All Society dues should be paid to the County Secretary or Treasurer, who should forward to the State Treasurer the assessment of the local Society.

An observance of these principles will avoid the anomalous situation of a member being in good standing in his County Society and in arrears in his State Association, or marked "delinquent" on the County list and "O K" on the State roster, which is an impossible condition under the present system of organization.

Don't forget that each local society is responsible to the State Society for two dollars per member per year. The Society is badly in need of funds. Make your collections promptly and send to the State Treasurer.

Analyses, Selections, Etc.

Observations Upon the Administration of Typhoid Vaccine.

Harris and Ogan (Department of Health of the City of New York Reprint No. 22, January, 1915) draw the following conclusions: (1) The accurate observations recorded in hundreds of thousands of cases leave no doubt as to the preventive powers of anti-typhoid vaccination in all but a relatively insignificant number; (2) In those subsequently affected it strikingly decreases severity of the disease and the mortality; (3) Severe reactions, if one makes observations from extensive studies (the only correct way) are rare; (4) To avoid severe reactions one must observe carefully several precautions, as follows: (a) Never administer it to any but the healthy; (b) To permit of slow absorption, avoid puncture of a vein, or intramuscular injection; (c) Clean syringe and sterilize the area for injection, using tincture of iodine for the latter purpose; (d) Children, especially are to avoid exposure to the sun following treatment; (e) Avoid administering it during the menses or pregnancy; (f) Allow no hard work or indulgence in alcohol immediately after the injection; (g) Avoid reinjecting in indurated areas; (5) Severe reactions have never left permanent injury; (6) When the incubation period has begun, the time for anti-typhoid immunization has passed. The vaccine is a preventive of typhoid fever,

and not a typhoid antitoxin; (7) Long exposure to overwhelming doses of typhoid bacilli as in those who are in close contact with cases and especially in epidemics, may nullify the immunization powers of anti-typhoid vaccine, and an attack may therefore incidentally follow one or more injections; (8) Chronic illness (tuberculosis, etc.) as well as debility from other causes, and fatigue and exhaustion also predispose to severe reactions; (9) Injection after intimate and long exposure hasten the onset; (10) For a period of at least two years, and possibly longer, immunization is as effective in protecting from an attack of typhoid fever as is a previous attack of the disease itself; (11) Infections may follow after a complete immunization course of treatment, in exceptional instances in which debility and fatigue exhaust the resistant and defensive powers of the body, and when exposure to massive doses of typhoid bacilli exists.—*Amer. Jour. Med. Sc.*

The Vegetable Dietary in Diabetes Mellitus.

John Aulde, of Philadelphia, refers to the introduction of Bantingism in 1864, and says that now, 52 years later, a similar line of treatment is advocated for such a formidable disorder as diabetes.

In this latter instance, fasting is alternated with a vegetable dietary, and it is for the purpose of throwing the scientific searchlight upon this special feature of the treatment that he has made the computations in the following tabulation:

The various items comprising the food materials and the amount of each for the day are to be found in the book, "*The Starvation (Allen) Treatment of Diabetes.*" by Hill and Eckman. Please note that all vegetables, except cucumbers and celery, are cooked—and that the calorie content is low, only 182: also that the patient consumes, all told, but 1.35 pounds of food, while the amount utilized as protein, fat and carbohydrate is remarkably small, .0788 pounds, or 551 grains.

He calls attention to certain errors which have crept into the data for "Dietary No. 1." The protein content is 8 grams instead of 10 grams, the carbohydrate 20 grams instead of 15 grams, while the calories number 182 instead of 200. The computations for protein, fat and carbohydrate were made from Atwater's tables in "*The Chemical Composition of American Food Materials,*" Washington, D. C., 1906.

The caloric value was computed separately, then compared with Atwater's figures and, with the exception of "string beans," they are the same—Atwater's caloric value is 27, a very slight difference. This tabulation has been extended to show the amounts utilized—as protein, fats and carbohydrates—from each of the different foods and from the whole in pounds (decimals), and in grams by actual calculation—for the reader's interest and his own satisfaction. Besides, it insures against errors—so liable to occur when such small fractions are employed. He has also added the data—

THE VEGETABLE DIETARY IN DIABETES MELLITUS.

TABULATION SHOWING THE INORGANIC SALTS AS A FACTOR.

FOOD MATERIALS.

MINERAL CONSTITUENTS.

	Quantity Grams	Weight Ounces	Protein Lbs.	Fat Lbs.	Carbo- hydrate Lbs.	Calories	Calcium Oxide Grains	Magnesium Oxide Grains
String Beans	120	4.00	.0020	.0027	.0047	25	1.2775	.8750
Asparagus	150	5.00	.0046	.0003	.0087	26	.8312	.3718
Carrots	70	2.33	.0016	.0005	.0135	30	.7847	.3261
Spinach	135	4.50	.0059	.0115	.0073	73	1.2597	1.0432
Cucumbers	75	2.50	.0012	.0003	.0048	11	.3061	.1968
Celery	100	3.33	.0022	.0002	.0068	17	1.3692	.3933
Totals	650	21.66	.0175	.0155	.0458	182	5.8284	3.2062
Food eaten	650	Lbs. 1.35						
Food utilized	35	.0788	.0175	.0155	.0458	183	5.8284	3.2062
Per man per day..	35	Grams 35	Grams 8	Grams 7	Grams 20	180		
"Balanced Ration"....		48	8	8	32	238		

in grams—for a “Balanced Ration,” based upon the amount of protein supplied. This allows four times as much carbohydrate as protein, the fat allowance being one-fifth of the whole—a total of 238 calories instead of 180, as computed, a loss * * * of two calories from the original computation.

MINERAL CONSTITUENTS.

Before making inquiry as to the therapeutic value of this dietary, let us take a glance at the “Appendix” under the head of “Mineral Constituents.” The data for this evidence has been compiled from the monograph, “Calcium, Magnesium and Phosphorus in Food and Nutrition,” Washington, D. C., 1910. It is by Sherman, Mettler and Sinclair, Columbia University, N. Y., and appears in Aulde’s book, “The Chemic Problem in Nutrition (Magnesium Infiltration),” Philadelphia, 1912, in the section headed “The Food Problem.” According to Atwater: “These results usually give the percentage composition of the ash as produced by incineration rather than the proportions in which the different mineral ingredients occur in the food material.”

It is noticeable that in every instance the percentage of calcium is in excess of magnesium and that the total calcium content is nearly double that of magnesium. According to Langworthy, “Food Customs and Diet in American Homes,” Washington, D. C., 1911, the ordinary dietary contains 10.5 to 15 grains of calcium and half as much magnesium, so that these patients receive in the correct proportions about one-half the minimum required. Thus, we get the first ray of light upon this intensely interesting question.

CELL CONSTITUENTS.

The protoplasmic cell, the unit of both animal and plant life, is made up of molecules, protein, fat and carbohydrate molecules. Again, the functional activity and physical energies of protoplasm depend upon the proper “balance” of the mineral constituents in the protein molecule. The fat and carbohydrate molecules supply fuel and energy, but it is the protein molecule which provides an antiseptic for the blood, the bacteriolysins and opsonins; and it is the protein molecule also which provides the phagocytes with a proteolytic ferment, enabling them to digest the invading bacteria.

SOME DEDUCTIONS.

Applying these scientific facts to the subject in hand, we have the following logical deductions or conclusions:

The preliminary fast of several days lessens decomposition and fermentation in the alimentary canal; reduces microbic action to a minimum; overcomes the acid excess in the body fluids and tissues, including nerve tissue, thus permitting the protoplasmic cells to dissociate the magnesium deposits which interfere with the uninterrupted transmission of nerve impulses.

Vaughan says: “Memorial Volume,” Chicago, 1915, p. 127, “* * * in all probability the resisting agent is also a living thing, or some product or products of living things.” Hence it requires no stretch of the imagination to intimate the possibilities of the protein molecule as the essential barrier against infection.

The chemic problem in nutrition is concerned almost exclusively with selecting the most suitable measures, dietetic and medical, calculated to counteract or neutralize acid excess, as in diabetes, scarlet fever and chronic rheumatism, because the acidity depletes the calcium content of the nuclear proteid. That is to say, the acid condition of the system changes normal nucleoproteids into magnesium nucleoproteids, which lack the property of imbibition (absorption), a clinical and scientific fact which holds true in all diseases, acute, subacute, and chronic, functional and organic, infectious and non-infectious. When this fundamental fact is employed as a searchlight in studying diabetes, the illuminating rays are diffused in every possible direction, showing calcium deficiency in the protein molecule.

MAGNESIUM INFILTRATION.

Perhaps it would be well to add a synopsis of the working hypothesis known as “magnesium infiltration,” as applied in diabetes, as follows:

All disease is characterized by increased acid production—shown by the reactions of the urine, the mucus and the perspiration. Of course, the normal alkalinity of the blood is diminished, its oxygen-carrying capacity lessened and its nutritive properties impaired. In addition, certain chemical changes take place in the distribution of the inorganic principles. Thus, calcium, or lime, being a stronger

base than magnesium, it combines with the acid, magnesium taking its place—and substitution or infiltration means impairment and destruction of the tissues in both animal and plant life.

To counteract this abnormal condition, nature has provided a safety valve—nitrogen in the form of ammonia is drawn from the body fluids and tissues, but this is a function with distinct limitations. Hence, the logical deduction—neutralize acid excess and promote magnesium dissociation. The first is accomplished by the administration of alkalis; the second, by employing calcium or lime as an antidote.

In diabetes, for example, a disorder characterized by well-marked acidity, we assume that calcium depletion involves the islands of Langerhans, arresting function, so that oxidation of glucose is prevented (inhibited), elimination taking place through the kidneys.

Calcium is catalytic and reconstructive; and besides, we can employ it for its quantitative effect, so-called "mass-action." In acute cases the small dose is quite sufficient to recoup the deficiency in the nuclear proteid; when disease has advanced, larger doses are required; in diabetes, the long-continued acidity demands still larger doses, not only to replenish the structures of the pancreas, but also the cellular structures of the entire body. That this is not altogether theory we have ample clinical evidence—in the complete recovery of patients after years of suffering from this malady. Briefly stated, there are three lines of treatment to be pursued: (1) Regulate the dietary; (2) neutralize acid excess; (3) promote magnesium dissociation.—(*Medical Council*, July, 1916.)

The Significance of Vesical Symptomatology in Renal Conditions.

There is a commonly accepted belief that vesical symptoms, aside from frequency, at times slight urgency, and during renal colic difficulty in passing urine, are as a rule not characteristic of either medical or surgical affections of the kidneys; nor is this belief negated by Braasch (*Transactions of the American Association of Genito-Urinary Surgeons*, Vol. x, 1915), who notes that the renal conditions which most frequently cause vesical symptoms are tuberculosis, pyelonephritis, and lith-

iasis; in the two former conditions there is usually an associated cystitis. Of 203 cases of renal tuberculosis reported by him several years ago practically all exhibited vesical symptoms of months' or many years' duration, and many of them were treated by lavage of the bladder and various internal medicaments. Braasch thinks that all cases of persistent irritability of the bladder with pyuria should be regarded as possibly due to renal tuberculosis until the contrary be proved.

Early recognition is of prime importance, as it indicates as a rule an entirely effective and safe surgical procedure, and it prevents the unfortunate deep-seated infection of the bladder which is so difficult to eradicate. *Per contra*, a well-advanced renal tuberculosis with comparatively slight irritation of the bladder may occur particularly in the female. Gross and free hematuria originating in the tuberculous kidney may occasionally occur before any vesical irritability has developed. The earliest vesical symptom is increased frequency somewhat out of proportion to the polyuria.

Diffuse infections of the renal parenchyma and pelvis with organisms other than tubercle bacilli, which come under the term of pyelonephritis, usually cause a variable degree of infection of the bladder; the resultant cystitis, being as a rule less severe than that which occurs in tuberculosis, is characterized by less marked symptoms. At times a differential diagnosis even with the cystoscope is hard to make. Pyelonephritis as a cause of cystitis in the adult male was found in 109 of 121 cases recently reported in the Mayo clinic. Hence all cases of cystitis should be examined with a view to the possibility of renal infection. This of course implies ureteral catheterization. Nor does a single negative finding exclude the possibility of a quiescent renal infection. Demonstration of dilatation in the outline of the renal pelvis or ureter is regarded by Braasch as conclusive evidence of previous active infection even though the urine fails to show evidence of active infection on microscopic examination. A pyelogram will demonstrate this, and the finding may be further corroborated by renal functional tests, a pyelonephritis being characterized by a considerable decrease in the phenolsulphonphthalein output, whereas there is but little decrease with pyelitis. At times, this test fails.

The absence of vesical irritability coincident with pain would be a factor in exclusion in the interpretation of a doubtful renal or urethral shadow when stone is suspected. Pain with low urethral stone is localized to the suprapubic or low inguinal area and is usually the result of a localized periureteritis. It is particularly in children that the radiation of pain in renal lithiasis may be largely referred to the area of the bladder.

There is a type of vesical irritability characterized by the term neurosis, for which no cause can be found, nor is an extra-vesical cause of bladder symptoms at all common. When vesical symptoms do result from extra-vesical cause, they are the result of (1) pressure of a tumor; (2) mechanical interference; (3) malignant involvement; or (4) direct extension of an adjacent inflammatory process.

A very small proportion of uterine tumors cause any vesical symptoms. Secondary involvement of the bladder is also comparatively rare, at least from the uterus; from the rectum it is somewhat more common. Extension to the bladder of acute inflammatory pelvic conditions is also rare; it can be recognized by the cystoscope.—(*Editorial—Therapeutic Gazette*, June, 1916.)

Editorial.

The National Board of Medical Examiners

Was founded in 1915 by Dr. William L. Rodman, then president of the American Medical Association, for the purpose of establishing a standard of examination and certification of graduates in medicine, through which, by the co-operation of the individual Boards of Medical Examiners, the recipients of the certificates of the National Board might be recognized for licensure to practice medicine. It is the policy of the Board to conduct its examinations on a broad and scientific basis of such a high yet practicable standard that the holders of its certificates will receive universal recognition.

The permanent organization of the Board will consist of the three Surgeon Generals and one other representative from each of the Government medical services, three representatives of the Federation of State Medical Examining Boards, and six members chosen at large from

the medical profession by the National Board of Medical Examiners.

Requirements for admission to the examination are satisfactory completion of (a) a four year high school course; (b) two years of acceptable college work, including physics, chemistry, biology and a modern language; (c) graduation from a Class "A" medical school of the American Medical Association classification; (d) one year as interne in an acceptable hospital or laboratory. These requirements apply to graduates of medical schools in 1912 and thereafter. The Board may accept equivalent credentials in the case of graduates prior to 1912. Credentials must be presented to the Board sufficiently early for investigation, as credentials may be rejected if sufficient time is not allowed.

The examinations, which will be on the following subjects with the values stated, will be written, oral and practical, including the examination of cases, and will cover about one week:

1. Anatomy	100
2. Physiology	75
3. Chemistry and Physics.....	75
4. Pathology and Bacteriology....	100
5. Materia Medica, Pharmacology, and Therapeutics	75
6. Medicine	200
7. Surgery	200
8. Obstetrics and Gynecology.....	100
9. Hygiene and Sanitation.....	50
10. Medical Jurisprudence	25
Total	1000

Passing grade is an average of 75 per cent. A candidate receiving a mark below 50 per cent. in one subject or below 65 per cent. in two subjects, fails. Candidates failing at the first examination may register for a second examination at the end of a year but will not be allowed a third examination. No fee is charged for the examination itself but a registration fee of \$5 will be required.

This certificate is not a license to practice medicine, nor does it exempt the holders thereof from complying with the legal requirements of the States in which they desire to practice; but it will be an evidence of high attainment in medical knowledge, and will, the Board believes, soon be accepted by State

Boards as evidence of qualification for licensure.

The first examination will be held in Washington, D. C., beginning October 16, 1916. Further information and application blanks may be obtained from Dr. J. S. Rodman (who succeeded his father as secretary), 2106 Walnut street, Philadelphia, Pa.

The State Board of Medical Examiners

Reports the following list of candidates who successfully passed the examination for the practice of medicine, held in Richmond, June 20-23: Drs. Cary D. Allen, Richmond; Everett S. Barr, Richmond; Aubrey C. Belcher, South Richmond; L. Nelson Bell, Waynesboro; Ernest L. Bender, Pollocksville, N. C.; Wyndham B. Blanton, Richmond; Raymond H. Brockwell, Richmond; Edward B. Broocks, Chase City; Daniel F. Busteed, City Point; Arthur P. Butt, Davis, W. Va.; Thomas M. Calladine, City Point; Patrick M. Carroll, Rio Vista; Daniel del Castillo, Richmond; Moses Clayborne, Washington, D. C.; Gilbert O. Crank, Coffee; Lawrence O. Crumpler, Richmond; Felix Alfaro Diaz, Richmond; Austin I. Dodson, Richmond; James E. Faris, Red Hill; Frank A. Farmer, Roanoke; E. G. Gill, Roanoke; Grover B. Gill, Tangier, Iowa; William P. Gilmer, Richmond; Edward T. Glover, Portsmouth; Charles F. Graham, Wytheville; Joseph H. Green, Clifton Forge; Percy G. Hamlin, Richmond; James L. Hamner, Richmond; Edgar C. Harper, Draper; Lewis Brown Hill, Richmond; Harry B. Hinchman, Richmond; Lloyd L. Hallenbeck, Catskill, N. Y.; Howard M. Horton, Wakefield, N. C.; LeRoy W. Hyde, Plattsburg, N. Y.; Casper W. Jennings, Richmond; Henry C. Johnston, Richmond; Charles E. Llewellyn, Philadelphia, Pa.; John W. Martin, Gordonsville; Louis A. McAlpine, Portsmouth; William F. McAnnally, Madison, N. C.; Harry G. Middlekauff, Staunton; James T. Neel, Sawyer Mill; Eugene E. Neff, University of Virginia; William Nelson, Rustburg; Walter M. Otey, Montvale; Paul G. Parker, Potecasi, N. C.; Walter R. Parker, Woodland, N. C.; John C. Phipps, Pulaski; James O. Parramore, Catawba; Andrew D. Parson, Richmond; Vance P. Peery, Richmond; Charles Phillips, Richmond; William O. Poindexter, Goodes; Albert T. Ransome, Hampton; William H. Remine,

Lodi; Booker E. Rhudy, Richmond; James D. Rives, Richmond; Alex F. Robertson, Jr., Staunton; Erik T. Sandberg, Cardinal; William S. Scott, Fredericksburg; Jose E. Seebert, City Hospital, New York; Noah H. Short, Baltimore, Md.; Marshall W. Sinclair, Hampton; Philip S. Smith, Richmond; James M. Spencer, Richmond; Work A. Streeter, Germantown, Pa.; Ernest L. Strickland, Wilson, N. C.; Frederick P. Sutherland, Richmond; John L. Tabb, Jr., Midlothian; Charles R. Tatum, Orange; Bessie B. Tharps, Meshanticut, R. I.; Thomas G. Tickle, Coopers, W. Va.; James W. Tipton, Richmond; Samuel H. Toy, Stony Creek; Dorsey G. Tyler, Richmond; William H. Vance, Jr., Cincinnati, Ohio; James F. VanPelt, Huntington, W. Va.; Richard W. Vaughan, Richmond; William R. Warren, University of Virginia; Junius E. Warinner, Jr., Richmond; George B. West, Hickory; L. J. Whitehead, Scotland Neck, N. C.; William H. Whitmore, Richmond; George Vincent Wood, Jr., Chase City; Thomas M. Wood, Jr., National Military Home, Ohio; Hubert L. Wyatt, Petersburg; Oscar R. Yates, Suffolk.

The Augusta County (Va.) Medical Association

Held its regular meeting at Mt. Elliott, August 2, with an attendance of twenty-five. Papers were read by Drs. A. J. Burkholder, Kenneth Bradford, and J. A. Eyster, Madison, Wis., the latter being elected to honorary membership. Following the meeting, a luncheon was tendered the Association by the retiring president, Dr. W. F. Hartman, of Swoope.

The following officers were elected: President, Dr. William Patterson, Waynesboro; secretary, Dr. Guy Fisher, New Hope; treasurer, Dr. H. B. Spencer, Staunton; educational committee, Drs. A. L. Tynes, M. J. Payne and H. B. Spencer.

The King William County (Va.) Medical Society

Met in West Point, this month, Dr. Alvah S. Hudson, of that place, presiding. A number of doctors from other counties were in attendance. Dr. W. W. Bennett, who recently moved to West Point from King and Queen County, was received into the Society by transfer. Resolutions of sympathy were extended to Dr. B. B. Bagby, the secretary-treasurer,

who was absent on account of illness at Stuart Circle Hospital, Richmond.

Dr. Stuart McGuire

Left Richmond August 3 for New York, and sailed August 5, via the steamship New York, for England, where he will spend his vacation of several weeks.

Dr. Leigh Buckner,

Of Roanoke, Va., sailed August 5, in company with Dr. Stuart McGuire, for London, England. Dr. Buckner also plans to visit France, if expedient.

Dr. Samuel Saunders, Jr.,

Formerly of Jordan Mines, Va., the latter part of May accepted a temporary position with the U. S. Public Health Service to do rural sanitation work in Georgia and other States as occasion arises until about the middle of November. He is at present in Rome, Ga.

Dr. S. S. Gale,

Roanoke, Va., has been appointed chief surgeon of the Norfolk and Western Railway to succeed his father, the late Dr. Joseph A. Gale, and will have as his assistant Dr. W. R. Whitman. The appointment became effective August 1.

Dr. W. Lowndes Pople

Has returned to the city, after spending the month of July at Nimrod Hall, Va.

Dr. Christopher Tompkins

And family have gone to Bay Head, N. J., where they expect to remain until the early Fall.

Dr. C. S. Webb

And family returned to their home in Bowling Green, Va., the latter part of July, after a visit to relatives in Orange, Va.

The Infantile Paralysis Scare

Continues and at present there seems no prospect of relief until the onset of cooler weather. The New York epidemic is the greatest scourge of this disease which has ever been experienced in the United States, both in numbers and severity, there having been reported to August 5th, 4,842 cases with 1,068 deaths. The death rate in this epidemic has been 20 per cent. of reported cases as opposed to 5 per cent. in the 1907 epidemic. Prominent pathologists

and bacteriologists all over the country have been selected to study the disease. While the adrenalin treatment has proved efficacious in many cases, the results have not obtained which were hoped for. Apparently the best advice at this time is to do all possible to prevent infection.

Health Campaign in Fauquier County.

A three months' campaign in the interest of public health is being conducted with success in Fauquier County and the people of the county are planning to have a better health week about the first of September. The work is in charge of Dr. Richard W. Garnett, of Charlottesville. Dr. E. G. Williams, State Health Commissioner, has recently made three addresses in different parts of the county.

Dr. J. Garnett Nelson,

Owing to the pressure of other duties, has tendered his resignation as chief of the staff of Pine Camp, the city's tuberculosis hospital.

Dr. Robert S. Boshier, Jr., has been appointed as his successor.

Dr. J. Walker Walters,

Of Lynchburg, Va., was a recent visitor at Rockbridge Baths, Va.

Officers in United Spanish War Veterans.

Dr. J. N. Barney, Fredericksburg, was elected department chief of staff, and Dr. C. Howard Lewis, Richmond, department surgeon, of the United Spanish War Veterans, Department of Virginia.

Dr. Wilbur M. Phelps,

Of Staunton, Va., in a letter just received at this office, states that he is at the headquarters of Gen. Pershing, Field Hospital No. 3, "Somewhere in Mexico." The censor does not allow the soldiers to give their address, so that mail to his division has to be addressed to Columbus, New Mexico, and has to be forwarded. It takes three to five days for mail to reach them from Columbus. He further states that news from home is most welcome.

Dr. D. M. Thomasson,

Assistant city physician of Lynchburg, Va., has gone to Rochester, Minn., for post-graduate work at the Mayo clinic.

Dr. and Mrs. E. Barbour Pendleton,

Of Cuckoo, Va., with some friends, motored to Richmond, for a short visit, last month.

Dr. William P. Norris

Has returned to his home in Salem, Va., after a visit to Richmond.

Dr. and Mrs. B. A. Hord,

Of this city, and a party of friends motored to Ocean View, early this month for a visit.

Catawba Sanatorium to Have Temporary Shacks.

The Virginia Anti-Tuberculosis Association has offered Catawba Sanatorium two temporary shacks so as to provide twenty-four beds for patients who would otherwise have to leave the Sanatorium at the expiration of their allotted time. The period of stay had to be shortened because of the waiting list, which is longer than the total capacity of the sanatorium. There are only 300 beds in the State to care for tuberculous patients, whereas the number should be many times larger. Richmond and Danville are the only cities that have made local provision for these patients and the Association is endeavoring to educate the cities in giving this subject greater attention.

Dr. Elliott DeJarnette,

Of Ashland, Va., together with his wife and son, were recent visitors in Roanoke and Salem, Va.

Dr. J. L. Alexander,

Formerly of Mt. Solon, Va., is now located in the Witz Building, Staunton, Va. His practice will be limited to diseases of the eye, ear, nose and throat.

Dr. John Turman

Returned to his home in this city, early in August, after a visit to the Eastern Shore of Virginia.

Dr. and Mrs. Clifton M. Miller

And children, of Richmond, were registered at Brunswick Inn, Waynesboro, Va., early this month.

Dr. Joseph J. Shanks,

Of Salem, Va., was registered at Crockett Springs, Va., this month.

The Association of Surgeons of the C. & O. Ry.

Will hold its third annual convention at Hotel Chamberlin, Old Point Comfort, Va., August 18 and 19, under the presidency of Dr. Southgate Leigh, of Norfolk, Va. Dr. Wil-

liam T. Oppenheimer and Mr. L. G. Bentley, both of Richmond, Va., are chief surgeon and secretary, respectively. The first day will be devoted to scientific work and the second day to pleasures.

Dr. W. W. Wilkinson,

La Crosse, Va., was a visitor in this city, the latter part of July.

Married—

Dr. Reid White, Lexington, Va., and Mrs. Elizabeth Murdaugh, The Plains, Va., August 1.

Dr. and Mrs. Karl Blackwell

Left Richmond early this month for a motor trip through the mountains of Virginia.

Dr. and Mrs. Edwin M. Newsom,

Who took a motor trip through the State, stopped for a short visit in Richmond, on their return to their home in Newport News, Va.

Dr. J. Darden Rives,

An interne at Johnston-Willis Sanatorium, has returned to this city, after a visit to his parents in Norfolk.

Warning Has Been Issued Against Fraudulent Infantile Paralysis "Cures,"

By the U. S. Department of Agriculture, as it has been noted in previous serious epidemics that unscrupulous dealers prey upon the fear or ignorance of the public by flooding the market with worthless concoctions for which they assert curative properties which have no foundation in fact. Officials of the Department are charged with the enforcement of the Federal Food and Drugs Act with regard to these "cures" in interstate commerce, but products made and consumed wholly within a single state are under control only of such state health officials.

Dr. Sherwood Dix,

Of Port Norfolk, Va., has been appointed full time health officer of Norfolk County.

Dr. Thomas E. Stratton

Has been critically ill at his home in this city.

Dr. W. Nelson Mercer,

First lieutenant of the Medical Corps, who was for a time attached to the First Virginia Regiment at Brownsville, Tex., was transferred to the Blue's cavalry, at Camp Stuart,

this city, July 15. *vice* Capt. H. Norton Mason, resigned.

The American Electro-Therapeutic Association

Will have its annual meeting in New York City, September 12-14, with headquarters at Hotel Martinique. Dr. Jefferson D. Gibson, of Denver, Col., is president, and Dr. Byron S. Price, of 65 Central Park West, New York City, is secretary.

Dr. and Mrs. Hugh M. Taylor,

Of this city, left last month for a visit to relatives near Berryville, Va.

Dr. M. C. Sycle

Has returned to his home in this city after a fishing trip to Ocean View, Va.

The Old Dominion Medical and Surgical Society,

At its annual meeting at Buckroe Beach Va., July 17 and 18, decided also to hold the 1917 meeting at Buckroe Beach, and elected the following officers: President, Dr. Jos. J. France, Portsmouth; vice-president, Dr. Jas. B. Darden, Petersburg; recording secretary, Dr. R. A. Deane, Victoria; corresponding secretary, Dr. J. H. Blackwell, Jr., Richmond, and treasurer, Dr. R. E. Jones, Richmond. This Society is composed of representative colored physicians of this State.

Dr. and Mrs. R. S. Fitzgerald,

Of this city, were recent visitors at South Boston, Va.

Dr. Roy K. Flannagan,

Of the State Health Department, delivered an address on health subjects before the student body of the Radford, Va., Normal School, in July.

Dr. Ennion G. Williams.

Of this city, visited at Brunswick Inn, Waynesboro, Va., in July.

Dr. and Mrs. Clyde F. Ross,

Formerly of West Point, Va., but now residing in Anderson, S. C., were recent visitors in this State.

Dr. McClure Scott.

Of Millwood, Va., accompanied by his two sons, visited relatives in Culpeper, Va., in July.

Dr. and Mrs. John Randolph,

Of Arvonnia, Va., recently spent several days in this city.

Danville Doctors at White Sulphur.

Drs. Julian Robinson, E. Howe Miller and Thos. W. Edmunds, of Danville, Va., enjoyed a motor trip to White Sulphur Springs, W. Va., last month.

Typhoid Vaccine in Great Demand.

So great has been the demand for typhoid vaccine, owing to a greater prevalence of typhoid fever in the State than has been customary for some years, that the supply at both the State and Richmond health departments has been completely exhausted several times recently. At this season, the State Health Board usually disposes of about 800 packets of the vaccine in a month; in one day, the beginning of the month, it disposed of 400 packets.

At the time of going to press, there have been 86 cases of typhoid fever reported in this city.

Dr. Calvin H. Childress,

Of Richmond, is registered at Rockbridge Alum Springs, Va.

Dr. M. S. Brent,

Of Petersburg, Va., with his brother, recently motored to their old home at Heathsville, Va. On their return, they were accompanied by their father, Dr. A. M. Brent.

Importation of Cocaine Prohibited.

The ban has been put on the importation of opium and cocaine into the British Empire by a proclamation issued July 28. It is stated that there has been a marked increase in the use of cocaine in the British possessions since the outbreak of the war.

Dr. and Mrs. N. T. Ennett,

Of this city, went for a motor trip through Western North Carolina, last month.

Board of Pharmacy of Virginia.

At the examination held July 18 and 19, in this city, there were 29 applicants for examination as registered pharmacist. Of this number the following were successful: P. M. Johnson, Alexandria; T. B. Cauthorne, Tappahannock; Sister Agnes Fitz Simmons, Norfolk; F. R. Henderson, Clifton Forge; H. C. Painter, Richmond; R. L. Martin, Richmond, and Jno. G. Ellison, Crozet.

The following were given the registered assistant certificate: E. F. Linhoss, Washington, D. C.; D. W. Mullen, Norfolk; R. E. Woelffer, Fredericksburg; R. K. Latshaw, Swissvale, Pa.; J. M. Klein, Baltimore; G. A. Kellam, Onley; N. H. Jones, New York City, and C. C. Smith, New York City.

There were 15 applicants for examination as registered assistant pharmacist and the following were successful: J. E. Burns, Goldston, N. C.; S. C. Brooks, Richmond; E. A. Amick, Richmond; H. S. Bennett, Scottsville; W. B. Bristow, Richmond; W. N. Bradshaw, Herndon; A. R. Day, Richmond; L. K. Cheatham, Richmond; W. E. Kite, Elkton; Morris Phipps, Richmond, and E. E. Hughes, Harrisonburg.

The following were registered by reciprocity: F. E. Johnston, Lynchburg, from Georgia; J. F. Simpson, Washington, from District of Columbia; W. R. Cline, Norfolk, from Georgia, and G. B. Geiger, Ashland, Ky., from Kentucky.

The next examinations will be held by this Board in Richmond, October 17 and 18, 1916.

All applications shall be filed with the Secretary, E. L. Brandis, Richmond, at least ten days prior to examination date.

Dr. Fielding Lewis Taylor,

Of New York City, is among the recent arrivals at White Sulphur Springs, W. Va.

Dr. and Mrs. Homer A. Spittler,

Of Middleburg, Va., recently visited Washington, D. C.

Dr. and Mrs. J. Thomson Booth.

Of Parnassus, Va., have been the recent guests of relatives in Ashland, Va.

Dr. E. P. McGavock,

Of Richmond, visited his former home near Wytheville, Va., last month.

The China Medical Board

Of the Rockefeller Foundation announces that Dr. Franklin McLean has been appointed professor of internal medicine in Union Medical College, at Peking, an appointment which carries with it the headship of the College. This is one of the principal institutions through which the Board is working to improve medical and hospital conditions in China. Dr. McLean has been connected with

the faculties of the University of Chicago, University of Oregon and University of Graz, Austria, and, to accept his new position, resigned as assistant resident physician in the Hospital of the Rockefeller Institute in New York.

Dr. Benjamin E. Washburn,

Of the International Health Commission, with headquarters at Port of Spain, Trinidad, has recently been on a visit to relatives at his old home in North Carolina.

Transactions of the Medical Society of Virginia,

For the forty-sixth annual session in Richmond, last October, have recently been issued. If any member has failed to receive his copy, he should at once notify the secretary, Dr. P. A. Irving, Farmville, that he may investigate the cause of its non-receipt.

A new feature of the Transactions this year is the arrangement of members of the component county societies according to Congressional Districts, in addition to the usual alphabetical roster of fellows.

Dr. and Mrs. Bernard Switzer,

Of Lexington, Va., have recently been registered at Castle Hill, an attractive resort near Lexington.

Dr. B. E. Summers,

Medical inspector of the Richmond health department, has resigned his position to take up general practice. Dr. Levy, chief health officer, has asked permission of the Administrative Board to hold a competitive examination to select a successor to Dr. Summers. The salary in this position is \$2,000 a year.

Central State Hospital to Have Additions.

At a meeting of the special board of the Central State Hospital, Petersburg, July 26, in addition to other business transacted, contracts were awarded for enlarging the building for the criminal insane and the colony for male tuberculous patients.

The Cincinnati Medical News

Has been discontinued, and its editor, Dr. A. G. Kreidler, is now on the editorial staff of the *Lancet-Clinic*, published in Cincinnati.

The International Health Commission

Of the Rockefeller Foundation, 61 Broadway, New York City, announces the change

of its name to International Health Board of the Rockefeller Foundation.

For Sale—Complete office equipment, instruments and one of the finest medical libraries in the State of Virginia, which belonged to the late Dr. W. B. Payne, of Covington. Residence with offices adjoining will be sold if desired. For particulars, write to *Mrs. W. B. Payne, Covington, Va.*—(Adv.)

Physicians—Attention!

Static Electric Machine, made by Van Houton & Tenbroeck Co. of New York, practically new, can be bought cheap. Has insulated platform, head attachment, stand and electrode, brush discharge electrode, single point electrode, abdominal attachment and others, including an X-ray. Address: *Mrs. S. C. Holliger, Administratrix, Crewe, Va.*
(Adv.)

Obituary Record.

Dr. Samuel William Hammond,

Of Norfolk, Va., while hurrying to an emergency case July 23, suffered a fracture at the base of his skull when the motorcycle on which he and a friend were riding collided with an Ocean View trolley car at a grade crossing. Dr. Hammond died the following day, while his friend, though seriously injured, recovered.

Dr. Hammond, who was a native of Mercer County, West Virginia, was 41 years of age and studied medicine at the University of Baltimore, from which he graduated in 1905. He was a member of his local and State medical societies.

Dr. William Rutledge Hudson,

Of Huntington, W. Va., together with his brother and brother-in-law, of Luray, Va., lost their lives July 23, while bathing in the river near their home. Dr. Hudson had come the day previous for a visit to his mother. He was 32 years of age, and graduated at Washington and Lee University in 1906. He later studied medicine at Johns Hopkins' University, from which he graduated in 1911, and was interne at the Woman's Hospital, Balti-

more, for nearly two years. In 1913, he located in Huntington, W. Va., for the practice of his profession, and was a member of the Cabell County, W. Va., Medical Society, the West Virginia State Medical Association and the American Medical Association. Dr. Hudson was an earnest church and Sunday School worker and possessed a rare charm of personality which won for him the esteem and affection of a large number of people in his adopted home, both in and out of the profession. He was a nephew of Dr. W. L. Hudson, of Luray.

Dr. Cary Nelson Dunlap,

A well-known physician of Augusta County, Va., and son of Dr. James C. Dunlap, died at his home at Middlebrook, August 2, aged 46 years. He was graduated in medicine from the College of Physicians and Surgeons, Baltimore, in 1893. His wife and two children survive him.

Dr. Charles Hamilton Hughes,

Of St. Louis, died July 13, aged 77 years. A native of St. Louis, he received his medical education at the Washington University Medical School, that city, from which he graduated in 1859. He was for many years professor of nervous and mental diseases in Barnes Medical College, St. Louis, and was also editor of the *Alienist and Neurologist*.

Dr. William Simon,

Of Baltimore, eminent as a chemist and for a number of years professor of chemistry in the College of Physicians and Surgeons, Baltimore, died at Eaglesmere, Pa., July 19, aged 72 years. He was a native of Germany, but came to the United States in the early seventies. In 1880 he was given the honorary degree of M. D. by the College of Physicians and Surgeons, Baltimore. Dr. Simon had the distinction of having made probably the only picture of the rainbow ever taken.

Sir Victor Horsley,

The noted English author and surgeon, died in Mesopotamia, July 16, as the result of heat stroke. He was on duty with the Tigris expedition in that country at the time of his death.

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Original Communications.

SANITATION OF RAILWAY COACHES.*

By E. A. SWEET, M. D., Washington, D. C.
Surgeon U. S. Public Health Service.

Over one billion persons are annually transported on passenger trains in the United States. The average distance traveled by each passenger is 34 miles. In other words, every resident of this country, whether an infant in arms or a centenarian, annually travels 340 miles on railway trains, spending approximately from 10 to 12 hours out of each year in a railway car.

The question arises as to what we are doing to protect the health of these passengers. Are we subjecting them to unnatural or unhealthful conditions while they are being transported by common carriers or do we adequately safeguard their health and make proper provision for their comfort? What is the sanitary status of the average railway coach of the present day? Are such vehicles maintained in a satisfactory condition as regards cleanliness, ventilation, freedom from disease bearing insects, proper provision for the reception and disposal of human excrement, and numerous other items, or do they fail to meet present-day standards in this regard? If the latter is true, what is being done to correct the faults which are evident and to whom shall we look for relief? Before answering the last question, let us briefly review some of the essential features in the sanitation of railway coaches, determining if possible whether ideal conditions obtain or in what respect the general principles of sanitation are violated.

Passenger coaches are almost universally provided with toilets at each end of the car,

one for males, the other for females. The old style of open hopper closet, without flush, which permitted a strong upward draft of wind and cinders, has been generally abandoned and a flush closet substituted. This is a great improvement. The contents are discharged upon the ground, the toilets being used only when the train is in motion. This necessarily results in the contamination of water courses, as in numerous instances railways traverse watersheds used as sources of water supply, results in the breeding of flies and disseminates fecal matter in the form of dust. Such a system of sewage disposal must be regarded as detrimental to the health, not so much of the passengers within the car, but to the residents along the lines. However, we should take into consideration several factors before condemning this system. In the first place, considerable care is exercised that fecal material shall not be distributed in thickly populated centers, although necessarily this can not always be controlled, and, secondly, the amount distributed per mile of roadbed is relatively small. We should also consider that such natural agencies as heat, sunlight, and biological processes, are constantly working toward the purification of this material. Therefore, it is believed that this system does not, when carefully safeguarded, constitute a very serious menace. Moreover, a perfectly satisfactory system of sewage disposal for common carriers has never been devised, and until something better is offered railroad corporations should not be obliged to modify their equipment. The problem is therefore one for the future to solve. With our rapid increase in population efforts must be directed along this line at no very distant date.

The cleanliness of toilets frequently fails to meet the highest standards and the ventilation is occasionally poor. These are conditions pos-

*Read before the Association of Surgeons of the Norfolk and Western Railway, at Old Point, Va., June 7-8, 1916.

sible of much better regulation. Carelessness by users also results in unhygienic conditions. Toilet floors should be either of battleship linoleum, composition, or similar material, easily cleaned. Carpeting, occasionally found in the toilet room for females on Pullman cars, is not to be tolerated. The best cleansing agents for toilet room floors are soap and hot water; antiseptics are not needed. If energetically applied, at frequent intervals, by a conscientious employee, no one need fear that he will contract disease from accumulated filth. The use of the so-called drip antiseptics or disinfectants is largely a waste of funds. They produce an odor, which more or less disguises any other odor present, but as a disease preventive measure their value is practically nil.

Every car should be provided with adequate lavatory facilities, either in connection with the toilet, or just outside the door, preferably the former. The best "Safety First" sign ever devised was the one which the manager of an industrial establishment had the courage to post. "Wash your hands before leaving the toilet." Liquid soap of a good quality in easily managed containers should be furnished. This is not always done, even in cars catering to the highest grade of passenger traffic. From an aesthetic, as well as a sanitary standpoint, it is desirable, as most of us exhibit at least a mild degree of hesitancy in using that which has only recently been discarded by some other person. The common roller towel has gone the way of many another relic of earlier days. By official decree of the Secretary of the Treasury, upon recommendation of the Surgeon General of the Public Health Service, promulgated December 9, 1912, it was banished from all interstate carriers. It was of course more or less of a disease disseminator and it has attained a just and proper end. As substitutes therefor small individual towels are now usually provided by those roads which can put up with the predatory predilections of present-day gentlemen. To avoid this contingency individual towels can be arranged in a pile, and fastened to a metal frame in such a manner that they cannot be removed. Paper towels have come into use, but they are not ideal as the floor becomes littered and a general disorderly arrangement results.

At the suggestion of a member of the medical profession a number of years ago dental

lavatories were installed on certain Pullman cars and since that time their use has rapidly become more general. The equipping of Pullman cars with facilities of this character is commendable, especially in view of the uses to which the ordinary wash bowl is often put.

The presence of cuspidors in railway coaches at our present age of civilization is probably a necessity, but their number should be kept at the lowest possible requirement. Certain states have specified by legal enactment the number to be carried in each coach, legislation which it would seem is hardly warranted. It should be remembered that cuspidors frequently invite promiscuous expectoration. When provided, they should be of sanitary pattern, that is easily cleaned with complete access to every part, non-capsizable, and with smooth surfaces. They should also be relatively inconspicuous. Few railroads have cuspidors meeting these requirements. In their place we find large capsizable containers, with eroded surfaces which it is impossible to thoroughly clean. It is needless to say that all cuspidors should be emptied and if possible sterilized by steam at a place provided for that purpose outside of the car. The practice of cleaning receptacles of this character in the aisles of coaches is both disgusting and dangerous, yet it is followed at many terminals. Cuspidors should never be allowed to become dry but after cleaning provided with a small quantity of water, weak formalin solution, or other antiseptic.

Promiscuous expectoration is one of the great problems in the sanitation of railway coaches. There has been a noticeable improvement in this regard in late years but we still deserve the title of a nation of spitters. This violation of the laws of decency is more apparent in certain sections of the country than others but in none have we reached the standard that we should attain. How best to meet the problem of careless expectoration is difficult to determine. Placards are of some benefit, increasing the standard of cleanliness is of material assistance, and an alert train crew essential, yet, even with these precautions, derelictions will occur. The evil is therefore one upon which we should wage eternal warfare in every possible manner with no prospect of ever attaining ideal conditions.

The general cleanliness of railway coaches

upon the majority of the lines in the United States is showing steady and marked improvement. This is because cars are at present easier cleaned. Simplicity of construction, the elimination of nooks and recesses, the use of composition flooring free from cracks and crevices, and the installation of compressed air or vacuum cleaning methods, have all been of assistance in securing a higher standard of cleanliness. On many roads, however, old equipment is still in use and modern methods of cleaning have not been introduced. On other lines the cleaning force is insufficient or inadequately trained, the important duty of cleaning being delegated to improperly supervised laborers. In certain cases the distances traveled by coaches between terminals is altogether too great for their maintenance in a sanitary condition. A car which has had a run of 1500 miles, during which it has been occupied by several hundred people, must necessarily be in a filthy condition at the termination of the trip. This is a matter which is easily remedied and there seems little excuse for hauling cars, with the exception of Pullmans, such long distances on continuous runs.

While these are conditions that the railroads should correct, travelers themselves are in a large part responsible for the dirt and filth which exist. Whoever has followed a coach from the time it leaves the yards in the early morning, as clean as willing hands could make it, until it arrives at a distant terminal at night, scattered with filth and refuse, cannot help but arrive at this conclusion. The ordinary traveler is filthy beyond belief. Public vehicles are only as sanitary as the public chooses to keep them and when the people correct their filthy habits the problem of uncleanness will largely solve itself.

The ventilation of cars certainly has a bearing upon health. The problem of ventilation is now known to be considerably more complicated than was formerly supposed. The factors of temperature, movement of the air, humidity, presence of dust and gases and even other conditions must be taken into account in any consideration of this subject.

Most cars are miserably ventilated. This statement is made, bearing in mind the newer theories of ventilation which claim that all of the elements mentioned must be considered, as well as one's feelings of personal comfort, be-

fore arriving at a decision regarding the qualities of an atmosphere. After carefully weighing each of these factors, and accepting the contention of the experimentalists that the breathing of a so-called vitiated atmosphere is not harmful, provided the temperature, motion, etc., meet the proper requirements, we still are of the opinion that the ventilation in most railway coaches is bad.

The temperature of the majority of cars, winter and summer, is much too high. Likewise, the humidity in the winter season is considerably too low. This combination of high temperature and low relative humidity brings about dryness of the mucous membranes and increases the susceptibility to colds. The bronchitis or coryza which thus often follows a railway journey is easily explained. The problem is similar to the one we have in offices and houses during the winter season, but conditions are aggravated in railway coaches as a result of overcrowding and the presence of dust.

Coaches should be, and the majority are, equipped with thermometers. It is unfortunate that as yet we are not in possession of an instrument capable of indicating and registering the conditions of the atmosphere which make for physical comfort, that is a combined indicator of temperature, humidity and motion of the air, what might be called a comfortmeter. Such an instrument has been constructed in the Hygienic Laboratory of the Public Health Service but it is not expected that common carriers will ever clamor to have it installed in any of their cars.

Rock ballast, oiled roadbeds, and oil burning locomotives have done much for the dust problem. Thorough cleaning of cars also serves to lessen the quantity of dust. Engine smoke, gases in tunnels, and dust from the roadbed are, to say the least, irritating to the respiratory passages and their presence should be kept at the lowest limit by every possible means.

The introduction of such devices as the Garland system for removing vitiated and supplying fresh air, the development of the vapor method of heating, which permits of far better regulation of temperature, and lessens overheating, are in part responsible for improvement in conditions. Electric fans in coaches will assist toward still further betterment.

Complaint is frequently made of the poor ventilation of Pullmans at night. Often this is due to failure on the part of the occupants to use such natural means of ventilation as the windows. It is entirely feasible to so regulate the size of the opening with a newspaper, pencil, or other object as to readily permit the entrance of air, particularly when the car is in motion, and this too without perceptible draft.

Doubtless many travelers have wondered as to the source of the water supply of common carriers, the cleanliness of containers, and the care exercised in the handling of both water and ice. Until very recently there was no Federal regulation making provision for the purity of the water furnished. As a consequence, water was obtained from ordinary town or city supplies, wells, streams or ponds without regard to either its quality or source. There can be no question that disease frequently resulted from securing water from polluted wells or other sources not beyond suspicion: in fact, epidemics of typhoid, paratyphoid and gastroenteritis have been in several instances directly traced to this cause. As a consequence, the secretary of the Treasury under date of January 25, 1913, issued an order requiring that all water furnished passengers by common carriers shall conform to a certain bacteriological standard of purity,—in other words, shall be incapable of conveying disease. The issuance of this order immediately resulted in the abandonment of many supplies of doubtful character and the examination of others, some of which were also found to be contaminated. Reports of these examinations are constantly being received in the Bureau of the Public Health Service, and whenever a polluted water is discovered its use by the common carrier is at once forbidden. Not only has the adoption of this regulation guaranteed a safe water supply to travelers, but, indirectly, by requiring investigation twice a year of the supplies of cities and towns, actually improved the quality of the water furnished communities throughout the country.

The common drinking cup is no longer a menace to the traveling public, as its use was forbidden by official decree of October 30, 1912. Clear ice, carefully handled, is ordinarily not a source of pollution. The introduction of separate containers for the ice will entirely elim-

inate the chances of conveying infection in this manner. On the majority of lines this change is already effected.

Fumigation of cars is required in many states at regular intervals, the time varying from every seven days to once a month. Curiously, the majority of these laws relate solely to Pullman cars, making no provision whatever for regular day coaches. Just why this is so is hard to determine. There seems, however, to be a popular impression that sleeping cars are disease disseminators and that day coaches are seldom such. As a matter of fact sleeping cars are much more thoroughly cleaned, are better cared for en route, and cater to a class of people whose habits are less pernicious than those who patronize day coaches. There is then little reason for this discrimination. The Federal statutes make no provision for the regular fumigation of either day or Pullman coaches. There are, however, definite regulations as to the disinfection of cars and compartments occupied by persons suffering from typhoid fever, diphtheria and other infectious diseases.

Concerning the value of fumigation much difference of opinion exists. As ordinarily conducted it probably serves no useful purpose. The fumigant used is almost invariably formaldehyde, generated by the formalin-permanganate method. This gas is worthless as an insecticide. The liberal application of the ordinary cleansing agents, together with such disinfectants as are warranted by the character of the infectious case carried, is in all probability of greater value than fumigation as a routine disease preventive measure.

The screening of coaches during the summer season is a sanitary measure of value. Particularly is this true in malarious districts and where flies abound. Dining cars should certainly be protected against flies during the summer months in every section of the United States, and sleeping cars against mosquitoes in all parts of the South. Not only do screens serve to keep out the insects but they also prevent a certain amount of dust from entering; their more general use during the warm season is therefore to be recommended.

Of insects other than flies and mosquitoes there are few which either annoy or carry disease. The flea is only occasionally found, but roaches may be evident in either buffet or din-

ing cars. *Cimex lectularius* is somewhat of a traveler but is present in sleeping cars far less seldom than one would expect, particularly in view of the conditions under which hand baggage is transported. If strict cleanliness is enjoined, thus eliminating their breeding places, dust and dirt, neither bedbugs or fleas should be troublesome.

Something should be said concerning the comfort of travelers. At the best, railroad journeys are extremely fatiguing to most people; therefore, anything which adds to their comfort and welfare is desirable. Car seats are not always built with this idea in view. Frequently they are too high from the floor, provided with poorly fitting backs and lacking in foot rests beneath. The lighting of the car also bears a definite relation to comfort. With the old system of artificial illumination a large percentage of travelers found it impossible to read or otherwise use the eyes for any considerable period without developing almost immediate symptoms of eye strain. There is no doubt that the fatigue which results from a long journey is in part due to this cause. Necessarily, the vibration and the rapid movement of objects across the field of vision can not be altogether avoided, but much can be done toward furnishing illumination of sufficient candle power for reading and at the same time altogether free from glare. The more general introduction of electric lights has been of decided advantage. Shades should also be provided for all windows.

The transportation of persons suffering from infectious disease constitutes still another sanitary problem of no mean proportions. Until very recently there were no regulations bearing upon this matter, other than provision being made for lepers. Railroads accepted without question passengers afflicted with tuberculosis, typhoid fever, diphtheria and other infections, conveying them to any part of the country desired. It was not uncommon to observe cases of typhoid fever being transferred across a dozen states. Cars going to and coming from the resort cities of the West conveyed hundreds of dying consumptives, who exercised no precautions whatever, and were utterly regardless of either the health or feelings of fellow travelers. There cannot be the slightest question that these practices often resulted in the widespread dissemination of dis-

ease. The intermingling of the sick and the well and the close association which inevitably ensued could have but one result.

The problem as it presented itself was interstate in character and called for certain restrictions emanating from the national government. As a preliminary, officers were detailed in the principal resort cities of the country to investigate the migration of the tuberculous. Studies were made as to the conditions under which the tuberculous traveled, the number of invalids going to and from the resort cities and whether or not they were a source of danger to fellow travelers and employees. Similar reports concerning the sanitary conditions on common carriers had been accumulating in the Bureau of the Public Health Service for a considerable period, all officers traveling under official orders having been directed to report the sanitary condition of the train or vessel on which they traveled immediately upon completion of their journey. In this way much valuable data was obtained.

As promulgated by the Secretary of the Treasury in January of this year, the Interstate Quarantine Regulations make specific provision for the transportation of persons afflicted with the various communicable diseases. Common carriers are forbidden to accept for transportation any person suffering from plague, cholera, smallpox, scarlet fever or yellow fever. Persons afflicted with typhoid fever, diphtheria, measles and whooping cough must comply with certain restrictions as to isolation and the disposition of infectious discharges. Patients with pulmonary tuberculosis in a communicable stage are required to carry a sputum cup, gauze or similar material for the reception of sputum and the compartment must be closed immediately upon the disembarkation of the affected passenger and remain closed until disinfected.

It is believed that these regulations will have a salutary effect. Already there has been a noticeable tendency on the part of representative railroad lines of the country to cooperate in their enforcement. Common carriers are now empowered to refuse for transportation persons suffering from the diseases mentioned unless such persons are prepared to comply with the requirements set forth. This gives the railroads a certain moral backing and is of assistance in enabling them to correct condi-

tions which have long been recognized as dangerous to the health of the traveling public.

The provisions of the Interstate Quarantine Regulations are, however, not only directed toward the prevention of disease in the manner indicated but they likewise require on the part of the railroads due regard for the health of passengers. Common carriers are obliged at all times to maintain their cars in a clean and sanitary condition. The cleaning of cars actually occupied by passengers is forbidden, unless the cleaning is done in such a manner as to prevent the distribution of dust. Clean sheets and pillow-cases which have not been used by any other person since last laundered, are required. The common roller towel and common drinking cup are not permitted. Food or drink furnished for the use of passengers shall be from a source known to be free from the contagion or infection of certain diseases.

It would seem that the enforcement of these regulations should do much to improve the sanitary conditions on trains and vessels engaged in interstate traffic. At least they show a willingness on the part of the National government, operating through the Public Health Service, to provide for the traveling public such sanitary safeguards as can reasonably be expected.

FOOD REQUIREMENT AND ITS RELATION TO DIARRHOEAL DISEASES OF INFANTS.*

BY LITTLETON DAVIS, M. D., Roanoke, Va.

A subject about which much is written and which presents a wide field for discussion is also one about which often little is known in a definite way.

Feeding and its relation to diarrhoea is a subject of such wide scope, presenting as it does almost unlimited factors for consideration, that I will have to confine myself to certain phases of the subject, leaving out much that might be considered important by the specialist in pediatrics or the laboratory investigator, if this paper was written solely for his point of view.

It is to stimulate an interest in the more careful feeding of infants from the standpoint of prevention of diarrhoeal diseases that I offer this paper.

Until laboratory methods for the determination of these complex conditions in children become simple enough for the doctor to apply them in his daily rounds outside children's hospitals, until experiments in chemistry and physiology can give us a substitute equal to mother's milk, we must content ourselves with the adjustment of the elements of cow's milk and its salts in the way that our own experience plus the experience of others has shown to be best for the infant, not losing sight of the fact, however, that calves and babies have widely differing periods of growth and marked differences in digestion. For these reasons we are still searching for a more ideal food.

To facilitate a more practical discussion of our subject, I shall take an arbitrary and, perhaps, unwarranted attitude in defining the food requirement of the infant as being the kind and quantity of food that maintains the normal average growth, in health, of the infant through that period when it is entirely incapable of choosing its own food, certainly up to two years old if not later. Also, a diarrhoea I shall take to include those conditions in which we have loose watery stools without evidence of marked intestinal lesions, the simple or primary diarrhoeas, the early loose stools without other symptoms, and many cases of the so-called alimentary intoxications—intestinal indigestion or balance disturbances.

The food requirement may vary with the individual, some infants requiring more of certain elements than others. The greatest difference in food requirement, however, appears to be coincident with certain changes in metabolism and heat regulation brought about by the high temperatures of the summer months. Little has been written on this particular phase of the subject, with the exception that most writers agree that fats should be reduced for hot weather.

Physiologists maintain that body metabolism is increased by cold and diminished by heat, and, therefore, more food or less food is needed to meet these changes as the case may be. Experiments of Rubner¹ on puppies show that at low temperature metabolism is about twice that at high temperature; also that when the outside temperature is raised to a certain point, although the metabolism is much lower, the body temperature rises be-

*Read before the Southwest Virginia Medical Society, at Radford, Va., June 28-29, 1916.

cause of greatly diminished heat loss. This would lead us to believe that theoretically, at least, there is probably a standard of metabolism or heat production at a given temperature which requires a certain balanced amount of the food elements to maintain in health.

However, these may be the ideal conditions, they are not the actual conditions that we find in practice, for, instead of a given temperature, we have markedly varying temperature and, instead of a well balanced diet, infants are confronted with every conceivable variety of milk substitute, patent infant foods, candy, ice cream and other concentrated food elements which are anything but rational diets for infants in summer.

It is this lack of knowledge on the part of mothers as to what is a properly balanced diet that I believe is responsible for initiating most of the intestinal disturbances of the early summer months. Also, we deserve our share of responsibility for not appreciating the importance of these disturbances as forerunners of the more serious disturbances and treating them as such.

The infant, it seems, takes care of average formulas at ordinary temperatures. Will it, however, take care of the same at markedly varying temperatures, and when does this temperature of the air immediately surrounding the infant mostly vary? I have not the experimental evidence nor scientific data to answer the first part of this question.

Clinical evidence and general observation, however, answer it in the negative. In other words, the infant, it seems, does not handle ordinary feeding formulas in the hottest months when the temperature of the surrounding air often approximates that of the body.

Holt,² reporting observations on the 202 babies in winter and 390 in summer, showed only one death from diarrhœa in the first series, while three-fourths of a 10½ per cent. death rate for the second series were due to diarrhœa.

A. Bleyer³ in St. Louis reported a series of cases in which he shows that the tendency to diarrhœa begins at temperatures of from 70 to 80 degrees; it is increased at from 80 to 90, and is most marked at 90 to 100. Why this is so remains yet to be determined. The subject has been discussed almost from every angle as to causes. High temperature and food are per-

haps given first place as single factors. Under the head of the first would come over-clothing, lack of ventilation, over-crowding, lack of baths, cool water, shade, etc. Under head of the second, high fats, high sugar, too much food or feeding too often, impure milk and infection.

In the light of these known facts, it occurred to me that it might not be out of place to deal with the first two causes,—the food and temperature from the standpoint of the food requirement and heat production, and the relation of high temperature to heat elimination,—as being important primary factors in the early intestinal disturbances.

Whatever tends to lower the temperature of the outside air brings up the infant's capacity for digesting food; also, to reduce the food or change its quality may produce the same results and help to establish an equilibrium, the first perhaps by increasing heat elimination by radiation, conduction and evaporation, causing the body to use all obtainable food in order to maintain the normal body temperature.

The second acts doubtless by lessening heat production.

This equilibrium, or we will say normal health balance, depends on the relation of heat production to heat elimination. For the infant the heat production depends on the food.

Murlin & Lusk⁴ have shown that each of the food constituents, fats, carbohydrates, and proteids, gives its definite amount of heat which varies according to the quantity ingested.

The heat elimination depends on the temperature and moisture of the air immediately surrounding the infant.

At high temperature heat elimination is at its lowest, and at this time any excess food attended by increased heat production may bring about what is termed "heat stasis," heat production without heat elimination by the normal processes. Bleyer states that an infant will probably not have diarrhœa accompanying this condition if not fed. Most of them, however, are fed.

Normally heat is lost chiefly by water from skin, lungs, kidneys and bowels, about 87 per cent. by skin, 10 per cent. by lungs, and 2 per cent. to 3 per cent. by kidneys and bowels. With interference of elimination by the skin, as we have at high humid temperatures, the burden of heat elimina-

tion by water must be shifted to the other three sources, and we have increased breathing, increased urination, and increased activity of the bowels, or diarrhœa. In fact, a great quantity of heat may be lost by loss of water in the stools. In cases of so-called cholera infantum, water may be lost so rapidly in this way that the temperature of the body often becomes sub-normal.

Whether the rise in temperature, often seen in infants having loose stools when the discharges are suddenly checked, has any bearing on this subject is an open question. It is, however, suggestive. Theoretically, diarrhœa might be called into play as a safety valve to prevent heat retention. Since the expired air, urine, and feces, carry off normally only about 13 per cent. of the heat eliminated, if these are called upon to compensate for skin inactivity, the feces must naturally bear a portion of the burden, as the kidneys are probably always working their full capacity on account of the comparatively large amount of water dilution in the food of infants, and because the capacity for elimination by respiration is more uniform.

It is hard to draw conclusions as to the over-production of heat, with retention, and to determine whether or not it is accompanied by diarrhœa for obvious reasons. In hospital cases the infants are usually far advanced or are what might be called secondary cases. Here too the food is controlled as is also the temperature and clothing.

Even in dispensary and district nurse observation the patients are intelligently controlled immediately after coming under our care, so that the earlier factors or influences at work at the beginning of the diarrhœas are often lost sight of.

The study of the feeding histories and surroundings of infants prior to the first attacks of diarrhœa give us valuable evidence, showing that we may have diarrhœa from forced metabolism.

Nearly all the feeding histories of the early cases show excessive carbohydrate or fat consumption. Condensed milk, large quantities of cereals with cream and sugar, candy, quantities of bread and potato starch, make up the list. In breast-fed infants, over-feeding is due to too frequent nursings. Almost always in connection with these are shown over-cloth-

ing, crowding, lack of air and water, all of which prevent heat loss from the skin. Thus, it is easy to see why so many of the food disturbances have been attributed to sugar and fats in excess.

Day & Gerstly⁵ cite as an example of this condition a case, aged three months, a healthy feeder in the hospital, where loose stools occurred whenever 4 per cent. sugar was reached. They are very common cases.

While we may easily attribute intestinal disturbances to high fat or sugar, the proposition requires going further into than a simple statement of fact, since in cold weather infants tolerate and thrive on both these elements in large quantities. However, if we can look upon these two elements as highly oxidizable substances, playing chief part in the formation of body heat, it seems much easier to connect them with disturbances of metabolism in hot weather when so little body heat is required to be generated from within. Therefore, less oxidizable food is needed. Holt maintains in a general statement, and very wisely so, that the food of infants should be cut down about half in hot weather. Doubtless if this was carried out at the beginning of the hot season, many of the most serious troubles would be avoided.

Leaving out the gross errors in diet for infants under three years old, such as berries, cherries, peaches and other acid fruits, which act in a different way from what we have been discussing, very little attention is paid to the changing of the diet from the cold to the hot seasons, most infants being expected to take the same thing all the year round. As adults, we take a great deal of sugar and fat in winter, while in summer we change to a diet largely made up of watery vegetables and cold drinks. Is it any wonder then that the infant often succumbs to a diet that, comparatively speaking, a man could not take? It has been fairly definitely shown that most of foods, possibly with the exception of some of the fats, are absorbed in health and metabolized even when fed beyond the needs of the organism; therefore, with excess fuel, food like sugar and fat, although none may be left over in the intestine of the infant, at high outside temperatures we may have rapid breathing, elevation of body temperature, and dry skin, soon followed by diarrhœa, and often the temperature falls as soon as diarrhœa is established. This is often

seen in infants after taking too much candy, rich cream, or ice cream, and sometimes cake.

It is a familiar picture and I have always believed that the symptoms were due to excessive oxidation with heat stasis, rather than to absorption of poisons or toxins from the intestines. These cases are seldom seen in cold weather.

Whether or not the foods, albumin milk, buttermilk, skim milk, whey, barley, gruels and beef preparations, owe their success in the treatment of these conditions to the fact that they are low in heat producing or oxidizable substances I do not know, but to consider them from the standpoint from which I have considered the causes is interesting to say the least.

I have taken up briefly only one phase of the subject which I believe to be important from the standpoint of prophylaxis of diarrhoeal diseases. Changes in the food should be mostly a reduction of the fats and sugar with more water for hot weather. These changes should be made gradually in the spring and fall months. Other factors are important in that they affect heat elimination and lower the capacity of the infant to metabolize his food.

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- 920 *Franklin Road.*

THE COUNTRY DOCTOR.*

By JOHN A. OWEN, M. D., Turbeville, Va.

From the days when the barber did the surgery and the parish priest and old women administered healing herbs to the present seems a far cry but in reality it has been only a gradual evolution. The surgeon has come into his own, except in remote rural districts, the old women's tales and talismen have been gradually superseded by the rational therapeutics of the general practitioner. The subject of this character sketch was at his best in the

decades just preceding and following our Civil war.

In those times every gentleman's son was expected to follow one of the learned professions—the ministry, law, or medicine. The one who chose the latter calling was sent to read under the family physician or local leading light, and while such a student was denied much in the way of laboratory and clinical study, yet he had the advantage of the experience and advice of one who for many years had studied the characteristics and ailments of just those people whom the young practitioner was soon to have under his care. So soon as he finished his course of study, he either joined with his preceptor in the work or established himself in his own community, usually spending his life amid those surroundings, ministering to the body and often to the soul, advising on all subjects for which his superior knowledge and experience rendered him peculiarly fitted,—a position second only to that of the minister.

As civilization advanced, however, with increased population, improved educational facilities, denser rural communities, with means of communication and locomotion that almost annihilate time and space, and with well-appointed hospitals in every town, the typical country doctor, like the red man and bison, is being driven further and further from the busy marts of trade and centers of social development, and eventually must give way to modern methods and conditions.

Probably no more touching tribute to this great self-sacrificing class has ever been penned than Ian Maclaren's story in "Beside the Bonnie Brier Bush." There is no one of us who can read it without feeling a thrill that we too belong to that noble profession, and I am taking the liberty of quoting a few lines from that masterful pen: "When the reapers in harvest time saw a figure whirling past in a cloud of dust, or the family at the foot of Glen Urtach gathered round the fire on a winter's night, heard the rattle of a horse's hoofs on the road, or the shepherds out after the sheep traced a black speck moving across the snow to the upper glen, they knew it was the doctor, and, without being conscious of it, wished him God speed."

For the graduate of today country practice offers little inducement. The work is hard,

*Read before the South Piedmont Medical Society, at Danville, Va., April 16, 1916.

the life is monotonous, his facilities are limited and his income not attractive. His dreams of a large office practice, with the modern methods of diagnosis and treatment, seem never to be realized, and no wonder that the lure of the city sooner or later draws him into the great vortex of business and professional activity where he loses himself, perhaps, forever.

It is an unfortunate paradox that, generally speaking, those least prepared of the profession are often placed in places of greatest need. The brightest young men gravitate to the cities and take up specialties, while the less competent, for economic reasons often, go out into the sparsely settled districts where the responsibility is greatest and where the facilities are most crude and meagre. This condition should not obtain. The faculty of our medical schools should urge upon their brightest men the claims of the rural communities, not for what it offers financially, but for the opportunity of service and the broad experience it gives as a groundwork for taking up a specialty later.

Since the country doctor occupies a position of so much prominence, what are the necessary qualifications of success and what opportunities does the life offer to the young man?

To the physicians contemplating life in the country, the one necessary requirement is stamina—physical, mental and moral. The life is a hard one, long drives through cold and heat, loss of sleep, unattractive food and lodgings often, and anxiety over his patients' welfare, are severe drains upon his constitution. He should have a good education, broad minded, of a kind and equable temperament, for here as nowhere else does he see the foibles and frailties of humanity. He should have ambition for the good of his patients and the success of his work. He should be a student, always seeking to find out something for the good of those intrusted to his care. He should have imagination for, as Dr. Hare so aptly describes it in an article in the *Gazette* for January:

"In the man with a dormant imagination or in the man who possesses no imagination, the practice of medicine or of any other pursuit is a road which leads upward all the way, 'yes, to the very end.' He leads a leaden existence because 'a primrose by the river's brim,

a yellow primrose is to him, and nothing more.' Such an unfortunate individual may be considered to lead his life in narrow alleys, in which the sunlight rarely falls, while he who has a well developed and well controlled imagination walks in wide avenues filled with sunshine and fresh air."

The physician should be an optimist always, for sick people are most impressionable, and a smile, a word of cheer when the heart is sad and life seems in the balance, may often outweigh any physic and, at least to the anxious family, spells hope.

Without optimism, think what we would have lost in Edward L. Trudeau who for forty years developed the Saranac system and exemplified in his own body the theories he taught! Suppose he had given up when he learned that he had an incurable disease, how much would have been lost to science!

When elected to the presidency of the Congress on Tuberculosis in 1910, he took for the subject of his address, "Optimism in Medicine." Each one of us should have this work and read it frequently. In it he says, "In a long life which has been lived daily in contact with patients beyond the reach of human skill, who through months and even years of hopeless illness looked to me for help, I have indeed had need of all the optimism I could cling to. It has ever been a precious asset to me, and I hope to those about me as well, and has never entirely failed me."

He closes with these words: "As Stevenson says, 'if, when age and infirmity overtake us, we come not within sight of the castle of our dreams, nevertheless all will be well with us: for to travel happily is better than to arrive and the true success is in labor.'"

Lastly, the good physician should have strong religious convictions and deep reverence, for not even the priest in his parish or the preacher in his pulpit has such golden opportunities for service, for who gets so near to the heart of man as he?

What, then, does the life of a country doctor offer as compensation for the hardships and disadvantages incurred? His position in the community is strikingly unique. Being better educated than his fellow men, his opinion on public matters is eagerly sought and while, personally, I do not believe he should take an active part in politics, still he can take a firm

stand for right principles that has might unsurpassed.

There is a great field of service that the public school offers to the physician in the way of education in matters of public health that he should not neglect. Talks on public health, the nature and causes of diseases and how they may be prevented, would be far more effective than many bedside lectures to a family harassed with fears and anxiety for the life of their loved ones.

There is an opportunity of service in his church which the conscientious physician cannot shirk, for here as nowhere else his opportunity is golden.

Surely with this position of esteem and usefulness, holding the confidence and health of the community in his keeping, with the prospect of a long and useful life, the country doctor can feel fully compensated for whatever of style and prestige he may lose to his more fortunate colleagues of the city, and after years of service and honor, with the consciousness of duty well and faithfully performed, he may pass to his reward the noblest Roman of them all.

GASTRO-ENTEROPTOSIS.*

By GEORGE A. CATON, M. D., New Bern, N. C.

It is doubtful if the stomach is ever prolapsed uncomplicated with prolapse of other abdominal organs; so that the modern definition of gastroptosis is gastro-enteroptosis.

In gastro-enteroptosis we see not only a dislocation of the stomach proper, but of the transverse colon, the right and often the left kidney, sometimes the liver, and occasionally the spleen.

More than forty years ago Virchow called attention to the fact that the abdominal organs, in many cases coming to him for treatment, had dislocation of the stomach and other organs of the abdominal cavity; and Kussmaul later drew attention to a variety of changes in the position and form of the stomach and pointed out the connection between these positional abnormalities and certain symptoms referred to the gastro-intestinal tract.

Stiller recognized the congenital variety of

gastroptosis and named the condition "habitus enteroptoticus."

Gastro-enteroptosis is a disease seen mostly in young adults, but is seen also in patients who are advanced in years. It is not reasonable to think, nor does observation lead one to the conclusion, that the stomach and intestines, once dislocated, whether from congenital defective development, or from mechanical causes operating during youth or adult life, are ever more than partially restored to their normal position. Old people still have the ptosis seen in young adult life, but the digestive symptoms have disappeared altogether or are very mild.

It has been my good fortune to see many hundreds of these cases, both in this country and in the Cohnheim and Ewald clinics of Berlin, and while I have seen many cases of ptosis in adults of advanced life, I have seen comparatively few of these who have manifested important digestive symptoms; whereas, in patients up to forty-five, digestive disturbances of various kinds and of a very disagreeable character are common enough.

Two varieties of this trouble are recognized, namely, the acquired form, or Glenard's disease, and the habitus enteroptoticus, or Stiller's disease. Or the two types, the congenital is of vastly greater importance.

The factors entering into the cause of acquired gastroptosis are tight lacing, traumatism, frequent pregnancies and especially improper care during the puerperium. Among the less well-informed classes this lack of proper management is very noticeable. I will venture the assertion that 90 per cent. of women do not wear bandages and three-fourths of them are on their feet ten days too soon. The uterus is still heavy and not retracted, the abdominal muscles are still relaxed, and in those especially predisposed to ptosis the condition is really invited. The removal of large abdominal tumors is also conducive to ptosis.

The second form of gastroenteroptosis, and the one of vastly greater importance, is the congenital variety, or Stiller's disease. This form is purely a congenital condition. The chest formation and the characteristic abdominal contour, the so-called pot- or hang-belly, the long, narrow, stooped chest, the general appearance of relaxation and muscular weakness, the sallow complexion, constitute a picture which is quite distinctive.

The diagnosis is not a difficult matter gen-

*Read before the Seaboard Medical Association of Virginia and North Carolina, at Norfolk, Va., December, 1915.

rally and yet one may mistake a case of gastric atony for a case of gastroptosis unless care is observed in exactly locating the lesser curvature of the stomach.

Many of the extreme cases can be diagnosed by inspection alone. One may see the stomach outlines at or below the umbilicus with the decided hollow in the epigastric region just above. A common means of outlining the stomach is by means of inflation either with CO₂ or atmospheric air. Tartaric acid, about one drachm, given dissolved in half glass water, to be followed immediately with an equal quantity of sodium bicarbonate in half glass water, affords the CO₂ inflation. Inflation takes place at once and the stomach outlines can be readily made out by inspection and percussion. If one is in doubt the X-ray may be employed. This will clear up the diagnosis absolutely.

The discovery of a displaced kidney leads one to a further investigation as to a general ptosed condition. Ptosis of the kidney is regarded by many gastroenterologists as pathognomonic of gastro-enteroptosis. Kemp says in his very practical work on gastrointestinal diseases that movable kidney with the lower border of the stomach lower than normal is diagnostic of gastroptosis. Nephroptosis is not found in all cases,—perhaps in about thirty-per cent.

To be effectual, the treatment must necessarily be such as will tend to build up and strengthen the weakened organism. Because of its tonic effect, persons living in the coast region will be benefited by a sojourn in the mountains, and this is especially true of the cases in which the nervous element is pronounced.

Patients living in the higher altitudes may find a visit to the watering places beneficial.

In the acquired gastro-enteroptosis I have seen immediate results from the abdominal belt.

This may be one of the several ready-made belts on the market, or seven or eight inches of adhesive plaster. If some manufactured belt is used, it may be applied by directions of the physician before the patient arises in the morning and removed at night at time of retiring.

If adhesive plaster is used, this should be applied by the physician himself and can be done by him well, only after considerable experience.

It sometimes apply the plaster belt in the lying and sometimes in the standing position. If the patient is standing, then the abdomen must be lifted or the patient is directed to contract the abdominal muscles while the adhesive strip is applied on each side, beginning at a point just above the pubic bone and brought outward and upward to a point between the scapulae.

After this is done, a strip eight or nine inches wide is applied transversely, applying the center of the strip just above the pubes and around the body to a point corresponding to the middle of crest of the ilium.

The importance of this or some other mechanical support to the abdomen and its viscera during the period of treatment cannot be over-estimated.

Ninety per cent. of the patients will inform you after a few days that they feel much better.

The Curtis belt, especially in summer, will be found better for the reason that it is mechanically only slightly less efficient than the adhesive belt, it permits, on account of being removable, of the daily bath, and does not irritate the skin. Many very sensitive patients object to the adhesive belt on account of the irritation. Such patients must use only the ready-made abdominal supports.

It is always advisable to bathe the skin in alcohol before applying the adhesive plaster. Under favorable conditions the adhesive belt may be worn two or three weeks, at the expiration of which time it should be removed and the skin carefully bathed in a solution of boric acid in alcohol. The plaster should not be re-applied under three days.

With regard to the medical treatment, one must be governed by the gastric findings, that is, the chemical findings.

An atonic gastric mucous membrane must be stimulated, and among the tonics may be mentioned nux vomica, gentian, cinchona, hydrochloric acid. These remedies should be well diluted and given from twenty to thirty minutes before meals.

If there is a hypertonic condition of the mucous membrane and hyperacidity, give belladonna before meals and bismuth with an alkali one hour after meals. Massage, both general and of the stomach and intestines especially, is to be recommended.

Hydrotherapy in the form of cold friction, the cold pack, the half bath and the cold

douche in selected cases will give good results.

Not all cases do well under these cold stimulating water treatments. If the nervous system is in a highly irritable state, such treatments cannot be used. In such cases the prolonged luke-warm bath is to be preferred on account of its soothing effect on the nervous system. It is difficult to carry out a treatment of hydrotherapy at the home of the patient. Such cases will find it to their advantage to seek treatment in a well appointed sanatorium.

The dietetic treatment of gastroptosis is all important. No case, however well managed from a medical, mechanical, or hydrotherapeutic point of view can obtain the best results unless the diet is fitted to the individual case. There are so many peculiarities of digestion in different cases of this trouble that careful experimenting as to what foods are best tolerated and digested, at once becomes a scientific means of cure.

The tired and very relaxed cases who are not so excessively nervous and irritable should be treated in bed. I am aware that the treatment of these cases, as advised by almost all gastro-enterologists, is in bed only. With the highly nervous cases I think some exception must be made to this rule. These very nervous cases fret and chafe when confined to bed all the while and do better, according to my observation, if allowed a certain degree of freedom.

In all these cases there is under-nutrition and a feeble digestive capacity, usually anemia and general muscular relaxation. The importance of a highly nutritious diet and one which can be easily managed by a crippled and deformed gastrointestinal apparatus becomes evident.

Again, I beg to say that the diet must be fitted to the case in hand. Many times the Ewald breakfast becomes a necessity in order to determine the gastric chemistry. At times the duration test may have to be given in order to get an intelligent idea of the expulsive function. Having determined these things and having learned the food idiosyncrasies by experimenting, one may feed his patient intelligently. If hyper-alimentation is thought advisable and practical, it will be necessary to feed the patient more than the three regular meals. Very many times they will complain of stomach discomfort when fed more than the three regular meals; little attention should be paid to such complaints, however, as these digestive discomforts will pass away as the sys-

tem acquires tone and when there is increase in weight.

The physician should always weight his patient at the beginning of the treatment and about every ten days afterwards, so that a definite idea as to the patient's improvement may be kept in mind.

I always feel pretty safe in my treatment of these cases if they begin promptly to gain in weight, and the patient is always greatly encouraged when informed of the fact. It is highly improper for the physician to permit the patient to weigh himself, because if there is no gain in weight the already discouraged and depressed patient will feel that his treatment is not measuring up to his expectations and may discontinue treatment.

It is not unusual in my experience for these patients to gain from fifteen to twenty-five pounds and to become entirely relieved of symptoms.

Diet lists, if one wishes to consult them, may be found in all the works on gastro-intestinal disease.

Has surgical attempt in gastro-enteroptosis been followed by gratifying results? Has fixation of the ptosed kidney any value whatsoever?

THE OPERATION FOR REMOVAL OF TONSILS.*

By DAVID L. RAWLS, M. D., Suffolk, Va.

There are about as many different methods or techniques in removal of tonsils as there are laryngologists. Each surgeon claims some special feature in his technique or some instrument or modification of some instrument that will give him best results. In a sense their statements are true, if he has become accustomed to certain instruments and technique. In other words, he has grown to be master of the situation and the end results are usually good.

The essential point in removal of faucial tonsils, whether for hypertrophy of the gland or for a diseased condition, is to remove it completely (tonsillectomy). This operation may justly be termed the radical tonsil operation.

We accept the procedure for the reason that unless the entire tonsil is removed, full benefit of the operation is not secured. It is known

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that if the base of the tonsil is left intact, acute infections, such as acute articular rheumatism, acute septic endocarditis, peritonsillar abscess, and even recurrence of hyperplasia are likely to occur. Poynton and Paine have demonstrated the same organism from the inflamed joints, pleura and endocardium, that was found in the initial sore throat.

The credit for placing the tonsil operation upon a national and scientific basis by insisting upon the complete removal of the diseased tissue is due to American rhinologists, and in my opinion there no longer exists any doubt as to the merits of the more radical, but at the same time more reasonable procedure.

The complete operation upon the tonsil should not be considered a simple or mere minor operative procedure unattended by danger. Unfortunately, the older operation of partial removal or "clipping" has created in the minds of the laity a general impression that the tonsil operation is insignificant, and may be safely performed at any time or in any place.

We are indebted to Dr. Greenfield Sluder, of St. Louis, for his great advancement in tonsil surgery. He has attempted to restore order where chaos existed, confidence where fear reigned, and simplicity in place of complexity—all by the use of the Sluder tonsillotome in the removal of tonsils.

The tonsillotome has been supplanted by various dissecting knives and scissors, some blunt-tipped, curved, angular, etc., in an endeavor to adapt them to the peculiar anatomical requirements (real and imaginary, mostly the latter) for the complete enucleation of the tonsils. We must, however, confess that Sluder's method is simpler, safer and better in every way. Time element must appeal to all. Anesthesia time is shortened, which necessarily lessens shock, and instrumentation is confined to mouth gag, tongue depressor and tonsillotome. Trauma to the adjacent tissues is less, provided the gland has been removed with one stroke. Not infrequently little or no soreness in the throat follows the operation, especially in children. The reason is obvious. The only tissue incised is the mucous membrane, while the tonsil capsule is separated from the muscular tissue without trauma. Last, but not the least, hemorrhage is considerably lessened, especially post-operative.

I will not undertake to describe the manipulation in detail; reference and extracts have been made from Sluder's article and from modern text-books. There are, however, three fundamental facts underlying Sluder's operation:

1. The tonsillotome will remove the tonsil with its capsule intact, provided the tonsil is pushed through the fenestra of the instrument.

2. The sinus tonsillaris (bed of the tonsil) is freely removable, allowing the tonsil to be dislocated forward and upward, a distance of about one and one-half inches.

3. At a distance of one and one-half inches anterior and superior to the tonsil is located a bony prominence on the inferior maxilla, called by Sluder the eminentia alveolaris. This eminence corresponds to the location of the last molar tooth.

Technique—The patient should be in a recumbent position with the head extended slightly backward. The surgeon should stand on the right side of the patient, facing the head of the patient, to remove the right tonsil; to remove the left tonsil, the operator should stand at the head of the patient facing his feet. In this way the instrument may be held in the right hand for the removal of both tonsils. If the surgeon is ambidextrous, he will not have to change his position relative to the patient. In selecting the tonsillotome to use, choose one that will fit the tonsil snugly. Usually the medium size instrument will be used. I prefer administering ether in the majority of cases to any other anesthetic. When the patient is sufficiently under the anesthetic, introduce the mouth gag. Having ascertained the anatomical and pathological conditions present and decided on the size of the instrument, the operator approaches the tonsil at an angle, approximately 45 degrees, outward and backward, passing back until the distal arc of the aperture is completely behind the tonsil. This necessitates the shaft of the instrument crossing the mouth from the opposite side. The direction of the shaft is then changed to point downward in order to get the ring of the aperture under the lowest part of the tonsil. The instrument is then pressed firmly against the tissues, which are drawn forward and upward until the distal margin of the fenestra rests almost upon the apex of the eminentia alveolaris. The handle of the instrument is then slightly

depressed. This leaves the tonsil exposed to view. The left index finger is then used to push the tonsil through the fenestra. As the tonsil continues to press through the fenestra, the blade of the instrument is advanced by gentle pressure with the thumb of the right hand. When the tonsil is completely through the fenestra of the instrument the blade is gradually advanced until the two mucous membranes lie between its cutting edge and the distal margin of the fenestra. At this time the blade is forced home, with considerable power.

The method is one that requires considerable practice before the enucleation of every case can be carried out successfully. However, when mastered, the operation is a brilliant one and, considering that the gland is enucleated, the short time of operation and lessened number of instruments, plus lessened trauma and hemorrhage, it should be the operation of choice in the majority of cases and particularly in children.

506 Main Street.

SOME ASPECTS OF DISEASE IN THE NEGRO.

By WILLIAM H. DEADERICK, M. D.,
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The study of the relative prevalence and virulence of disease in the negro race is interesting from a pathologic point of view and of great economic importance from the aspect of health.

From some diseases, yellow fever for instance, the negro is exempt, while to others, like tuberculosis, he is more susceptible than his white brother. Pneumonia has a high mortality among the negroes, while many epidemics of smallpox evince a small death rate.

In this brief paper, few only of the principal diseases of the Southern States will be considered.

MALARIA.

Negroes bred in highly malarial regions are, as long as they remain upon the native soil, less susceptible to malarial infection than are the whites. The immunity of the negro race has been variously estimated. Some observers maintain that they are absolutely proof against malarial invasion, while others hold that they are as susceptible as the whites. The

truth lies between these two extremes. While adult negroes reared in malarial regions are less susceptible as long as they remain indigenous, the race does not enjoy an absolute, but only a relative immunity from malaria.

During the Civil war both the morbidity and the mortality from malaria in the negro race were greater than in the white race, for the negro soldiers are said to have been more exposed than the whites, having been aggregated in malarial localities.

With the better hygienic surroundings and more limited exposures of the whites, the negroes would probably be attacked less often than they are. Whether the color, thickness or other qualities of the skin of this race have anything to do with relative immunity is not known.

The immunity of the negro is probably acquired in the great majority of cases. The reasons for believing that it is acquired by repeated infection, especially in childhood, and by prolonged residence in a malarial region, a sort of acclimatization, are that immunity is much more prevalent in children; that immunity is often diminished by a change of residence or may be entirely lost by a temporary residence in a non-malarial climate; and that immunity in an individual may exist only toward one form of malaria and not toward others.

That immunity is much more manifest in adults than in children is evident from a consideration of the endemic index of malarial regions particularly of countries where the latter is high. During the first years of life many individuals examined show evidence of malarial infection, older children in a less proportion, and adults evince a relative immunity. This would hardly be the case if racial and congenital. In the South there is little difference between the races as regards susceptibility to the various forms of malarial infection—tertian, quartan and estivo-autumnal. Clinically, however, pernicious cases, cachexia, and hemoglobinuric fever, are rarer in the negro. The physician is more often called to treat estivo-autumnal malaria in the colored race than either tertian or quartan. The paroxysms usually occur during the day, but night paroxysms are more common in the negro than in the white race, and while definite and severe cold stages are not at all rare in the negro,

they are more frequently lacking than in the accesses in the white. Herpes is relatively rare in the black. Uncontrollable vomiting is not nearly so frequent in the colored race as in the white. Marked splenic enlargement is much less common in the negro, palpable spleens in the adult negro being infrequent. The extremely low hemoglobin percentages, which are not rare in chronic malaria and cachexia of white persons, are far less frequently observed in the negro. As previously stated, cachexia is decidedly more prevalent in the white race. Malaria parasites are altogether absent from the peripheral blood of negroes in a larger per cent. of cases than they are wanting in white patients. When present, they are more frequently scanty. On the other hand, the negro may harbor large numbers of parasites without manifesting any symptoms. Pulmonary complications, bronchitis, pneumonia, and tuberculosis are more frequent in the negro. Nephritis is another complication of which this is true. Hysteria and other neuroses are probably more common in the colored female. The abuse of snuff, which is undermining the nervous stability of the majority of adult negro females in the South, may help to account for this. There is less tendency to abort during pregnancy complicated with malaria in the colored females than in the white. Spontaneous cure after only one or two paroxysms is a common termination of malaria in the negro. Every physician practising among this race is familiar with the frequency with which their attacks of malaria end after a "round" of purgative and a potion of "tea" of some sort. The grave forms of malaria occurring less often, the mortality is consequently lower in the negro race.

BLACKWATER FEVER.

This is generally a disease of the white race. The negro is not absolutely immune, though not a few observers of wide experience have not seen cases in this race. This relative immunity can probably be explained only by natural selection.

We are told that in Africa negroes imported for labor on large commercial enterprises paid a large tribute to this disease. I have seen two cases of blackwater fever in mulattoes and two in black negroes; of these, one mulatto and one black died.

PELLAGRA.

Generally speaking, pellagra is commoner in the white race than in the negro. Of a large series of statistics which I have gathered, the negro is only about one-third as susceptible as the white. This is probably evidence less of a relative immunity than of the poor hygienic conditions in which the poor whites live in the villages as compared to the better conditions of the farming negroes. There are undoubtedly areas in which the disease is far commoner in negroes than in whites. This was my experience in the low lands of Eastern Arkansas where many cases were seen in negroes and very few in whites. It is true that relatively few white persons live in the rural districts of that particular locality.

AMEBIC DYSENTERY.

In the South there seems to be no difference as to susceptibility between the black and white races, and while amebic dysentery is probably more frequent in the negro than the white, this is undoubtedly due to more frequent exposures.

Amebic abscess not infrequently affects negroes. I have operated on six cases in negroes, all but one being males.

HOOKWORM DISEASE.

While it is probable that in the South negroes are more frequently affected with hookworm disease than are whites, they possess a relative immunity to the effects of the infection; hence the carrier problem, as in malaria, is a weighty one.

ON THE SUBJECT OF THE ABORTIONIST.*

By J. LAWN THOMPSON, A. M., M. D.,
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The subject to which I wish to call your attention tonight is one that has attracted the attention of the world at large, and the medical profession in particular, since almost the beginning of time. We date our interest in the subject from the moment that the Hippocratic Oath had its inception, "I will not give to any woman an abortive pessary."

The subject of the abortionist and why he has flourished so long has always been of pe-

*Read before the George Washington Medical Society.

cular interest to me, from many standpoints: 1st. Because I cannot explain any one embracing our noble profession, deviating so widely; 2nd. I cannot understand the lax law in regard to these moral lepers; and, lastly, I would ask: What is the matter with the medical profession and our societies?

I will answer the last first. We are *cowards*. We congregate in dark corners and discuss one who has the odium cast upon him; we will pass his name from mouth to mouth until an entire community is familiar with his name; but there the matter stops; no steps are taken to bring the culprit to his just dues.

And the Law: When I first thought of this subject, it was the legal aspect upon which I concentrated my attention,—but what's the use? According to the Common Law, criminal abortion is only a misdemeanor, and in some countries, not even that, when the consent of the woman is given. The states of our glorious Union are thoroughly protected by statutes; page after page, legislation after legislation cover the field, but each statute is so impregnated with technicalities that a conviction seems almost impossible. Stealing a loaf of bread for starving ones is punishable in the Courts; manslaughter calls for fifteen to thirty years' imprisonment, usually the minimum; drunkenness, according to the number of offenses, subjects one to the workhouse, and still the abortionists thrive, grow rich and die with the stigma upon them, but they go through life unmolested. What good are our statutes? Many states only consider the deed criminal after quickening has taken place. Perish the thought! The statutes presume to place a time limit for the destruction of God's handiwork! The intent in stealing the loaf of bread may not be considered, still one must always prove the intent in order to prosecute the abortionist. Dying declarations are admitted in some states only. When they are admitted there are so many stipulations that as a rule they are useless; they must relate to facts and not to mere matters of opinion or belief, and must be confined to the circumstances connected with the act resulting in death. As outside of the legal sphere, can you appreciate these instances State *versus* Baldwin, 79 Iowa, p. 714-45, 297.) Declarations to the effect that he (defendant) "is the cause of my death," "he is my murderer," "they abused me terribly," are not admissible, since they are considered mere expressions of opinion.

In *Montgomery versus State* (80 Ind., 338), it was held that the declaration of a woman in extremis to the effect that the operation was performed to produce an abortion was not permissible as it was ruled as an opinion. However, in *Main versus People*, the court held that a statement by the woman that the defendant performed an operation upon her was permissible, as it was a statement of a fact and not an expression of an opinion. In England a recent law has been enacted "and where the woman dies as the result of criminal abortion, the charge shall be first degree murder." The *British Medical Journal* justly criticizes such legislation, as no jury would arrive at such conclusion, for there can never be evidence to prove the intent to kill, the inference in regard to the intent being that the party or patient will be benefited; therefore, the defendant is usually acquitted. Seaman and Hawkins (attys.), in a symposium read before the Medical Society of Denver, discuss the legal side of this question as best they can, but, as Hawkins says, he marvels at the laxity of the law, and on looking over the records finds only five prosecutions in over thirty years, one of whom was imprisoned for twenty-four hours, and one for thirty days. No other convictions! No one is convicted in Colorado unless the victim dies, and no abortionist has crossed the threshold of the penitentiary in ten years. No wonder he says that Denver is the Mecca for the abortionist. Seaman laughs at the statute, winding up as follows: "The law shall be enforced unless it appears that the miscarriage was performed or attempted under advice of a physician or surgeon with intent to save the life of such woman or to prevent serious or permanent bodily injury to her."

I will not bore you longer with the legal data; it is always the same. The guilty creatures usually have sufficient funds and influence to elude the law for years. The foreman of the jury, the State's Attorney, the Judge himself, may be his clientele. But right here in this room, or anywhere, where there is a body of medical men, there lies the reason why this nefarious practice has been allowed to flourish for so many centuries. It is up to us—we, who are in our prime—to start a blow that will be felt forever. It is up to us in this enlightened period to start the avalanche of eradication that will gain such impetus as time goes on that it will leave a clean name for our children to glory in.

The State Board of Michigan in 1881 organized a committee to investigate the subject of criminal abortions. "This committee attributes the prevalence of criminal abortions to the morbid sentiment, which exists in communities, that winks at, palliates and defends the practice, claiming that woman has the right to destroy the product of conception as she would submit to an ordinary operation for the removal of a growth or tumor of any kind, and that the wretched abortionist is not only a necessary member of society but a benefactor. Entertaining these views, the pregnant woman often calls upon her medical adviser to produce abortion as coolly as she would apply to the dentist for the extraction of a tooth. Legislators, police officers and juries entertain this idea to such an extent that in many instances they attribute the charges to the work of the reformer or fanatic. Coroners' juries have even prohibited the necessary investigations, even when informed by responsible physicians that there was just cause for suspicion, thus permitting the murderer to escape and continue his homicides in almost perfect safety." And why should not the laity look upon this subject in that light? They see daily advertisements of supposed experienced physicians, of medicines guaranteed to bring on delayed menstruation. Their friends tell them of Doctor So-and-so "who will operate, so that they may go to a reception the same day." They pity the unfortunate unmarried girl, and in their pity would kill the unborn child, yet would hesitate long before shooting the man who seduced her. And worst of all, the family physician,—he is too honorable to perform the deed, but tells her where to go, promising to look after her during the period that follows. Realize, friends, that this last mentioned is most culpable of all. He is a party to the cause; he is jeopardizing the life of his patient; he is throwing temptation in the way of the poor degenerate who holds a license, and may be misguided. I say, he is as guilty as the one who does the deed. The medical schools are adding to their curriculum every year. We are taught all the most modern methods of performing abortions for given purposes, but there have come under my observation no lectures or parenthetical remarks upon the morals of this subject. We are turned out into the world to find these things as best we can, and today the theological and medical ideas of the

necessity for abortion are as far apart as is the Atlantic from the Pacific Ocean.

As far as the remedies for this pernicious practice are concerned, they are manifold, and being manifold there is all the more reason why we should be censured. Many of the remedies are simple, some complex, but all are resolved into one fundamental principle,—*co-operation*; co-operation among doctors, among societies and with the legislators. Consider first the man. The abortionist usually is one of two classes: the natural criminal, or the moral weakling who dreads the time of waiting for legitimate practice, with the resultant absence of pecuniary recompense.

In the case of the weakling, help him, or rather be ready to help all recruits to our ranks. Educate him, while he is still studying by lectures upon the moral aspect of this subject, thus implanting in him the loathsomeness of this practice, or, if you will, the effect in the eyes of the Supreme Being. Let our professors of obstetrics and gynecology punctuate their lectures with the beauties of an untarnished name, and let them lay as much stress upon the criminality of abortion as they do upon the so-called necessary operations. The lack of income is often the cause of the downfall of the weakling. He may be helped in many ways. In fact, it is our duty to take the new man by the hand and help him along. Let the established man pass over a case once in a while; let the municipal positions be so arranged that the term of office be for a few years only, thus giving the beginner hope. As soon as one is able, let him turn loose some of his little "jobs." Physicians to the poor, police surgeons, physicians to schools, life insurance and minor Government positions, are all a mere pittance to an established man, but to the beginner, it means bread and butter, and maybe an honorable name.

Concerning legislation:—Here in our National Capital, right at the door of Congress, we have a wonderful chance to use our influence. What a record it would be, and what an addition to the already good name of this old college, if our society could start legislation to stamp out this practice! To go down in the National records as being prime movers in concerted action against these un-apprehended murderers! Some might say that it would be impossible to obtain legislation sufficiently effective or practical. Look over the statutes and you will note that when the lawmakers

wish, they can accomplish anything. There has recently been passed by Congress a bill requiring physicians and druggists to keep a record of drug habitues, such record to be open to inspection by health officers, drug inspectors, and Internal Revenue officers. In the District of Columbia one is permitted to act as informer against any supposed house of illfame, no mention being made of the informer's name, the department ferreting out the charges. West Virginia recently passed an habitual criminal law, and immediately upon its passage two men were given a life imprisonment for holding up a man and robbing him of a dollar. We are compelled by departments of health to report communicable disease. Let this wonderfully conducted department go one step further, making a law demanding the report of all cases of abortion coming under the physician's observation, whether criminal or otherwise. Let the name of the woman be given,—the good woman will not care; the other one will hesitate at having her name on the records labeled "induced." Could we have legislation prohibiting the advertising of emmenagogues, so commonly seen in our newspapers, church papers, and periodicals of all kinds; could we revoke the license of the advertising doctors, instill into our women patients the dangers of abortion to them physically, have suitable maternity hospitals in which these unfortunate women could go in secrecy, their children to be taken care of later, a great step would then be taken. These certainly are simple methods, provided there is co-operation. Lastly, I would suggest that a committee be empowered by an act of Congress, through the aid of the medical societies, to investigate one who is reported to be an abortionist, and, upon the report being found to be true or well founded, that he be dismissed from all societies, his dismissal published in the daily papers and subsequent prosecution in the courts; this to be financed by the municipality with no obligations against the informer,—for so long as there is danger of our pocketbooks being attacked, so long will the abortionist thrive. The law demands that we report or mention as a witness any criminal act that we may see; should we conceal any knowledge or do not voluntarily report such observations, we are held a party to the cause. Still, *we talk of So-and-So* as an abortionist, but protect him by our silence. When a doctor's name becomes public property, when there is odium cast upon

him, let us ask him to resign from our medical organizations, thus letting him know we suspect him and do not sanction his actions. Pity the unfortunate woman, but also pity the unborn child. Have no pity for the married woman who wants an abortion performed for her various selfish motives. Realize that by education in the schools, through the press, from the pulpit, we can, by concerted action, demand legislation which will some day rid the medical profession of its one great blot,—a blot that has disgraced every man's diploma for centuries,—a blot that no other profession has to contend with. Realize that a few active, honest men can start an avalanche of eradication that will make our children proud of us. Above all, it is up to the present generation to put a stop to this traffic in human life which has flourished for so long a time.

The Cumberland.

Conference on Infantile Paralysis.

Public health experts from nearly forty states with officials of the U. S. Public Health Service held a conference in Washington, D. C., August 17 and 18, for the purpose of drawing up a code of regulations for combating the further spread of infantile paralysis by interstate travel and for discussing methods of co-operation in the study of causes and treatment of the disease. This was done with a view to suppressing the advance of the disease before next summer as well as helping the present situation. Many of the experts were free to admit that they knew little of the cause of the plague and its means of transmission. Recommendations were adopted for the control of infantile paralysis and a standing committee was named to study its causes.

Dr. Ennion G. Williams, State Health Commissioner of Virginia, who attended the conference, called a special meeting of health officers and other physicians in this State on his return, to discuss the prevention of the plague. A number of health officers from all parts of the State were in attendance.

The advisory committee of the board of health of New York City announced with confidence on the 18th of this month that the disease had begun to wane in that city, their conclusions being based on comparative figures of deaths and cases in previous weeks.

The County Society.

This Department is conducted by the Committee on Component County Societies at considerable trouble and expense, and a copy of the Journal sent to members of the local societies and to the doctors of the unorganized counties. All of this is done for the purpose of interesting you in the work, which we take to be a great one, and of getting your aid in promptly completing the organization, and developing the usefulness of the societies already chartered. The committee hopes you will read each word that is written, and show your interest by co-operating in every possible way.

The Committee is composed of Drs. Southgate Leigh, chairman, R. S. Griffith, T. V. Williamson, C. P. Jones, E. H. Terrell, Joel Crawford, G. A. Stover, J. R. Garrett, D. M. Kipps, Stephen Harnsberger and W. H. Ribble, Jr.

The Committee will be glad to answer all inquiries addressed to 109 College Place, Norfolk, Va.

Extracts From the Address of President Wallis, of the Arkansas State Society.

The time is ripe for concerted and effective action all along the entire line. Standards of medical requirements are being steadily elevated. The men now entering the profession represent a degree of culture yielding the flower of manhood; more difficult curriculum and more rigid legal requirements are contributing to place the profession in future on a higher plane than ever before. A unified profession at this time could achieve magnificent things for humanity. But to do this, we must work in harmony, each giving to the other whatever of advantage he may have to contribute for the common weal. Banish paltry bickerings! Forget puerile jealousies! Recall the Aesculapian oath and reconsecrate the best that is in you to the uplift of the profession and the progressive betterment of your fellow-man.

It is "personal work" that we need, and it is "personal work" only on which we can rely for success in this certain rejuvenation. Let every secretary and every president of every county society make this solemn resolution: "I will go to work, and keep working, for the good of my society, my fellow-man, and for humanity, until I have every deserving man in my county within the bounds of my society."

Get in touch with every deserving man in your county immediately. Impress upon him that *he needs* the benefits association confers, and that *we need* his presence and influence.

A chain is just as strong as its weakest link.

The State Society is made up of the county societies. Every county society is a link in the chain; therefore, the strength of the State Society depends on the strength of the units composing it. Put vim and vigor into them. To keep alive interest in the State Society it is essential that the interest of every member be kept alive in his county society. The monthly meetings must be made worth while; there must be preparation. Members who will work and not shirk should be assigned to prepare papers for the next meeting. A Program Committee should be appointed in every county society, and if it does not prepare acceptable programs it should be superseded by a committee that will do so.

It is not a difficult matter to induce physicians from other places to visit your county society and read a paper. Also, there is local talent in every community capable of preparing good papers. There should always be cases of interest to report. No county society can flourish and be of any real service merely by meeting at stated intervals and indulging in perfunctory remarks with no prepared program.

The social features of the meetings should not be neglected. Societies meeting monthly should make it a rule to introduce some social feature into every quarterly meeting. The members of the county medical societies might assess themselves a small amount to provide refreshments for quarterly meetings. Local talent is always willing to oblige with a song or recitation. There are many ways in which such meetings may be made attractive. And, if the regular meetings are made useful to the members, if the county society shows evidence of really doing something, there will be no difficulty in procuring new and desirable members. They will apply for admission themselves.

Extracts From the Councilor's Bulletin.

Wherever we see a harmonious and enthusiastic medical profession there we behold a community, whether it be a town, city, state or nation, where the science of medicine has reached a high degree of perfection and is constantly advancing; where by concerted effort, numerous facts and observations, being carefully garnered, systematized and correlated, valuable outposts are established in the rapidly

diminishing regions of the unknown. Under such favorable conditions we find the profession inspired by high ideals and incited to nobler efforts by that generous rivalry, which impels men to advance their interests by developing their powers and skill to the highest possible extent, rather than by dark, devious and dishonorable methods, trying to overthrow their competitors and build their own success on the ruins caused by the downfall of others.

In such highly favored places, we find a noble spirit of brotherhood, and a practical application of the Golden Rule which, like a glorious sun, illumines the minds and souls of men, and while away the mephitic shades of hatred, envy, jealousy and all dishonorable dealing, warms into life, love, friendship, and a spirit of helpfulness that elevates all and injures none. Animated by such principles as these, a doctor would no more think of securing the patients of his competitors by dishonorable and unprofessional methods than he would think of robbing his neighbor's house or burglarizing a store.

Meetings of Local Societies: Some Societies have adopted the excellent plan of having a meeting divided into two parts, the first for members only, and the second to which the public is invited. By appropriate papers and discussions the public is brought in closer touch with the profession, and made more willing to co-operate in matters of mutual interest and benefit.

Chartered Societies which have not been holding regular meetings are urged to get together promptly for the election of officers, collection of dues, outlining your plan of work, and bringing in all eligible non-members. You should not be content until every reputable doctor in the county has been induced to join. Otherwise you are failing in your duty to yourself and to the profession of the state.

All general societies, such as the A. M. A., Southern Medical, Tri-State, etc., require applicants to be members in good standing in their local societies.

A well organized and active local society

can accomplish much good for the community, in the local sanitary and preventive work.

The Chairman of the Organization Committee recently attended a conference of the field staff of the State Board of Health, and was assured of their active co-operation in completing the organization of the local societies.

Notice to Delinquents: In the Transactions of the State Society, just issued, appears a full list of the members of the County Societies, whether they are delinquents or not for their state dues. Every effort is being made to clear up all misunderstandings in reference to this matter. After the Fall Meeting, however, it will probably be necessary to drop all delinquents, who will thus lose membership in their local societies and automatically in the state and national organizations. *Please settle at once with your local treasurer.*

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Eros—The Development of the Sex Relation Through the Ages. By EMIL LUCKA. Translated by ELLIE SCHLEUSSNER. G. P. Putnam's Sons, New York. 1915. Price, \$1.75.

With the advent of the Freudian school, which places "the sexual" in its broadest sense as the fundamental basis for many, if not all, functional nervous manifestations, the subject of sex has become of absorbing psychological interest. For this reason the appearance of E. Lucka's book on the development of the sex relation is timely and welcome. The author not only presents a historical tracing of the subject of his thesis, but also a psychological insight of the conception of love. He develops three important points:

First, love is not a primary but an evolutionary instinct. Second, psychogenetic laws took the place of biological laws. Third, in contradistinction to woman, whose emotions have not undergone changes through the ages, man's emotions on the contrary are essentially evolutionary.

The development of the erotic life with its

sexual impulse is considered by the author historically in three subsequent stages. The first is characterized by an irregular sexual instinct; the second by a conflict between spiritual and sexual love; the third by blending of the latter two, which the author considers as "a force embracing the psycho-physical entity of the beloved without any consciousness of sexual desire."

Lucka finds in Wagner's operas illustrations of his three successive stages, namely: "The Fairies," "Tannhauser," "Tristan and Isolde," in the order named. In "Parsifal," however, he finds a fourth stage, a sort of sublimation of our modern ideal in which love is free from all sexual feeling, but which mankind has not yet reached. The book is written in a fascinating manner and the translation is excellent.

ALFRED GORDON, M. D.

Editorial.

Report Your Births, Deaths and Preventable Diseases.

The reports of the Bureau of Vital Statistics, issued monthly, besides presenting a statement of the preventable deaths, contain each a brief article on some fact brought out by a study of the Virginia reports. Their purpose is to educate the public into the value and necessity of accurate and complete registration of births and deaths.

Remarkable as it may seem, when dealing with physicians, who are to be looked upon as painstaking scientists, interested in doing their best for their patrons, as professional men should only perform any task, there is still a small minority of men who systematically ignore the laws of their State by failure to report births and to give assistance in recording the correct causes of death.

The State Registrar has adopted the method of systematically educating the people around such physicians by mailing them these extra bulletins, leading them to reason out for themselves whether or not the man who fails to afford them the protection of birth and death registration is performing his full duty as family physician. In a number of cases the patrons themselves have strongly demanded that they perform this little duty, and have even

for this neglect been induced to discard their former medical attendant.

In a few instances, physicians have shown themselves so willfully disregarding of the law, and so closed to reason or persuasion, that steps are now being entered upon to enforce the law against such offenders. A field man has been secured by the Bureau of Vital Statistics, and is now engaged in procuring evidence for conviction of the worst offenders. These cases will probably receive unpleasant newspaper notoriety. The *Semi-Monthly* would urge upon every physician who has respect for himself and interest in his patients to give them this protection, at the same time obeying the law of the State and aiding the Board of Health in its great work.

The Association of Surgeons of the Chesapeake and Ohio Railway

Held its third annual convention at Hotel Chamberlin, Old Point Comfort, Va., August 18 and 19, with an attendance of over 100 surgeons, and an equal number of wives and children accompanying. The Association President, Dr. Southgate Leigh, of Norfolk, Va., presided over the sessions which began in the morning with prayer by Major Pruden, Chaplain of Fortress Monroe. Hon. Henry Houston, speaker of the Virginia House of Representatives, in his usual happy style then welcomed the visitors to the State and particularly to the Eastern Section, being followed by Dr. Wm. G. Russell, Medical Director of the Chamberlin, who extended an invitation to the Hotel and especially to the Medicinal Bath Department, to which, he said, admission would be free for the Surgeons. Response was made for the surgeons by Dr. Jas. B. Taylor, of Branchland, West Virginia, who referred with appreciation to the plans that had been made by the C. & O. Railway through its Chief Surgeon, Dr. W. T. Oppenheimer, and the Secretary, Mr. L. G. Bentley, for the comfort of the Company's guests. It was a matter of much regret that neither Mr. Geo. W. Stevens, President, nor his son, Mr. J. P. Stevens, General Manager, were able to be present to address the Association as had been anticipated, both having been unavoidably detained at the last moment.

The sessions, on the first day, were given over entirely to business and the reading of

scientific papers and their discussions, in which latter several prominent invited guests also took an active part. The second day was devoted purely to pleasures, among which may be named a visit to the Aviation Station and Newport News Shipyard, at which place the party witnessed the launching of a Mallory Ocean Line steamship. After this, Fortress Monroe was visited and "guard mount" witnessed. A dance at The Chamberlin on Saturday evening concluded the entertainment.

Officers elected for the ensuing year are as follows: President, Dr. C. R. Enslow, Huntington, W. Va.; Secretary-Treasurer, Mr. L. G. Bentley, Richmond, Va.; Vice-presidents, Drs. J. C. Wysor, Clifton Forge, Va.; A. B. Elliott, Caperton, W. Va., and C. A. Fish, Frankfort, Ky.; Members Executive Committee, Drs. Southgate Leigh, Norfolk, Va., and S. G. Smelser, Richmond, Ind.

The Chamberlin Hotel, Old Point Comfort, Va., was again selected as the place of meeting for 1917.

Concerted Study of the Internal Secretions.

The Association for the Study of the Internal Secretions, recently inaugurated during the session of the A. M. A. at Detroit last June, has commenced its activities with a charter membership of more than 250 physicians and laboratory workers in the United States and elsewhere, including a number of Virginia's leading physicians.

The object of this new organization is "to collect, collate and evaluate the material published in this field" and this will be a means whereby the interests of those who understand the importance of the internal secretions in both physiology and clinical medicine, can be correlated and advancement will undoubtedly follow such concerted cooperation.

An Organizing Committee consisting of the following members is taking care of the preliminary work of establishing the Association on a firm and satisfactory basis: Dr. G. H. Hoxie, Kansas City, Chairman; Dr. Llewellys F. Parker, Baltimore; Dr. Judson Daland, Philadelphia; Dr. L. R. DeBuys, New Orleans; Dr. Emil Goetsch, Baltimore; Dr. John B. Potts, Omaha, and Dr. Henry R. Harrower, Glendale, Los Angeles, Cal., Secretary.

It is planned to produce a bulletin which will cover the interesting and highly profitable

phase of medicine which relates to the glands of internal secretion. Further information may be obtained from the Secretary.

The American Association for the Study of Spondylotherapy

Will hold its annual convention at Chicago, Ill., September 18-21, under the presidency of Dr. F. J. Bomberger, Mapleton, Minn. At this session will be presented essays covering the advances in Spondylotherapy, Electronotherapy, Reflexotherapy and Physical Therapy. All members of the medical profession interested in the above advanced diagnostic and therapeutic methods are invited to attend this session. It will be a true post graduate course in the latest methods of eliciting the spinal reflexes and their proper adaptation to therapy. With these new methods syphilis, tuberculosis and malignancy can easily be diagnosed in their different stage.

Further information may be obtained by addressing the Secretary, S. E. Bond, M. D., Richmond, Ind.

U. S. Public Health Service Medical Corps Enlarged.

Congress has recently made an appropriation for 33 additional Assistant Surgeons in the United States Public Health Service. These officers are commissioned by the President, and confirmed by the Senate. The tenure of office is permanent, and successful candidates will immediately receive their commissions.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Passed assistant surgeons, after twelve years' service, are entitled to examination for promotion to the grade of Surgeon.

Assistant surgeons receive \$2,000, passed assistant surgeons \$2,400, surgeons \$3,000, senior surgeons \$3,500, and assistant surgeon-generals \$4,000 a year. When quarters are not provided, commutation at the rate of \$30, \$40, and \$50 a month, according to the grade, is allowed. All grades receive longevity pay, 10 per cent. in addition to the regular salary for every five years up to 40 per cent. after twenty years' service.

Examinations will be held every month or so in various cities, for the convenience of can-

didates taking the examination. Further information will be furnished by addressing the Surgeon-General, United States Public Health Service, Washington, D. C.

Dr. and Mrs. I. Keith Briggs

And little daughter have returned to their home in South Boston, Va., after touring the Valley of Virginia. While away, they attended the Berryville horse show and visited in Richmond and Washington.

Married—

Dr. Zebulon Vance Sherrill, Marion, Va., and Miss Sadie Le Grand, Keysville, Va., August 15.

Dr. Paul Davis, Roanoke, Va., recently an interne at Virginia Hospital, Richmond, and Miss Estelle Nichols, formerly of Asheville, N. C., in Richmond, Va., August 16.

Dr. R. W. Martin, Jr.,

Lynchburg, Va., was recently registered at Buffalo Ridge Springs, Va.

Dr. and Mrs. William S. Gordon,

Of this city, have been spending the month of August at Nimrod Hall, Va.

Johns Hopkins Disapproves of Twilight Sleep.

After more than a year's use of the twilight sleep method in childbirth at Johns Hopkins Hospital, it has been decided that the method can only be safely used under exceptional conditions. The scopolamine has been found to cause almost complete cessation of muscular activity on the part of the mother, and an almost general result was a partial asphyxiation of the child, making artificial respiration necessary. In the past few months, when requests were made for the application of this method, the patients have been told of the dangers and, in nearly every case, they have decided against the use of the scopolamine.

Dr. and Mrs. Mark W. Peyser,

Who have been on an automobile tour in the North, stopped for a short stay at Massanetta Springs, this State, before returning to their home in this city.

Dr. Victor V. Anderson,

Formerly of Lynchburg, Va., but for the past few years of Cambridge, Mass., has been appointed in charge of the Medical Department and Psychological Laboratory of the Boston Police Corps.

Dr. Samuel Saunders,

Formerly of this State, but recently of the U. S. Public Health Survey, stationed at Rome, Ga., his wife and small child, had a narrow escape from death July 31, when Dr. Saunders' car turned turtle in passing another car at a bad place in the road. This is the tenth accident to happen at this same point. The occupants were caught under the car but did not suffer serious injury. The car was damaged to the extent of a broken top and wind-shield.

Dr. C. C. Coleman,

Of this city, while on his vacation, suffered from an infected hand which caused him to go to Lewis-Gale Hospital, Roanoke, Va., for treatment. We understand he is much improved and able to continue on his summer outing.

Dr. Ira J. Haynes,

Of this city, who is well known as representing W. B. Saunders, in this section, returned home about the middle of August. He left Richmond June 4 for Detroit to attend the A. M. A. meeting and stopped at a number of places in his return trip.

Dr. W. D. Moser,

Burlington, N. C., recently spent a week each in Richmond and Norfolk, Va., studying anesthesia.

Dr. A. K. Gilmer,

Lebanon, Va., was a visitor in Richmond about the middle of the month, having brought a patient to a local hospital.

Dr. E. Y. Willis,

Of Montgomery, W. Va., is planning to move to Virginia—probably to Culpeper.

Dr. A. H. Deekens,

Formerly of Madison Heights, this State, has moved to Fredericksburg, and is occupying the offices of the late Dr. A. C. Doggett, of that place.

Dr. R. Lindsay Robertson,

Of Charlottesville, Va., was recently operated upon for gastric ulcer at Johnston-Willis Sanatorium, this city.

Dr. George Divers,

Buena Vista, Va., expects to move to Mt. Airy, N. C., to assist Dr. Moir S. Martin in his hospital at that place.

Medicine as a Civilizer.

The Philippine Government, co-operating with the International Health Board of The Rockefeller Foundation, is to send a hospital ship to one of the archipelagoes of the Philippines which is inhabited by approximately 200,000 Moros and other savage tribes, the service to be maintained for five years. This is to be done in an attempt to advance civilization through the medium of medical relief.

Dr. James C. Braswell, Jr.,

Who graduated from the Medical College of Virginia in 1915, has been appointed health officer of Rocky Mount, N. C.

Dr. James A. Speight, Nashville, N. C., succeeds him as whole-time health officer of Nash County, North Carolina.

Dr. and Mrs. Roy K. Flannagan

Have returned to their home in Richmond after a visit to Amelia County, Va.

At White Sulphur Springs.

Drs. Joseph A. White, Richmond; B. R. Kennon, Norfolk; B. L. Traynham, Sweet Chalybeate, Va.; William H. Wilmer, Washington, D. C., and J. A. Arbuckle, Elkins, W. Va., are among the doctors recently registered at White Sulphur Springs, W. Va.

Dr. N. G. Wilson

Has been re-elected to the position of physician of the Police Relief Fund Association, of Norfolk, Va.

Yellow Fever Commission in South America.

Surgeon-General William C. Gorgas, U. S. A., head of the yellow fever commission of the International Health Board of the Rockefeller Foundation, with his staff, arrived in Bogota, Colombia, from Panama, August 10. They will consult with government officials of the countries they visit with regard to the yellow fever situation.

Dr. and Mrs. James P. Roy,

Richmond, have returned home after a visit to Atlantic City.

Hospital Train for Army Work.

We note from the daily papers that the first hospital train to be built for the United States Government has been constructed by a Chicago firm and sent to San Antonio, Texas. It was built especially for army hospital work and consists of ten coaches. It has a service or

combination surgical car which is in itself a thoroughly equipped operating room, six cars for patients, one standard Pullman, a combination baggage and library car and a kitchen.

Dr. and Mrs. Roshier W. Miller,

Of Barton Heights, this city, have been on a two weeks' visit to relatives in Philadelphia.

Miss Alice C. Hinckley,

Who has a class in this city for the individual development of physically and mentally retarded children, is taking a special course in this work at the Psychopathic and Massachusetts General Hospitals in Boston. She has also been honored by a standing invitation from Dr. Cushing to attend his brain operations at the Peter Bent Brigham Hospital, that city.

Dr. Thomas R. Evans,

Of Eskdale, W. Va., was among those who suffered losses by the flood on Cabin Creek, early this month. With about a dozen others he was marooned in the Y. M. C. A. Building in that place. The water rushed through the first floor of the building with sufficient force to tear out windows and sides of the building and to wash away a piano and pool table. The doctor's boarding house was washed away and his trunk and many valuable papers lost.

Dr. G. C. Rodgers,

Of Elkins, W. Va., we regret to note, has been quite ill at his home with aggravated gastric disturbance.

The Child Labor Bill

Was accepted by the House August 18, with the Senate amendments, and will become a law one year after President Wilson signs it. As amended, it prohibits interstate shipment of "products of any mine or quarry employing children under 16, and products of any mill, cannery, workshop, factory or manufacturing establishment employing children under 14, or which employs children between 14 and 16 more than eight hours a day, more than six days a week, or earlier than 6 o'clock in the morning or later than 7 o'clock in the evening."

Dr. J. M. Spencer,

A graduate from the Medical College of Virginia in the class of 1916, is located at Longdale, Va.

Dr. V. W. Quillen,

Formerly of Toms Creek, Va., is now located at Coeburn, Va.

Dr. W. P. Hoy

Has been made a police commissioner of Petersburg, Va.

Dr. Sien Wing Woo,

A graduate of Johns Hopkins University and also the School for Health Officers of the Boston School of Technology and Harvard, recently visited this city while on his tour of some of the larger American cities to obtain practical information on the subject of public health matters. He will later return to China to apply his American public health ideas.

War on Malaria.

The International Health Board of the Rockefeller Foundation, assisted by the Mississippi Board of Health and Tulane University Medical School, has inaugurated a set of experiments at Bolivar, Miss., to test the practicability of malaria control by detecting the carriers and freeing them of the parasites.

Dr. and Mrs. Lawrence T. Price

Have returned to their home in this city after an automobile trip which included visits to a number of resorts in the western part of Virginia.

Dr. and Mrs. R. U. Burgess,

Of Norfolk, Va., were recently registered at Natural Bridge, Va.

Dr. and Mrs. D. A. Kuyk

Have returned to their home in Richmond, after an extended stay in the North.

For Sale—Complete office equipment, instruments and one of the finest medical libraries in the State of Virginia, which belonged to the late Dr. W. B. Payne, of Covington. Residence with offices adjoining will be sold if desired. For particulars, write to *Mrs. W. B. Payne, Covington, Va.*—(Adv.)

For Sale—Betz static machine, Betz sinusoidal apparatus, dry cell wall plate, Wappler portable X-ray and high frequency machine, one large vibrator, revolving instrument cabinet, adjustable examining chair, massage tables, etc. \$250 for entire outfit or any item sold separately for one-third catalog price. Address *Mrs. M. R. Slaughter, 1421 Harrison Street, Lynchburg, Va.*—(Adv.)

Obituary Record.**Dr. John Benjamin Murphy,**

Of Chicago, one of the world's most renowned surgeons, died suddenly from heart trouble while on his summer vacation at Mackinac Island, Mich., August 11. He had not been well for several months, which fact was considered in part to be due to the poisoned soup of which he partook at the banquet given Archbishop Mundelein, in Chicago, last winter.

Dr. Murphy was born in Wisconsin in December, 1857, and received his medical diploma from Rush Medical College in 1879, and several years later took a course of study in Germany. He was a member of numerous medical societies and had received some of the most distinguished honors which could be accorded a surgeon. He was an ex-president of the American Medical Association and the Clinical Congress of Surgeons of North America; he had recently been knighted by Pope Benedict for researches in surgery and had received a number of honorary degrees from universities. His operating clinic at Mercy Hospital, Chicago, had been visited by surgeons from all parts of the world. Dr. Murphy was professor of principles and practice of surgery in Northwestern University Medical School and professor of clinical surgery in the Chicago Post-Graduate Medical School. His invention of the "Murphy button" in the early nineties brought him into a prominence which, in connection with his other great work, will cause his name to always be remembered along with those who have accomplished the greatest things in the field of medicine and surgery.

Dr. Marvin Dibrell Parham,

Of Church Road, Va., a prominent citizen and physician of Dinwiddie County, died at the Petersburg Hospital August 16, aged 79 years. He lost his wife three days previously. Dr. Parham was a graduate of the Medical College of Virginia in 1860 and joined the Medical Society of Virginia in 1906. His daughter and one sister survive him.

Dr. Albert Neisser,

Professor of skin and venereal diseases at the University of Breslau, Germany, died recently at the age of 61 years. He was the discoverer of the gonococcus named after him.

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ETIOLOGY AND PATHOLOGY OF PEPTIC ULCER.*

By S. W. DICKINSON, M. D., Marion, Va.

Since "the abdominal cavity has become the playground of the modern surgeon," this once *terra incognita* has been so accurately mapped and the symptom-complex of the diseases of the abdominal organs so well worked out that a well defined and easily recognized pathological picture may now be quickly and accurately made of diseased conditions which only a few years ago were unrecognized. Naturally, we think of appendicitis, but we have only to go back of 1830 to find ulcer of the stomach looked on as a *post mortem* curiosity, and unrecognized until in that year Cruveilhier gave his masterly description of this disease. Even after Cruveilhier had written again in 1856, and Wm. Brinton, of London, in 1856 and 1857, had by his statistical research, careful observation, and collection of facts that are still quoted as authoritative, done so much to give precision to our knowledge, ulcer of the stomach seems to have attracted but little attention.

In his Practice of Medicine, 5th edition, published in 1858, volume I, page 573, Dr. Geo. B. Wood, the greatest American teacher of medicine in his day, says: "During more than 20 years in which I have been physician of Pennsylvania Hospital, I have not met one fatal case of simple ulcer of the stomach; and my colleague, Dr. Pepper, assures me that his experience corresponds with my own. Nor have I seen, in the same institution, more than four cases in which the symptoms authorized the inference that they might proceed from simple

ulcer of the stomach, and of these two at least were foreigners." He also says that in private practice "instances of the kind are exceedingly rare." Compare this with Ewald, of Berlin, who, writing in 1910, claims to have seen 1250 cases of gastric ulcer in 12 years in his hospital and clinical work, not counting private cases. Naturally, we may ask how many of us, like Drs. Wood and Pepper, are, must be, letting cases of peptic ulcer pass through our hands unnoticed and untreated, certainly if they are as numerous as Ewald, Kemp and others make them.

Peptic ulcer is a solution of continuity of the mucous membrane of the stomach or duodenum, often involving also the muscular and peritoneal coats, producing a funnel-shaped opening which may or may not either perforate the walls of the organ involved or cause adhesion to contiguous organs. Since in 90 per cent. of the cases it is impossible to tell whether we are dealing with a gastric or duodenal ulcer and their etiology is practically the same, they have been very properly classed under one head as peptic, or digestive, ulcer.

As predisposing causes we may consider age, sex, occupation, and anæmia and chloroses. *Age*: Cases of both gastric and duodenal ulcer have been reported at all ages from thirty hours after birth to extreme old age.—over 80. Joslin gives the average age for men as 37 and women 27. Kemp says gastric ulcer is most common between 20 and 40 in females, and in males between 40 and 50, and, being a chronic trouble, the highest death rate as given by Ewald is from 40 to 60, duodenal ulcer causing death at an earlier average age. *Sex*: Sixty per cent. of cases of gastric ulcer are said to occur in females by Welch, and Brinton claimed it was twice as common in women as in men. On the other hand, duodenal ulcer is more common in men than in women; some

*Read before the Southwest Virginia Medical Society, at Radford, June, 1916.

authorities state in the proportion of 5 to 1, others 3 to 1. *Occupation*: Whether occupation has anything to do with causing ulcer has been questioned, but it is claimed that it is more frequent in shoemakers, saddlers, tailors, needlewomen and washerwomen, owing to the position they occupy when at work, and in cooks, weavers, stone cutters, etc., because they swallow irritant substances; but, since poisons and coarse vegetables are not causes of ulcer, and people of all callings have ulcer, we need not consider minor irritants. Anæmia and chlorosis are classed as predisposing causes, especially of gastric ulcer in young girls and debilitated people, but the question may well be raised whether pre-existing ulcer, unrecognized, may not have caused the anæmia and chlorosis, or gastric disturbance ascribed to ulcer without sufficient cause.

Large burns, especially on the abdominal walls, seem to bear some occult causative relation, probably septic embolism, to duodenal ulcer, but these can not properly be classed as peptic ulcers; nor can ulcers of traumatic origin, which should not be overlooked, however, as they may have a medico-legal importance.

Many different and obscure factors have been assigned as causes of peptic ulcers, but when so many theories are advanced we may well assume either that there is some as yet unknown, undecided, or certainly not as yet universally accepted, cause, acting to so lower the vitality in certain local areas of the stomach and duodenum as to cause ulcer. Statements quite contradictory in character are made by writers. Dr. Geo. B. Wood accounted for the "scarcity" of ulcer of the stomach in the Pennsylvania Hospital by the fact that people there "used a diet consisting largely of meats and other forms of animal food;" while Von Sohlern explained the supposed rarity of peptic ulcer in Russia, the Rhine region, the Bavarian Alps, and Finland, as due to the vegetarian diet of these people (rich in potassium salts), who eat meats only on Sundays and holidays. In both instances this assumed rarity was clearly due to faulty diagnosis since Ewald claims "gastric ulcer is quite common" in these European countries, and we know it is in America, where we still eat meat.

Talma claimed pyloric spasm of nervous

origin to be an etiological factor, while Ewald says ulcer caused the spasm and not spasm the ulcer.

Stacton believed that nerve disturbance, as in herpes, may be a factor, and others that disturbance of nerve supply or nerve irritation by producing local arterial spasm may cut off or lessen the local blood supply and so lower vitality in circumscribed areas and tend to necrosis. Weinland maintains that there is found in the gastric mucosa an antibody, an anti-pepsin, which opposes the digestive action of the acid gastric juice, and a deficiency of this anti-body in a certain area leaves the unprotected region liable to injury by gastric juice. The objection to this theory is how to explain this *local* deficiency of antibodies.

Tuberculous ulcers are found, but always in combination with tuberculosis of other organs, and the condition is rare. In 567 cases of tuberculosis of the intestines, Eisenhardt found only one case of gastric tuberculosis, and in nearly 2,000 autopsies of tuberculous individuals Simmonds found only 8 cases.

Syphilis is a recognized cause of ulcer. Engle believes 10 per cent. and Long 20 per cent. of all ulcers are due to syphilis, which Ewald says "is a gross exaggeration." Kemp says, "Gastric symptoms quite frequently occur in the secondary and tertiary stages of syphilis" and quotes, page 392, a number of authorities sustaining his view. Kemp further says a number of cases of ulcer have been reported cured by specific treatment when the usual treatment for ulcer had failed.

While in the normal stomach the mucous membrane is protected, possibly in part by the alkaline blood, but chiefly by the intrinsic vital resisting power of the normal vital cells, it has been assumed that when the acidity of the gastric juice was increased to reach a certain point, it might attack the gastric mucosa and so produce ulceration. But hyperacidity as a cause of ulcer does not occupy so prominent, so unquestioned, a place as formerly, and the question is rather being asked whether it is a consequence or a cause. In the normal stomach hyperacidity is known to be induced by feeding or suggesting food; in gastric ulcer hyperacidity is present as well when fasting; therefore, it is probable that the presence of

an ulcer excites acid gastric secretion, which is often lessened by or after operation. Besides, ulcers essentially similar are found in the esophagus and cecum, where there is no excess of acid. If hyperacidity alone caused ulcer, it would seem multiple ulcers would be the rule and not single ulcer, as is found in 80 per cent. of cases; also, the ulcer should be surrounded by inflamed mucous membrane due to the irritant action of acid gastric secretion, which is not the case; for, while the sphacelus shows molecular decay, there is little or no trace of inflammation. Osler says that while ulcers may exist wherever gastric juice flows, hyperacidity in itself is insufficient to produce ulcer. "Mayo has reported a number of cases without increased hydrochloric acid." Ewald, writing on hyperacidity, says: "In fact, the view that this factor alone is operative is no longer tenable, since it is shown, as we shall later see, that ulcer of the stomach is not invariably combined with increased secretion of hydrochloric acid, but that even a marked decrease may be observed. Therefore, the development of the affection must primarily be attributed to the circulatory disturbance always produced and to the circumscribed tissue necrosis resulting therefrom." Whether hyperacidity may not favor an extension of ulceration once it is started, or at least oppose healing, is a question of practical importance.

A disturbance of the gastric epithelium, or an acute ulceration due to loss of the mucosa from any cause in a healthy stomach is rapidly repaired, but a chronic ulcer behaves differently, indicating that there is some complicating factor acting to prevent it from healing and that complication most probably concerns the blood supply of the limited area involved.

Virchow first suggested that ulceration may result from plugging the nutrient artery to a part of the mucosa by a thrombus or embolus. Others have suggested atheromatous, amyloid or aneurismal disease of the walls of the blood vessels, and it is suggested that stasis caused by spasmodic contractions of the muscles may cause rupture of blood vessels and ulceration.

Bacterial invasion, associated, it may be, with pyorrhœa alveolaris, has been cited as a cause, and especially bacterial emboli of the smallest vessels.

These changes in the blood vessels are all supposed to act by cutting off or lowering the blood supply to limited areas and, when the vitality of the mucosa at these points has been sufficiently lowered, these tissues are attacked by the gastric juice and all necrotic tissue digested and removed down to a point where tissue vitality resists its action, the gastric juice attacking those parts no longer sufficiently nourished. This theory justifies Osler's assertion that peptic ulcer "is essentially a necrosis."

To sum up, we may assume that ulceration involves the following steps: Initial weakness, as in anæmia and chlorosis, or predisposition of the tissues probably due to insufficient innervation, initial injury in the form of abrasion, thrombosis, or necrosis from infection; removal of necrotic tissue by active gastric juice; recovery in a normal stomach, but in the presence of pyloric spasm, or gastric stasis and the continued action of irritating food and secretions, a continuance of chronic ulceration.

Pathology.—Peptic ulcer is a comparatively common disease and is said to exist in 5 per cent. of deaths from all causes, healed or healing ulcers being not infrequently found when they had not been suspected *ante-mortem*.

Location: Not all parts of the stomach are equally liable to ulceration, four-fifths of all ulcers being found on the posterior wall, the lesser curvature, and about the pylorus, and fewest on the anterior wall, writers differing as to the exact proportionate distribution. Duodenal ulcer is found oftenest in the upper two inches, in the ascending part near the pylorus, and less frequently as we get away from the stomach. *In size* they vary, probably according to their age and nature, being sometimes minute and again involving a large part of, or maybe the whole stomach, but are usually about the size of a dime to that of a silver dollar and *very seldom larger than 3 by 6 inches*. *In shape* they are oftenest round or oval, but may be linear, and where ulcers coalesce the shape varies. *In number* they are single in 80 per cent. of cases, and in more than half of the remainder two will be found, and then 3 to 5. Osler reports 34 ulcers in one case. *In appearance* they are described as "punched out," funnel or crater shaped, the upper part, or part in the mucous membrane,

being largest; its floor being formed by the sub-mucous, muscular, or serous tissues, or by adjacent adherent organs according as necrosis or perforation has progressed, and perforation is said to occur in 6 to 18 per cent. of all cases of ulcer.

The acute ulcer is usually small, round, smooth, with clear-cut edges, without induration and increased thickness, and often covered with discolored mucous or with a clot. The chronic ulcer is usually larger in size, with callous margins and irregular edges and often so indurated that if situated at the pylorus it may feel on palpation like a tumor.

When healing occurs it begins after the necrotic tissue has been removed, not by restitution of normal mucous membrane, but by the development of a fibrous cicatricial tissue with a central depression and a tendency to contract, so producing distortion of the gastric wall, especially if the stomach has formed any adhesions to adjacent organs. Cicatricial bands may develop and form the stomach into hour-glass or cucumber-like shapes; or stricture of the esophagus or pylorus may develop.

On the other hand, if the necrosis is progressive, cicatrization does not occur, and then any one or more of a number of complications may arise. There may be erosion of blood vessels and hemorrhage, the amount of hemorrhage depending on the size of the vessel opened, such as the gastric, hepatic or splenic artery, portal vein, etc. If the necrosis extends to the serosa we may have inflammation and adhesions to adjacent organs, or direct perforation into the abdominal cavity and general peritonitis. Where adhesions occur, the necrosis may continue and an opening be made into other cavities, as pleural cavity, and all neighboring organs, according to the seat of the ulcer being exposed to this danger. If the ulcer is on the anterior aspect of the stomach, perforation is most likely to be into the peritoneal cavity. Duodenal ulcer located near the pylorus may end in stenosis and cause dilatation of the stomach. Located in the descending portion, it may cause stenosis of the common bile duct and jaundice, distension of the gall bladder, and inflammatory conditions therein. It may also cause closure, or extension of diseased conditions into the pancreatic duct, which in turn may cause atrophy or other pancreatic disease, as possibly diabetes.

Whether cancer may develop in the floor of an ulcer, especially about the pylorus, is disputed, Ewald holding that in certain cases "there is a gradual but uninterrupted transition to cancer." Kemp says, "I believe it is a frequent occurrence." Other writers hold that cancer of the stomach occurs independently of the presence or absence of ulcer.

I cannot better close the part assigned me in this discussion of peptic ulcer than by this quotation from Ewald: "No matter in what manner ulcer may develop in a pathologico-anatomical sense, it is not an 'ulcer,' but a 'progressive tissue necrosis,' in which the chief characteristic of ulcer is entirely absent, namely, the proliferation of young cellular elements which persistently invade the tissues more deeply and invariably cause new elements to appear upon the surface." The ulcer does not grow by an active process in the tissues with subsequent destruction, but by a passive process. The tissue only becomes actively involved by cellular infiltration which leads to cicatrization."

THE MEDICAL TREATMENT OF PEPTIC ULCER.*

By K. M. FERGUSON, M. D., Marion, Va.

In the medical treatment of peptic ulcer there can be no observance of any inflexible rule; indeed, the more versatile the physician, the more equal he would be to the task of directing the medical treatment of this disease. Acute and chronic ulcer require different management according to existing physical conditions, the course to be determined upon only after a knowledge of the history, symptoms and progress of the particular case. These indications are usually so evident, however, that in the main they are easily fulfilled. It is easy to understand that food which taxes the secretory or motor functions of the stomach is harmful, and that recovery will be more likely to occur if the stomach can be placed at rest. In that type of ulcer where food by mouth causes pain, vomiting and hemorrhage, its withdrawal is the first pre-requisite, and failure is too often due to a lack of observance of this principle, which an ulcer case so often entails. No general rule of feeding, however, can be applicable to all ulcer cases. In fact,

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two opposed methods of dieting are recommended, one the administration of food, the other complete abstinence from food, and both principles commend themselves in properly selected cases. Where food by mouth is the direct exciting cause of pain, hemorrhage and vomiting, it is well to depend exclusively for a time on rectal alimentation.

Saline injections alone are sometimes commended for several days. This plan causes less gastric secretion, and supplies for a time the little that is necessary to replace tissue loss and to keep up the caloric needs. During the administration of food by rectal alimentation, great care should be exercised not to exhaust the toleration of the bowel, and to this end enemas should be given at first not oftener than eight hours, and should not exceed in quantity four ounces, this, if well borne, to be increased to eight ounces. A very good formula for nutritive injection is four ounces of milk to which can be added two eggs and a pinch of salt, the whole being predigested with pancreatin, and given through a long rectal tube, the patient having the hips elevated, and this position maintained for an hour after the injection. Should it be necessary, the patient could be nourished by this method for weeks.

Where mouth feeding is practicable in cases of acute peptic ulcer, it goes without saying that all solid food should be disallowed. The typical nourishment is peptonized milk, which should be given at stated intervals. Two ounces every two hours is usually well borne. Plain milk in many instances may be substituted for peptonized milk. The Lenz treatment of gastric ulcer is not without merit. To carry out this idea fresh eggs and milk are the main articles of diet, given in increasing quantities every day. One to three eggs are given on the first day, and one added each subsequent day until eight are taken daily, and this number maintained. The milk and eggs are given ice-cold, and sugar is added to the eggs on the third or fourth day.

In the medical treatment of gastric ulcer, aside from the question of nutrition, individual symptoms are to be met: prominent among them is hemorrhage. In the list of astringent remedies, probably none are better than adrenalin, ten drops of a solution of 1 to 1000, and repeated as existing conditions require. Gelatin

is also a remedy of some merit, and serves as a food as well. Among the older remedies tannic acid is prominent, 15 grains every fifteen minutes until the bleeding is controlled. A teaspoonful of powdered alum dissolved in a glass of water, and one-fourth given at one time, and the dose repeated if required at intervals of twenty minutes, is a remedy worth while. Pieces of ice may be given, and the continuous application of the ice bag to the epigastrium is excellent for the hemorrhage as well as for the pain and vomiting. Perchloride of iron, ergotin, and iced drinks suggest themselves. Copious enemas of hot water at a temperature of 112° F., repeated twice daily conjointly with several doses of hot water by the stomach, is a remedy recommended by Tripier. When hemorrhage is not controlled by these measures, sub-cutaneous injections of serum might avail, but a hemorrhage resulting from an eroded gastric, pyloric, or splenic artery, would not be likely controlled by any form of medical treatment. Where the abnormal excitability of the stomach provokes pain and vomiting, we have a condition that is most likely controlled by small doses of cocaine and morphine.

Pyloric spasm is a factor in the treatment of gastric and duodenal ulcer, and often it is a distressing condition by virtue of the instantaneous vomiting induced by the spasm. In this condition the vagus nerve is a factor, and a new word has been coined to deal with it—vagationia. Whether the spasm is produced by a vagus reflex, or by excessive activity of the vagus nerve and its activators, or by something else with which the vagus has to do, I do not know, but for immediate relief from the spasm and its consequences, we have an effective remedy in a hypodermic of morphine.

Possibly the most universally employed drug in the treatment of peptic ulcer with the idea of its cure is subnitrate of bismuth in doses of about half dram several times a day, best given in barley water. It may be given alone or combined with bicarbonate of sodium or carbonate of magnesia; this is grateful both for the pain and burning, as well as counteracting the hyperacidity. If constipation is a factor, small doses of sulphate of magnesia or enemas are usually sufficient. In some instances the administration of pure olive oil is a very grateful

remedy to the patient, about two ounces after meals. Olive oil could produce no physiological effect in any given pathological condition, but it softens the sharpness of the acid contents of the stomach, and, besides, for a time makes in a mechanical sense a coating and a protection for the ulcer, which adds not only immediately and immeasurably to the patient's comfort, but by virtue of these things is helpful to nature in its tendency to a cure.

We are sometimes more fortunate than we are wise, and upon this principle I have come upon a new remedy for peptic ulcer, which is mineral oil. What I have to say relative to this is based only upon the authority of my own limited experience. I am sure, however, that in this agent we have a most valuable acquisition to our list of remedies. Mineral oil would be indicated under any condition suggesting olive oil. It contains nothing that the body can assimilate: it is neither a drug, a poison, nor a food—nothing but a lubricant. It simply lubricates a defective drainage system until it becomes effective. It excites no muscles nor stimulates any nerve.

It has been abundantly proven that any of the several tissues that constitute the body, if injured or diseased, repair best when the drainage of their toxic products is most effectually carried out. The accumulation of material in the cecum results in the delay of the evacuation of the ileum, with the further effect of the accumulation of material throughout the small intestines, and in the duodenum and stomach as well. This stagnating material undergoes harmful chemical changes, resulting in a condition that not only stands in the way of a healing process in an existing ulcer, but it is a condition that tends even to the creation of an ulcer, and for this state of things we have a most effective remedy in mineral oil. Unlike vegetable or animal oils, it does not decompose or saponify, and is non-digestible and non-assimilable. No case of peptic ulcer can do well with a defective drainage of the gastric and intestinal tract. Where the contents of the intestinal canal are delayed sufficiently long to result in the production, especially in the small intestine, of an excess of toxic material, and in the absorption into the circulation of a greater quantity of poisonous products than the organs which convert and excrete them are able to neutralize, we have a condition that must be

relieved before progress can be hoped for, and for the treatment of this phase of the situation we have in mineral oil a pleasing remedy.

For the distressing condition that we know as hunger pangs or hypermotility and hunger contractions, that are so often manifest in the presence of pathological lesions of the pylorus, mineral oil serves nicely as a remedy.

If the symptoms of pyloric stenosis exist and are growing more and more pronounced, if the muscular coat of the stomach is no longer vigorous enough to prevent the stagnation of food with consequent dilatation of the stomach and vomiting, perhaps the most effective way to restore the patient to a comfortable condition is by means of stomach lavage. This at least prevents any great and burdensome accumulation of food in the stomach, and it rids the patient for a time of the large amount of strongly acid gastric juice which is so usually present. This method is oftentimes so helpful that the patient soon learns to use the stomach tube himself, and continues the habit indefinitely. The diet under such circumstances should consist of such articles of food as can pass with comparative ease through the narrow pylorus. These suggestions are to be regarded, however, only as a mere outline from which certain variations are to be made to suit the individual case; but if in spite of a continuous methodical treatment upon these principles, we obtain no marked results, we can well conclude that some special anatomical condition exists, such as cicatricial stenosis, hour-glass stomach, or chronic adhesions, thus placing the patient without the pale of medical treatment. When this is true, and in that further type of cases where the symptoms recur every year or two, even in a more aggravated form than when first treated, the remaining duty of the medical attendant to his patient is to refer him to the capable surgeon.

In conclusion, I will mention one other experiment that I now have in hand: This peptic ulcer case is in the person of an insane man whose misfortune masked the ulcer symptoms till a hemorrhage directed attention to this phase of his trouble. The experiment to which I wish to refer is that of maintaining a hyperleucocytosis with the idea and with the hope of inducing a more rapid healing process than we otherwise might have, Von Graff in 1910 used sodium neuclinate subcutaneously in ty-

phoid fever where there was pain after intestinal hemorrhage, believing the pain was due to local peritonitis over the site of the ulcer from which the hemorrhage occurred. The hyperleucocytosis which invariably followed the injection hastened obliteration of the peritonitis, and generally relieved the pain within twenty-four hours. In one of his reported cases of perforation in typhoid, the administration of the sodium neucleinate hypodermically produced such improvement in the condition of the patient that he was thought able to withstand a surgical operation for the repair of the ulcer, and this course was urged but refused. The autopsy revealed the fact that the repair was well organized, and even large perforations were already blocked. Hannes attributed the fall in death rate in fifty cases of carcinoma of the uterus for which he did the complete extirpation, to the administration of sodium neucleinate twelve to sixteen hours before the operation. His previous death rate had been forty per cent., while in this series it was only twenty per cent. If the neucleins, used locally, will remove necrotic tissue from sluggish wounds and ulcers, and if the administration of this agent will clean out old tuberculous foci, promote healing, and will raise the opsonic index of the blood, and we know that it will do these things, it seems to me that it is a perfectly logical remedy in the treatment of peptic ulcer, and I merely mention my experiment with the hope that the idea may be worthy of your consideration.

THE UROCHROMOGEN REACTION OF WEISZ. A PROGNOSTIC AID IN TUBERCULOSIS.

By ROBERT C. KIRKWOOD, M. D., Santa Fe., N. M.
Associate Medical Director, Sunmount Sanatorium.

The problem of prognosis is one of the most difficult that workers in the field of pulmonary tuberculosis are called upon to solve. Therefore, any test which will aid in the accurate solution of this problem will be a welcome addition to our present prognostic armamentarium. With this end in view—that of securing a reliable aid in the prognosis of pulmonary tuberculosis,—we have made an investigation of the urochromogen reaction of Weisz in a series of cases representing all stages of the disease and a sanatorium residence of from several days to more than one year. The diazo reaction has been proven to be unstable

and of doubtful value in that a negative result is sometimes obtained in known hopeless cases. Therefore, this test has been rather generally abandoned and we look for a more stable, more definite, test having like significance. To the pioneer work of Weisz,¹ covering a period of some six years, we owe the presentation of this test, and to Heflebower² and Metzgar and Watson³ we are indebted for its early investigation in this country. The test has also been reported on by Salustri,⁴ Nicola,⁵ Paranhos and Giolito,⁶ by Vitry,⁷ Schaffle,⁸ Bruni,⁹ Ferrannini,¹⁰ Balduzzi and Ballero¹¹ and others, and more recently in this country by Burgess¹² and Sinclair.¹³

Weisz discovered that urochromogen, a low oxidation product of urochrome, is the principal substance in the causation of the diazo reaction, and that one reason for the instability of the latter reaction is that urochromogen has an antecedent which does not react with the diazo reagent but does with the potassium permanganate. Urochromogen is present in conditions of faulty oxidation with toxic material circulating in the blood, such a condition as is found in pulmonary tuberculosis when the focus of infection is so active or so extensive as to produce toxins in excess of what can be neutralized. Weisz's personal views as to the practical value of the test follow:

1.—“Patients who at the beginning of a course of treatment do not show a disappearance of urochromogen from the urine have a hopeless prognosis.”

2.—“The transient appearance of urochromogen can be found in acute exacerbations of the disease and is to be regarded as a symptom of progression of the tuberculous process.”

3.—“A distinction between continuous and transient and constant or occasional appearance of urochromogen should be made only as to the prospective duration of the disease.”

4.—“Patients with transient excretion of urochromogen may, if external conditions are favorable, continue to live for several years, while the constant appearance of the reaction, particularly when it is plainly becoming more intense, shows a rapid progress of the disease in the lungs and a hopeless prognosis.”

Heflebower's conclusions, after an investigation of the test in the laboratory of the U. S. Army Sanatorium for Tuberculosis at Fort

Bayard, New Mexico, practically coincide with those of Weisz, and are as follows:

1.—“The frequency and constancy of the diazo and urochromogen reactions in the urine in cases of pulmonary tuberculosis constitute an index to the severity of the condition, a constant negative reaction pointing to a case that is progressing favorably, while a constantly positive reaction indicates a progressively unfavorable case.”

2.—“The urochromogen test occurs more frequently and more constantly than the diazo and is, therefore, a better index to the condition of the patient than is the diazo.”

3.—“The intensity of the reaction is of great import, especially in cases which show the reaction constantly, etc.”

Heflebower also makes the statement, quoted by Metzgar and Watson, that “cases showing urochromogen most constantly are for the most part those having the temperature elevations and greatest loss of weight.” In our experience with the test this statement has been amply verified.

The technic followed in the performance of the test was as follows: To 1 cc. of urine in each of two test tubes 2 cc. of distilled water is added. To one of these tubes 3 drops of a 1 to 1000 solution of potassium permanganate is added, the other tube being used as a control.* The tube to which the permanganate is added is agitated and the appearance of a *persisting* yellow color (the solution remaining clear) denotes a positive reaction, its intensity depending on the depth of the color. Fishberg,¹⁴ in his recent work, states: “I have used of late Weisz’s urochromogen test and found it superior to the diazo reaction in indicating the prognosis of active phthisis.” “I find that it is positive in acute exacerbations of the disease, and is usually negative in incipient or even in quiescent cases. In acute progressive cases it is found positive and becomes more intense with the progression of the disease. It is negative in most favorable cases.” The series of cases forming the basis of this investigation comprises 200 cases classified as follows: Incipient 22; moderately advanced 83; far advanced 81; arrested and apparently arrested 4; non-tuberculous 10. Of the 22 incipient cases,

there were 20 negative reactions and 2 positive. Of the positive reactions, one was marked and persistent and, though admitted as an incipient case, the clinical condition since admission had been progressively unfavorable. The other, a mildly positive reaction, occurred in a case suffering at the time from an acute exacerbation, with pleurisy, high temperature, etc. The 20 negative reactions occurred without exception in cases clinically satisfactory. Of the 83 moderately advanced cases, 37 gave positive reactions and 46 negative. Investigation of the clinical records in these cases shows that, of these 37 giving positive reactions, 31 cases, or nearly 90 per cent. of the total number, are progressing unfavorable courses, 2 cases had but recently been admitted to treatment, and the others were practically stationary in their clinical courses. One month later, investigation of the cases in this moderately advanced group giving negative reactions at the first examination showed 2 positive reactions, one mild and occurring in a case suffering from the development of a tuberculous abscess (ischio-rectal) at the time, the other marked and shown by subsequent examinations to be persistent, in a case whose clinical condition was becoming rapidly worse with hyperpyrexia, marked prostration, increase of moisture and exaggeration of all physical signs. Of the cases showing negative reactions in this group, practically all were clinically favorable at the time of the examination and, except as above stated, remained so. Of the two cases in this group reported as but recently admitted to treatment at the time of the first examination, one gave a very mildly positive reaction, and after two months’ treatment with marked clinical improvement the reaction became negative. The 81 far advanced cases yielded, 60 positive, and 21 negative, the intensity of the positive reaction in nearly every instance coinciding with the seriousness of the clinical condition. These 60 cases without exception were clinically unfavorable at the time of the examination and (with the exception of two cases which at a subsequent examination showed a negative reaction and coincident clinical improvement) remained so, with accompanying constantly positive urochromogen reactions. Of the 21 cases showing negative reactions, 18 subsequently showed improvement in their clinical condition. The 4 cases in the

*Potassium permanganate solution dropped from burette or pipette, dropping accurately 15 drops to a c.c.

arrested and apparently arrested group, all gave negative reactions, as did also all of the 10 non-tuberculous cases investigated.

From the results obtained in this investigation, it would seem that the presence of a positive urochromogen reaction is of ill omen, and its persistence in spite of treatment, particularly if its intensity remains stationary or increases, means in most instances a hopeless prognosis. The appearance of a positive urochromogen reaction in a case formerly showing a negative reaction is of bad prognostic import if persistent, and, if transient, will usually be found to be coincident with an acute exacerbation. Conversely, the disappearance of the reaction under treatment in a case previously showing a positive reaction is apparently a favorable sign. The test, however, is not absolutely infallible, but it is our opinion that it is of definite value in most cases and, as Fishberg¹⁰ states, "these findings are worthy of further investigation because a prognostic test in phthisis is almost as important as a diagnostic test."

In conclusion, I desire to express my thanks to Dr. Beach, superintendent of the Minnesota State Sanatorium, for the privilege of conducting a number of these tests in his laboratory and for co-operation in the work; to Dr. Green, of the same institution, for aid in the conduction of the tests; to Dr. Robinson, superintendent of the Nebraska State Hospital for Tuberculosis, for advice and criticism during the performance of tests and preparation of the manuscript, and to Dr. Mera, of Sunmount Sanatorium, Santa Fe, for permission to conduct some of the tests in this laboratory.

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WHEN TO OPERATE IN APPENDICITIS CASES.*

By A. M. SHOWALTER, M. D., Cambria, Va.

The question as to when to operate in cases of appendicitis, though somewhat aged from frequent discussion, is nevertheless a subject of vital interest, inasmuch as there is still some difference of opinion among surgeons as to how this question can best be answered. No surgeon can operate very long without realizing the mistake of procrastination though it is also claimed by some that it is a mistake to resort too speedily to the knife. This subject, like all others, has a right to as many opinions as there are men to express them, and naturally we may expect to find a vast discrepancy among surgeons as to just what the best steps are to take in any individual case.

In discussing this subject, which I propose to do briefly, I wish to say that my conclusions are drawn perhaps from a somewhat different standpoint than the average surgeon who writes upon this subject, in that my experience, outside of hospital work as an interne, has been largely of a rural nature, or, in other words, while the most of my work is in the hospital, a considerable per cent. of cases have been operated on in private homes, or brought to the hospital at a late date with the patient himself and the entire family kicking against an operation. Under such circumstances it is but natural that there should be a greater number of pus and otherwise advanced cases of the appendix. As an evidence of this statement being true, out of a series of 81 consecutive cases I find from my records that 30 necessitated draining, not including cases where there were other complications found at the time, such as gall-stone, pelvic, kidney trouble, etc. From a general idea, without any definite data to quote from other hospitals along this particular line, I feel sure that the percentage of drainage cases is rather high.

As a consequence, I believe I have as good an opportunity to observe the good or bad results from delay or non-operative treatment as

*Read before the Southwest Virginia Medical Society at Bristol, Va., December 15-16, 1916.

anyone with the same number of such cases to draw conclusions from.

The time to operate in appendix cases can be very briefly disposed of, in my opinion, and is, as has been so often expressed that it need hardly be repeated, "Whenever a diagnosis is made,"—a statement attributed to Dr. Murphy some years ago, and considered at that time to be a very radical one. This doctrine, however, has gained, I feel safe in saying, more converts within the past few years than any other answer to this question. This is the method I have of dealing with a case of appendicitis, whether my own patient or one seen in consultation: If I am sure about the diagnosis, I announce what the trouble is and advise an operation. If this is refused, I explain the risk that is being run and tell the family that the responsibility must rest upon their shoulders and not mine. In such cases I insist that another physician of their selection be called. In other words, I tell them this—and I am sincere in it,—“I am willing to assume the responsibility if an operation is done, but not otherwise.” I find that the majority of people are fond of shifting responsibility, and so am I, and I never let an occasion like this pass without impressing upon the minds of patients the fact that when they run counter to my advice in the treatment of appendix trouble, they have the risk to run and the devil to pay, if he gets his dues.

I recall well a patient operated on in the fall of 1911,—a rather prominent man in our community. I was called to see him about 2 p. m. one day and found him suffering intensely with the typical symptoms of pain, nausea, vomiting and elevation of temperature (as a general rule.) I found that he had had several attacks previously and had been fortunate enough to survive. When I mentioned operation, he at once informed me that he would die before submitting to an operation. Then is when I should have resigned from the case, but his determination caused me to compromise matters and so I told him I would be back in two hours. At 4 p. m. I saw him again, with no relief, and suffering intensely. Then I insisted upon an operation and finally told him I would resign from the case if he did not care to take my advice. He begged me to wait until morning and I finally agreed to do so. This

is where I made a fatal mistake, for on opening the abdomen next day we found a general peritonitis, from which he died a few days later, and, of course, I got the credit for it. Now, if I had insisted upon an operation at the proper time, to the point of refusing to further care for the case unless an operation was done, that man in all probability would have been living to-day. While it is true I have since that time had cases to pursue the same policy and get over the initial symptoms, they in no wise offset the results in this instance.

I do not remember ever seeing a patient die from an operation for appendicitis, and considering the fact that about 20 per cent. of cases not operated upon do die, it is my opinion that surgical intervention is the safest and sanest method of dealing with all appendix cases and at the earliest possible moment. I believe implicitly that even after the second or third day an operation is just as safe, and even safer treatment of this disease, but just what should be done in an individual case at operation depends upon the conditions present, and this in my opinion is the secret of results. If the appendix trouble is subsiding and the infection is limited to the appendix, there is no more danger operating the third or even the fourth day than the first. If it is not limited to the appendix, that patient is in a very bad way for recovery, and the sooner drainage is instituted the better. I do think that conservatism in operation in such cases of late operation should be the keynote. Better drain the abscess or inflamed appendix and wait until a later date to remove the appendix than to spread the infection and break down nature's wall of defense.

I can hardly see how waiting in such cases as these is of any especial benefit, provided conservatism is followed during the operation. It is just as safe in my opinion to go ahead and operate, remove the appendix if convenient, and drain, as it is to wait for an abscess to form and drain a few days later.

Now, from this standpoint I am in favor of operating early if possible, and as soon as the diagnosis is made, whether it be early or late. However, there are a class of cases in which, to my mind, it is doubtful whether an operation should be done or not. The first of these, and I believe the most important is that in which the patient insists on not having an operation done

because, if he does, he will surely die. When not only the patient but the entire family have been fed on this kind of mental food until it becomes subjectively second nature, I do not care what that patient's chances are from a scientific standpoint, he is in a bad way and I feel that a surgeon is justifiable in not insisting on an operation too much, for so great is the effect of the mind over the body that an individual is almost certain to get what he is looking for. Such was the case in the history before mentioned: That man said he did not want to be operated on because he would die if he was, and although he lived for nine days after the operation and I thought he was going to get well in spite of his prophecy, he died and I could never be sure of the cause. Then in the class of patients who from some other physical complication, such as age, diabetes, nephritis, typhoid fever, etc., render an operation especially dangerous, I feel that a surgeon is justified in waiting unless the indications are such that a general peritonitis is sure to develop. In this event, then, it becomes the lesser of the two evils and if the family are willing to have an operation under such circumstances and you can get the consent of the patient, forget your reputation and operate. A result in such cases does more good from a missionary standpoint among people who are bitterly opposed to surgery than any class of surgery that can be done, because people frequently think under ordinary circumstances when an operation is done for appendicitis that the operation was entirely futile, that the patient would have recovered anyway. In other words, they derive less information from the 20 per cent. that die than from the 80 per cent. that live without operation.

Now, in conclusion, let me reiterate: The time to operate in appendicitis cases is when the diagnosis is made, whether it be the first or tenth day, being extremely careful in all cases not to do more harm by an operation than is done good, by spreading the area of infection. An exception should probably be made to this advice in such cases when the mental attitude of the patient and family, or the physical condition would render the shock of the operation extremely dangerous. Such cases should be decided after a thorough explanation to the family, but if they wish the operation done, do it. If not, let nature take its course.

LACK OF TEAM WORK IN THE OPERATING ROOM.*

By C. N. CHIPMAN, M. D., Washington, D. C.

Previous to the days of anesthetics and of aseptic surgery, operators strove to complete their work in the shortest possible time and the results of skill in this direction were appreciated. Under the influence of modern methods of protection for the patient, there came a tendency to devote more time to detail in operative technique and this sometimes degenerated into "puttering." It is quite as important for the patient to retain his natural resistance after operation as it is for the surgeon to add artificial means of securing asepsis during operation.

Dr. Tait was the first prominent exponent of this principle, but the special reasons for his success were not understood in his day. We now know that infections are met by the cell resistance of the individual, and the better the general resistance of the patient, the better his special cell resistance.

The fact that the patient is under the anesthetic upon the operating table some ten or twenty minutes longer than is absolutely necessary, because the nurse does not know chromic from plain gut, or has her instruments so mixed that some time is required to pick out the needed forceps, or the surgeon failed to state before the operation just what he expected to do so that there is a wait while the proper instruments are sterilized, or the anesthetist becomes so much interested in the operation that he lets the patient become so light-anesthetized it delays the operation,—these little delays are vital, though they may not seem of much importance to the average patient.

We know that any human or animal if kept under an anesthetic long enough will in the end die from the drug used; also, if operated upon long enough, will die from shock caused by traumatism, loss of blood, etc. The question, then, is—how much shock and anesthetic agent will the patient stand? We have no way of telling before an operation what is the maximum time any patient can safely remain on the operating table.

Many patients will stand anesthesia and the shock of operation during the first fifteen min-

*Read before the George Washington University Medical Society, April 15, 1916.

utes, no matter what is being done, but collapse if the strain is prolonged to an hour. The best rule, then, is to keep the patient under the strain of the operation as short a time as possible.

Let us see what will happen to our patient if we violate this rule. To some it may mean only a little more nausea and vomiting, a few more gas pains, some nephritis, a possible bronchitis or slight shock, causing the patient needless pain and discomfort, with a delayed convalescence. On the other hand, the few minutes lost may prolong the time upon the operating table enough to carry the patient over the danger line, causing severe shock, pneumonia, nephritis, or heart failure, with a fatal result.

The cause of the above conditions is lack of efficient team work of the operating-room staff. This may sometimes include the patient and superintendent or medical director of the hospital, as will be shown later.

Efficient team work in the operating room depends largely upon the number of staff members or outside surgeons using the hospital, the period of service of the internes and nurses, and the particular class of work confined to that hospital.

First,—We would have a hospital doing special work, such as an eye, ear, nose and throat hospital. Here the different kinds of operations to prepare for would be limited to that special work, so that the internes and nurses would become better acquainted with every detail of each operation. The work would be better systematized, so there would be less friction.

Second.—A hospital doing general surgery but having the work confined to a limited staff. Here the internes and nurses would be required to understand the technique of every possible operation. Having a limited staff, they would become accustomed to the individual technique of each operator and render efficient service.

Third.—A hospital doing general surgery, having its regular staff, and permitting any licensed physician the use of the operating room. The greater number of our hospitals come under this class, and it is needless to say here, with a large number of trained and untrained surgeons. The ideas of technique will be varied. So, with our short-termed internes

and nurses it will be almost impossible to have an efficient team at all times.

The operating-room staff may be divided into six direct units and two indirect units. The six direct units are composed of the surgeon, his assistants, the anesthetist, the operating-room nurse, the assistant nurses, and the orderly. The indirect units are the patient, and the superintendent or medical director of the hospital.

The Surgeon.—First, it is the surgeon's duty as chief of the team, to be on time. This is important, especially in a hospital having only help enough for one operation at a time. If the surgeon having the first period is somewhat late in getting started and then finds his operation takes longer than he expected, he consumes more than his allotted time, delaying the next surgeon, and quite frequently upsets the schedule for the entire day. While it is the duty of the first assistant to see that the proper instruments are prepared, it is always best for the surgeon to look things over to tell the first assistant anything extra that might be needed; also to tell him as far as possible what he expects to do and what suture material he expects to use. The surgeon should learn to work as quickly as possible. For example, one will require 20 minutes for a simple appendectomy, while the next for the same operation consumes an hour. The first is possibly a very quick and skilled operator, while the latter wastes, no doubt, a great deal of his time.

The Assistants.—All major operations require at least two assistants, usually called first and second assistants. The first assistant can be a great help to the surgeon by studying the methods of the different men who operate at that hospital, thus knowing ahead just what they will want. It is a mistake for the assistant to try to do too much; in so doing he will get in the way and delay things more than if he does just what is requested. If the time for the operation is 10 A. M., the assistant should be in the operating room at that time and it should not be necessary to phone all over the hospital to locate him. He should know what is the operation scheduled, that the proper instruments are ready, that the other assistants are there, that the patient is prepared,—in fact, he should look after things with the same interest as if it were his own patient. It is best that the first assistant of a hospital should

have charge of the instruments and see that they are kept in good condition. He is in position to know when things need repairing and when they need new ones. Nothing is more annoying than to have out several pairs of scissors and to find that possibly only one pair will cut anything. Haemostats that will not stay closed cause delay and may cause serious trouble by coming unlocked when they are on an artery, severe hemorrhage resulting before the bleeding point is discovered.

The second assistant is the handy man around, having no fixed duty, he does as requested, holding retractors, clamping arteries, etc. At times he will seem to have very little to do, and to some it may seem that a second assistant is not needed, but by being there with the extra hand when needed, he saves time and makes things work with less friction.

Anesthetist.—The anesthetist should be in the operating room a few minutes before scheduled time so that he may examine and gain the confidence of his patient and prepare his anesthetic apparatus so there will be no delay. The anesthetist should be informed in advance if some special form of anesthesia is desired. This is a frequent cause of delay that should be entirely avoided. The anesthetist's first duty is to administer the anesthetic, but there are times when he will be the only one that will see a slip in the technique, such as the nurse preparing the wrong catgut, or someone touching something that is not sterile; then it is his place to call attention to such things. Some will differ with me on this, claiming the anesthetist should only attend to the anesthetic. But there are times when there are only junior nurses or new internes in the operating room, and if someone does not correct the mistakes there will be more delays and more infections later. The surgeon with his mask on and watching his field of operation is not in position to see much that goes on around him. The anesthetist today, from his continued service in the operating room, becomes well acquainted with the different methods of the surgeons operating, so that by a little tact he can be of great assistance to the new internes and nurses. The anesthetist should never start the anesthetic unless the surgeon is in the building and ready to operate.

The Operating-Room Nurse.—The operating-room nurse should be a graduate and a live

wire, for she can do much to make or break a team. She has charge of the supplies and of preparing the operating-room, so that, if she is careless and does not keep up her equipment and put out what is needed, there will be no end to delays. The nurse should not be responsible for the instruments for the operation. As stated above, the first assistant should attend to his. Not infrequently when the nurse gets out the instruments for the operation, you will see a great many more than are actually needed, and that always means delay if the nurse has to pick over a tray full to get a few that are needed, to say nothing of the wear and tear on the instruments from the needless handling and the extra work required to clean them. The head nurse will be of greater assistance if she has two senior nurses clean up while she remains free to direct them and other things that are needed. But she should remain in the operating-room at all times and not be out over the hospital attending to other things while an operation is in progress. If she remains in the operating-room and attends to her duty, it will relieve the surgeon of trying to operate and watch his assistants at the same time. She should always have one utility nurse beside herself. It is impossible for the head nurse to attend to more than one operating-room at a time and give the proper service. If you will notice in a great many operating rooms, the head nurse is in and out, so that, when something is needed, it usually means a delay. The head nurse should see that the nurse passing instruments and the nurse handling sponges and supplies have their respective tables arranged.

Before the operation is started she should not think, but know, that everything is in its proper place.

The assistant nurses should be seniors, and three in number,—two to act as clean nurses, and one as utility nurse. The instrument nurse should have a regular system of arranging her instruments and suture material so she can pick things up without delay as they are needed. As instruments become soiled and mixed about the field of operation, it is her place to clean them, but at all times to keep the proper instruments within easy reach of the surgeon so he will not be continually picking up the wrong instrument. If she is properly instructed ahead of time, she will not thread up a lot

of suture material that is not needed, which not only litters up her table but is a financial loss.

The other clean nurse should sponge and look after the dressing table; she must keep her towels, sponges, packing, etc., in order, and see that her solutions are kept at the proper temperature. It is important that she should know when the surgeon asks for a tape pad, whether he wants it dry or wet. To allow sponges to become scattered about the field of operation may invite disaster. She should know before, and not after, the abdomen is closed if all sponges and packings are accounted for.

The utility nurse will see to it without being requested to do so, that all visiting doctors and others permitted in the operating room are properly supplied with gowns. The utility nurse should be constantly present, as she may be needed to pick up and re-sterilize fallen instruments, get more sutures, remove specimen, etc.

The Orderly.—When the orderly brings the patient to the operating-room, he should remain so he can assist in putting the patient on the table. Nor is there any excuse for having to keep the patient under the anesthetic while a hunt is being made for the orderly. In hospitals doing a great deal of operating, it is best to have an operating-room orderly who will remain in the operating room at all times.

Indirect Units.—The patient should follow out the instructions of the surgeon accurately before the operation, for by not doing so he may completely upset things. I recently witnessed a man upon the operating-table vomit an enormous amount of food. The operation was for a minor condition, but he had been told absolutely not to eat anything. Yet, if he had choked to death on the table the surgeon would have been blamed more or less, when it would have been the patient's own fault.

The superintendent or medical director may prevent good team work by not providing the proper instruments and supplies, when requested. It is no fault of the first assistant that the artery forceps will not hold if he only has old and worn-out ones to pick from.

Some reasons why the faulty conditions above noted exist in most of our hospitals, and how they may be corrected, may be summarized:

First.—The internes and nurses remain on the surgical service for too short a time.

Second.—The internes and nurses do not receive sufficient instruction on operative technique, and but few of the internes and nurses are familiar with all the instruments. It would be of great benefit to the internes and nurses if someone acquainted with the different surgeons using that particular hospital could instruct them on the technique of each. Such an instructor might be called operating-room director or instructor.

Third.—The varied assortment of caps, masks, laboratory sheets, minor sheets, and the different methods of sterilizing the skin by the individual surgeons are troublesome. If we could have standard equipment used by all, it would simplify things greatly and improve the team work.

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A STUDY OF PSYCHO-ANALYSIS.

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"He sinks to the depths in the dead of the night
And shuffles the shadows about,
And gathers the stars in a nest of delight
And sits there and hatches them out."

This extract from one of the very earliest published poems of the Hoosier poet, Riley, is interesting from what he says about it himself. It was printed in a country newspaper years ago, inserted between a news item and a recipe for curing chilblains. Years after, in an interview with a reporter, he quoted this offshoot from his mind and said probably that the reporter could give him some idea as to what he had in mind when he wrote it. Then he added, if he could, he might let him into the secret. The poem, consisting of several verses, was published in an English magazine, but with no analytical comment. What a chance that reporter had to make a small research in psycho-analysis! But I imagine few reporters care to give the time or mental effort to analyze their interviews with poets or other celebrities.

Psycho-analysis, that new branch of psychiatry, new only in having come but recently into popular notice, and which has been imported to us from abroad, as far as I can learn, is becoming of great interest and importance not only to those of us who give

our time and attention mostly to the "sick-in-mind," but also to the general practitioner, though I have seen the general practitioner ask only to be excused when a general discussion is on pertaining to psycho-analysis. This is not surprising when we seek for a definition of this new science and are led into philosophical mazes of definition, namely, this one from one of the most energetic workers and searchers in psycho-analysis who says, "emotions themselves are secondary to the situation which creates them, and these are always determined by perceptions and ideas, the source of which must be sought. That search is called by some psycho-analysis."¹

Psycho-analysis is much like the definition of faith, its near relation, which Hebrews tells us is "the substance of things hoped for; the evidence of things not seen." As a science it is not new any more than faith is new, but has been recognized for many years, and like many other inventions and sciences and discoveries, it did not appear until the time was ripe for its appearance. As a topic for general discussion and separate papers, and literature, and application, it only very recently has become of importance. Even yet, it is approached with great caution by conservative physicians, dealing as it does so very often and so intimately with the most sacred subjects and instincts of the human body, laying bare to a critical world the most secret impulses of the mind and which often shock our ideas of culture, it has taken so many years to instill, to change and refine our naturally savage minds, all of which must be set aside for the time being, for the psycho-analyst to work out his theories and to benefit suffering humanity thereby. Physicians have always worked to familiarize themselves with the inmost workings of their patients' minds, without doing damage to their finer instincts, thereby acquainting themselves with the state of the body, but always hampered in their efforts by the physician's own tact and kindness, and by the natural antagonism of the patients to reveal their most carefully guarded secrets, which, like the "worm feed on the damask cheek," the loathsome feeder not to be revealed at any price. This uncomfortable feeling, that certain things cannot be revealed to the world, however glad and relieved the patient would

be to unburden himself of terrible thoughts and ideas, and suspicions, and impulses, all of which if allowed to accumulate, work havoc in the person's mind, interfere with health and happiness, leading up often to hysteria, neurasthenia, madness, murder, suicide.

I think one main reason why psycho-analysis does not make a faster stride in our profession is that it takes so often for its text and inspiration and sticks so closely to it, never getting out of sight of it, the subject of sex. This would seem, according to some writers, the universal ailment of human beings, yet a subject so repressed and made so fearful and mysterious that it requires a specially prepared science to deal with it successfully and intelligently, and this the psycho-analyst thinks he has found.

The patient most often referred to the psycho-analyst is usually very often on the border-line of what we call insanity, and if not, not usually of very deep interest to the consultant. The plan of the psycho-analyst is to penetrate deeply into the very soul of his patient, to get at his innermost thoughts, desires and instincts and impulses and bring them to the surface. The patient is encouraged to *tell all he thinks*, things that he has often actually been ashamed to think, much less talk about. He is encouraged, urged to tell of his most deplorable and vicious thoughts, from his earliest impressions up to last night's dreams, and this ghastly fabric woven like a net-work about the patient is charmed away by psychic procedure, that sometimes savors almost on the supernatural, and with which we are gradually becoming familiar from the men working along that line. The system of dream interpretation, the Freudian theory, is interesting, but complex and confusing for many to follow. It is said it often throws some light on the worry and torment that often brings the victim of his dreams to the shelter of a sanitarium or asylum and thus interfering greatly with his usefulness, health and happiness. The psycho-analyst tells us that dreams are caused very largely from suppressed thoughts and impulses, which for the good and peace of the dreamer and society must never see the light of day, but be kept down and smoulder in the dark, as it were, and from these unwholesome ideas the whole life of the patient is affected and tends

1. Dr. Tom Williams.—"The Treatment of Psycho-neurotic Patients."

to destroy the mind and health. From my limited opportunities to study the methods of the psycho-analyst of the day and small research, I have gathered that a large percentage of patients examined and treated by this method consist of that largely American product of the Nineteenth Century, and termed in psychiatry, the dementia praecox, that unhappy person in all of his varying disguises. These are the people whose mental scale is often about evenly swaying in the balance, seemingly between childishness on the one side and presenility on the other; an even balance and a critical time to see if the patient can ever again get a good grip on the realities and responsibilities of life. He comes to the psycho-analyst with his burdens of discomforts, his brain a mass of rubbish, composed of perverted ideas, suppressed impulses, dreadful and animal instincts, superstitions, morbid fears and obsessions.

After various methods of examination physically, then begins a kind of verbal auscultation and percussion of the brain, a species of physical diagnosis of mentality, and the psycho-analyst, like a good house-wife, proceeds to take the preliminary steps to a brain house-cleaning. He proceeds to sort it out, putting one set of ideas in one place and another in another, destroying in the victim's mind some impressions entirely, then perhaps impressing on the patient the worthlessness and utter uselessness and danger in harboring so many terrible obsessions. By this simple process of explanation and philosophical reasoning often these conditions disappear as if by magic, gone like the coin up the magician's sleeve.

The disciples of this diagnosis and treatment are most enthusiastic of good results and one writer concludes a paper on this subject with these words, "therefore the secret of the proper management of psychoneurotic patients is not in a sanitarium, not by suggestion, not faith, not hygienic or medical treatment, but rectification of the psychological reaction to which the preliminary step is an appreciation of the mechanism of the disorder, by an untangling of its elements."²

It is cheering and encouraging to know that all over the intellectual world minds are at work, steadily trying to solve the Sphinx-like riddle of insanity, a riddle securely as yet hid-

den from the most tireless workers. One writer says, "there exists in man still an animal, an over-supply of impulses and primitive instincts which are antagonistic and out of harmony with civilized life and civilization as it now exists." This would seem to be so for it cannot be denied or talked away, that with the growth of so-called civilization, insanity has kept even pace, and some there are who are inclined to think that insanity is now in the lead, when we see the many who suffer from mind-sickness.

So a new science and philosophy has arisen among us whereby many unhappy persons, sinking in the mire of physical and intellectual oblivion, are to be brought alive, reclaimed and made over, merely by knowing and instigating proper methods for faulty ones. This is the ambition of the psycho-analyst, to discover and instigate the proper methods.

We watch and wait and hope!

Epileptic Colony.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Reported by EMIL MAYER, M. D., New York, N. Y.

(Continued from page 222.)

Report of Progress of a Case of Pituitary Tumor Reported in 1914.

By T. H. HALSTED, M. D., Syracuse.

At the last meeting of this society I reported a case of cyst of the hypophysis, occurring in an Italian girl, nine years of age, upon whom I operated, following the method of Hirsch, doing the operation in three stages under cocain anesthesia.

This child came under my observation for the first time on February 6, 1914, fifteen months ago, at which time she presented briefly the following symptoms:

She was very large for her age, marked and increasing adiposity; skin was dry and harsh; hair dry and coarse, growing low on the forehead; eyes large, pupils dilated; marked general ataxia with intention tremor, chorieform movements; well marked athetosis; paralysis of the pupil; deep and superficial reflexes not altered. There was extreme difficulty in making co-ordinated movements, gait was unsteady, complained of frequent dizzy spells, headaches

2. Dr. Tom Williams.—"Spurious and Genuine Treatment of Psychoneuroses." Ill. Med. Jour., Oct., 1911.

were very severe nearly every other night, and the sight was decidedly impaired. She was unusually bright mentally. An X-ray showed the sella turcica to be somewhat larger than the average normal at this age, while above and posterior to the sella the brain area was of lessened density.

All the operative work was under five per cent cocain with 1-2000 adrenalin, and was done in three stages, the last stage consisting in incising the tumor, which proved to be a cyst, liberating about one-half an ounce of clear, limpid, straw-colored fluid, and was followed by quite a decided change in the symptoms.

The child recovered from these operations, finally being taken to her home in a neighboring village three months after the last operation, on the whole not improved by her surgical experience, the cyst having evidently refilled. The parents declined further operation, and I have seen her only two or three times, as I have gone out to see her at her home. Pituitrin was given her for several months, but for six months she has been without it. Her present condition is as follows:

Child is now ten years of age and is confined constantly to bed. Muscular weakness is so great that she cannot walk unaided, and to assume the upright position must be literally held or propped up. She can sit up in an arm chair or rocker with arm and head supports. There has been an enormous increase in adiposity, the fat being distributed throughout the body, while her head has increased to a size that for her age is almost huge. Comparing the measurements of her head with that of two sisters, one a year older and one a year younger, it is found that the measurement of the circumference on a level with the parietal eminences is in the older child twenty-one inches, the younger, twenty and three-fifths inches, while the patient's head measures twenty-five inches. The vertical measurement of the circumference under the chin, back of the ears, taking in the parietal eminences, is for the older child twenty-three inches, the younger twenty-three and one-half inches, while the patient's measurement is twenty-six and one-half inches in this circumference. While the patient's head was larger than normal at the time of operations fifteen months

ago, the increase in size since that time has been most striking. The color of the hair is a very dark brown, has not increased in coarseness, and the tendency to become reddish, as a year ago, has ceased. There is a marked tendency to somnolence most of the time, the child sleeping a great deal during the day as well as night, although for some days and for a week or two at a time this may not be the case. She is unable to feed herself because of the incoordinated movements and the lack of muscular strength. Intention tremor is very marked. She cannot wipe her face because of the tremor nor approximate the finger tips; on attempting to stand alone the foot is drawn inward and upward, in the position the foot would assume in standing on the outside of the foot. She is unable to hold her head up unaided, apparently due to lack of muscular strength.

The cranial nerves are apparently normal excepting the optic. Reaction to light is much impaired. Pupils are not widely dilated. She can distinguish fingers at six feet. The motor nerves all functionate, but are weak. She can distinguish heat and cold. Reflexes are exaggerated. Babinski is marked. There is apparently no great increase in the amount of urine, though it is frequently passed involuntarily. Stools the same. Speech is difficult and thick. Memory does not appear to be very greatly impaired. For instance, she asked by name after many of the patients and nurses she had not seen in fifteen months. On examination of the nose it is found that the base of the sella, covered by the mucous membrane, is freely seen, the anterior wall of the sphenoid being absent. It would be a very simple matter to re-incise the tumor if the parents' consent were granted, or if it seemed advisable to do so. I have not urged an operation because of the almost certainty that the cyst would soon fill.

DISCUSSION.

Dr. John F. Barnhill, Indianapolis: I have employed the Cushing method, using the Cushing retractors. After the parts are dilated the septum can be taken away for the purpose of getting at the anterior wall of the sphenoidal sinus. After that the nose can be dilated as much as needed. This gives a clear-cut view of the field. The Cushing retractor and dilator are absolutely necessary. The speculum itself

is built very much like the old Marion Sims bivalve speculum. The operator is not hindered by any hands being in the way. The method is very commendable.

Dr. Halsted, closing the discussion: I have never seen the Cushing operation, so I cannot compare the two. The method which I employed involves a little operation which West originally did, and to which Coffin called attention—that is, doing the submucous and going on up to the rostrum of the sphenoid. In the second operation the posterior end of the septum was taken off completely, mucous membrane and all. That gave a tremendous field. The advantage of this method over Cushing's is that it can be done under local anesthesia, in two or three stages, and one gets as good view as is necessary.

History of a Tumor of the Pharynx Eventually Terminating in Sarcoma.

By RALPH BUTLER, M. D., Philadelphia.

A healthy married woman aged twenty-one years developed a series of pharyngeal tumors which were apparently cured four times in the course of two years. The first attack yielded to inunctions and protiodid of mercury. An almost fatal attack was relieved by iodid of potassium, mercury and neosalvarsan. In two other recurrences, the X-ray treatment was used in addition to the mercury, iodid of potassium and neosalvarsan. The Wassermann reaction was weakly positive at first, and the huetin reaction was positive. The first microscopic examination suggested syphilis, the second, small round-cell sarcoma. The autopsy showed small round-cell sarcoma with beginning metastasis.

DISCUSSION.

Dr. George L. Richards, Fall River: A certain number of sarcoma of the upper air tract seem to spontaneously disappear, or to be influenced by remedies which it hardly seems to think would have any curative effect. I recall a case of sarcoma of the right upper jaw in a woman fifty to fifty-five years of age, a boarding-house keeper. The diagnosis of sarcoma of the antrum was made by a laryngologist of ability, and this was confirmed by general surgeons. She was being treated with Coley's fluid when she fell into the hands of a Christian Science healer, and the tumor dis-

appeared. I have seen her four or five times in association with a general surgeon. I have tried to get the opportunity of examining her again, but she is still under the control of the Christian Science healer.

Dr. G. Hudson Makuen, Philadelphia: I had the privilege of seeing the patient mentioned by Dr. Butler during the interval of the fourth time that she appeared to be cured. I think no one who was present at that meeting thought of the probability of a return of the trouble. She had nothing in the throat except a considerable amount of scar tissue and the cicatricial contractions, as described by Dr. Butler. Her breathing and articulation were fairly good. It was a surprise to us all when he reported her death at the following meeting.

Dr. George A. Leland, Boston: I was called last winter to see an old lady, seventy-three years of age, who had enlarged glands in the neck. I made the diagnosis of lympho-sarcoma. She was put under treatment with Coley's fluid, and she writes me that the tumor has entirely disappeared.

Dr. Harmon Smith, New York City: We should not depreciate the benefits of Coley's fluid. I recall a case of sarcoma of the antrum occupying the entire nasal cavity and projecting outward. There was lymphatic involvement, and the case seemed hopeless. It was pronounced sarcoma by the pathologists. I said the only thing we could do was to operate, and that if he died on the table it would be the most satisfactory termination of the case. The patient went to the General Memorial Hospital, was put under treatment with Coley's fluid, and the sarcoma entirely disappeared.

Dr. Henry L. Swain, New Haven: Whether the disappearance of these tumors is due to tumor transformation, as has been suggested, or to the agents employed, the fact is that we stand with reference to them in the position of strict empiricism. This applies to Coley's fluid as much as to anything else. If we could collect all the observations on the subject we might then have something to go by; until that is done its use will always be empirical. I have two cases in which it seemed to do good, and many others in which it accomplished nothing.

The County Society.

This Department is conducted by the Committee on Component County Societies at considerable trouble and expense, and a copy of the Journal sent to members of the local societies and to the doctors of the unorganized counties. All of this is done for the purpose of interesting you in the work, which we take to be a great one, and of getting your aid in promptly completing the organization, and developing the usefulness of the societies already chartered. The committee hopes you will read each word that is written, and show your interest by co-operating in every possible way.

The Committee is composed of Drs. Southgate Leigh, chairman, R. S. Griffith, T. V. Williamson, C. P. Jones, E. H. Terrell, Joel Crawford, G. A. Stover, J. R. Garrett, D. M. Kipps, Stephen Harnsberger and W. H. Ribble, Jr.

The Committee will be glad to answer all inquiries addressed to 109 College Place, Norfolk, Va.

How Can Members be induced to Attend Meetings?

Dr. Harry A. Reese, secretary of the Cochise County (Ariz.) Medical Society, lists inducements for attendance as follows:

"Man wants but little here below."

Medical men must want a society and want it with an intensity which will cause them to drive miles after night; sometimes over bad roads and during inclement weather; often miss pay calls; stay up several hours later than their usual bedtime, even when rest is sadly needed, and the next day turn a deaf ear to the complaints of their "friends" because they were not at home when called.

The regular attendant at our meetings must be willing to sacrifice many things. What benefit can we offer him in return?

Inducement No. 1. The most convenient meeting place.

2. The best roads which it is possible for our united efforts to obtain.

3. A program which is worth while to listen to, or better still, one which he has helped along by the careful preparation of a paper or case report or the presentation of an instructive clinical or pathological specimen.

A program worth while, or a course of study which will call for his best efforts.

The program should be prepared a few months in advance, and having been prepared should have the loyal support of every worthy member.

"A program worth while" from the writer's viewpoint is one which instructs, entertains,

excites a desire to know more about the subjects under discussion, one which stimulates to better work, and to original investigation.

4. A light lunch and a cup of coffee. A man with a full stomach is better natured than one with an "aching void."

5. Goodfellowship, a cheery word, an expression of appreciation, professional courtesy, all have their places in the make up of a good medical society. Some good men absent themselves from our meetings because they do not want to have anything to do "with the other fellow." Quarrels and bickerings, cliques and clans will largely destroy the efficiency of any medical meeting. For the sake of our own peace, and the welfare of our fellow men, let us resolve to forgive the past: to forget the faults of others and remember our own. Let us cultivate a happy disposition and court friendship. Let us be far-sighted enough to see that every "knock" is a "boost" for the other fellow, and that it pays us in dollars and cents to have no enemies.

Just now, let us comprehend more fully than we have ever before that the law of compensation decrees that every man gets about what is coming to him.

Dr. Bess Puett, secretary of the Gaston County (N. C.) Medical Society, recounts the experience of that organization:

Our county medical society is composed of physicians, twenty-six in number, who practice mostly in the country and small towns. We have a regular time and place for monthly meetings. The place of meeting is centrally located and is easily reached by the majority of the members. Several days before each meeting they are reminded of the same by a postcard from the secretary containing the date of meeting, the place and also the program.

At the meetings we have scientific papers, which are discussed by the members, and also clinical cases when possible. Recently we have been appointing two physicians to write papers and ask four other physicians to discuss the same before it is opened to the society for discussion. The appointing of four physicians, two to discuss each paper, and asking several members to bring or report some interesting clinical case has just been tried for the past few months, but it seems

to be helping to increase our attendance very much. This plan gets at least eight physicians to prepare something for each meeting whereas before this was adopted only two physicians were interested in preparing articles for the program. The interest in our society is increasing and we hope within the next few months to have well attended meetings. Just a few words from the secretary on the "notice card" to delinquent members will often bring them to the meetings.—*A. M. A. Bulletin.*

What Can the County Society Do For the Local Profession?

H. BERT ELLIS, Los Angeles, Cal.

No single factor and no collection of factors can so strongly affect the condition of the local profession as can the county society, provided it completely lives up to its duties and privileges. It is in the county society that the injurious influences of the solitary, isolated life which the physician's calling necessitates, can be remedied or at least counteracted. I would say that the association with one another of the local physicians, which should occur in the county society, is one of the most valuable of its assets.

Following, if not accompanying the mixing together of the local physicians in the County Society, there will naturally be a better and more friendly spirit and then better professional work both in the society and out of it. If the meetings can be made generally interesting and profitable, the members will "get the habit" of coming to the meetings, and thus will get to know each other better, and there will be fewer quarrels and disagreements. Thus the county society influence will tend toward an improvement in the condition of the local profession, both medically and materially, for harmony and peace are not conducive to rate cutting, contract practice, and the lot of kindred evils which are rapidly bringing trouble on our profession.

There will always be differences of opinion so long as human nature remains as it is, but if these differences of opinion can be discussed collectively and in a common meeting place, all concerned will be the better off, for a less bitter feeling will remain after-

ward. And, too, when the point of view of several physicians is given, one may often have reason to change his own opinion and abandon the effort to change the other fellow's.

The county society can and should undertake the duty of educating the general public on matters affecting it through general sanitation or medical legislation. In my address as President of the state society some three years ago I called particular attention to the duty which physicians owe the community in which they reside, and to the fact that they should more generally attend to their civic obligations. It is not only true that each of us individually should do this, but it is also true that as a society we owe a certain duty to the public and to the community. If this is done, and through the county society the public are educated about medical things which they should know, the local profession will be very markedly benefited and so too will the public. The county society should ever be alert in overseeing municipal health affairs. It should be active in its efforts to prevent any but the most competent health officers from being appointed.

Anything that tends to benefit and improve the medical profession benefits the general public even more. The raising of standards insures that the public will receive better medical attention, and if more and better scientific work is done in the county society, where all physicians may benefit and participate, the whole profession will be improved and the public will be helped.

In short, with the active interest of every physician in the county supporting it, the benefits which the county society may bring to the local profession, and incidentally to the public, are really incalculable. A united and hard-working profession will stop many quarrels and make better doctors of us all, and if there is anything that a county society can do that can be more advantageous to the local profession, I certainly do not know what it is.

How may these things be accomplished? There are many ways and means which lead to the desired end. Every county society of 100 or more members should have permanent

quarters, preferably its own, and in these permanent quarters should be a reference library (and possibly a laboratory), a place where every member could go and look up the latest literature on any troublesome subject and talk the matter over with some brother practitioner. The meetings of the society should be frequent, at least once a week, and it is better that some of the meetings be of a semi-social character—meetings where set papers are not presented, but where a patient may be brought in for exhibition or consultation, or where an interesting clinical history may be given or pathologic specimens exhibited, after which half an hour to an hour may be enjoyed in social intercourse and partaking of a light repast. In brief, anything which will bring one member in closer touch with the other members will enable them all to become better acquainted with one another—and a personal acquaintance will pass over many faults.—*The Councilor's Bulletin*.

The Broader View.

Let us suppose that a man of ordinary intelligence graduates in medicine; that after entering on the practice of the profession, he procures no new medical books, reads no medical literature, or comes in contact with other physicians—what will be the result? He may be successful for a time, but within a few years, should he enter into a gathering of physicians who are discussing medical subjects, he would feel as much out of place as would a lady at the inaugural ball of nineteen thirteen, gowned in the pattern of nineteen three. There are three sources from which a physician may continue to gain information pertaining to his profession. He who depends on experience alone is likely to remain narrow; he who adds much reading to his experience does well; but he who learns what he can from experience and reading and in addition avails himself of every opportunity to learn from personal contact with other physicians, gets the broader view. The medical society furnishes the best and most convenient means of interchange of ideas.—*Bulletin*, Lycoming County (Pa.) Medical Society.

The coming meeting of the State Society promises to be most successful in every way.

The local committee, headed by Dr. R. L. Williams, is making every arrangement for the comfort and pleasure of the visitors.

The sessions will be held in the large banquet hall of the Monticello. The exhibits will be in the lobby, where will also be located the information bureau.

The entertainments will be varied and attractive and will wind up with an oyster roast at Cape Henry.

In order to take care of the program, the work will be divided into as many sections as necessary.

Every member and prospective member is urged to make his arrangements to attend.

Clinical Reports.

REPORT OF A CASE OF LICHEN PLANUS.

By C. AUGUSTUS SIMPSON, M. D., Washington, D. C.
Associate in Dermatology, George Washington Medical School; Dermatologist to George Washington Hospital and Dispensary; Formerly of the House Staff of the New York Skin and Cancer Hospital, and the Willard Parker Hospital, New York Health Department.

E. P., female, white, 35 years of age, born and lived in Washington all her life. She was married 14 years ago and during the first year gave birth to a dead child. At this time she developed a dry, itchy, thickened, lesion on the flexor surface of the lower third of the right fore arm. The lesion, at first the size of a pea, continued to increase until it became as large as a quarter. On the outer edge of the plaque a number of pin-head sized papules were to be seen. The spots continued in a dry, scaly stage with no signs of ulceration or exudation until they disappeared after a duration of two months, during which time she was taking mercury. An area of pigmentation persisted for some months. At this time she was told that she had syphilis, which she claimed she had contracted from her husband. She obtained a divorce on these grounds, but three years later married again. One year ago she was separated from her second husband. She had no children by the second marriage.

February 18th, of this year, the patient came to my clinic at the George Washington Hospital for examination and treatment. On physical examination, her objective symptoms consisted of a rather sharply defined, dry, slightly scaly, indurated, patchy lesion on the

lower flexor surface of the right fore arm (the same location and symptoms she had 13 years ago). The surface of the patch on close examination was seen to be composed of numerous ill-defined, flat, angular, burnished papules that were more prominent on the edge of the lesion than in the center where the slight scaling was more noticeable. Besides this large lesion there were several smaller isolated papules and tubercles to be seen on the internal surface of the wrist. In these places, which ranged in size from a pin-head to a split pea, the angular, shiny papules were more

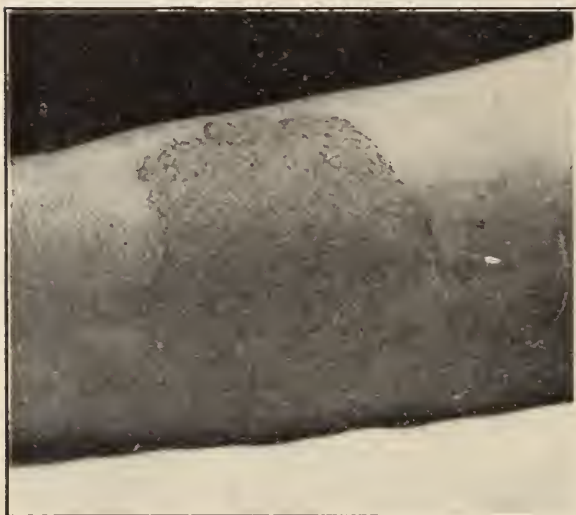
the lesion to almost disappear in two weeks. This picture was taken after the first weeks of treatment. I consider this case one in which a coincident still-birth and a suspicious skin lesion had been wrongly diagnosed syphilis, with disastrous results.

1219 Connecticut Avenue, N. W.

Editorial.

Early Paresis and Marriage.

Transformation of personality is one of the most frequent early manifestations of paresis. Not infrequently early paretics commit anti-social acts before the affection is recognized. But they also commit acts which may lead to most regrettable consequences to themselves and to their immediate surroundings. Thus, for example, some go into disastrous speculations, allow themselves to be influenced by unscrupulous individuals, purchase unnecessary and useless articles, and gradually ruin themselves financially. One parietic, a man of great influence, lost a very large fortune in one year, was reduced to poverty and compelled to beg on the streets. These are all well known facts, but there is one special feature to which little attention is paid and which indeed deserves special emphasis. I wish to speak of marriage of early paretics. Quite frequently it happens that a refined and educated individual consults his physician on the subject of matrimony after 10 or 15 years have elapsed since he contracted syphilis. Basing himself on the old date of the initial infection and on the rigorousness with which the latter was treated, not infrequently the physician sanctions marriage. But should we not bear in mind that the date of infection is no guarantee for the future? Do we not also know well that sometimes in spite of the severity and rigorousness of the treatment, paresis may nevertheless appear later in life? Two of my latest patients were treated in the strongest manner by a conscientious syphilologist for a period of 12 and 18 years respectively. Their marriage was sanctioned by him at the end of a long period of treatment, and both commenced to show signs of alteration of personality one and two years after marriage. Examples like these two could be multiplied.



Anterior Surface Wrist.

distinct. There were no signs of crusting, ulceration or exudation to mar the perfectly dry, indurated patch. There were no scars or other evidences of syphilis. The larger patch had been formed by a confluence of smaller lesions, and there was nothing to suggest that its border had been composed of slowly spreading, scarring or ulcerating tubercles. There was little or no resemblance to a late syphilitic lesion. Subjectively the patient complained of intense itching. The other wrist was clear and there were no papules to be seen on the neck or mucous membranes of the mouth. The patient insisted that she had syphilis and that the present lesion was the exact counterpart of what she had following her first marriage. The Wassermann reaction was negative, and I doubt very seriously if the patient ever had syphilis.

Fowler's solution in moderate doses caused

To authorize, therefore, a syphilitic individual to marry, one cannot rely upon the old date of the infection nor on the severity of the treatment. Moreover, one should not be satisfied with a superficial examination nor with the vague and general impression that the individual is in good health. The following case may serve as an excellent illustration: A physician permitted his daughter to marry a man of 40 who frankly confessed having had a chancre 15 years ago. Without going into a thorough examination of his future son-in-law, the physician considered him in good health because he knew him well and saw him frequently for a number of years. Eighteen months after the wedding the patient developed suddenly an attack of delirium from which, however, he soon recovered. Gradually, under the influence of the oncoming parietic dementia, he commenced to dissipate his fiancée's money and finally was declared bankrupt. The wife subsequently acknowledged that during the first night he had a convulsive seizure to which she did not attach much importance and which she hesitated to mention to her parents. The conclusion to which one is led is that before permission to marry is granted the individual must submit himself to a most complete examination from a psychological and physical standpoint. Moreover, a test of the blood and spinal fluid must be insisted upon.

ALFRED GORDON, M. D.,
Philadelphia.

Brief for Health Insurance.

The American Association for Labor Legislation, New York City, has issued the following brief for health insurance: A death rate for American wage earners twice that of professional men; the prevalency of high sickness rates; the need among workers of better medical care and of a systematic method of meeting the wage loss incident to sickness, and the necessity for more active work in the prevention of disease are the corner stones of the case for compulsory health insurance presented in the brief just published in New York by the American Association for Labor Legislation. This situation, it is pointed out, cannot be met fully by existing agencies, and can only be properly remedied by a system of health insurance embracing all wage earners

and dividing the cost among employee, employer and the state.

The great amount of sickness in the homes of the poor causes an average loss by each wage earner of 9 days a year, and involves annually a national wage loss of approximately \$500,000,000. Notwithstanding the greater prevalency of tuberculosis among wage earners, their early susceptibility to the degenerative disease of middle life, and the excessive death rate among the industrial population, workers often are unable to secure the medical attention they require. In Rochester, New York, it was found that 39 per cent. of the sickness cases were not under a doctor's supervision; in a city like Boston, Massachusetts, one-fourth of the population, it is estimated, are unable to pay the fees of a private physician.

The lowered vitality and the poverty created by present day conditions, it is claimed, can only be checked by a system of health insurance, which for a small sum divided among employer, worker and state, will bring medical care to the wage earner and his family, will assure for a maximum of 25 weeks in a year a weekly payment of two-thirds of wages during the bread-winner's illness and in addition a small funeral benefit should he die. "Compulsory health insurance," concludes the brief, "is an economical means of providing adequately for the sick wage earner, and will prove a mighty force for the inauguration of a comprehensive campaign for health conservation.

Dr. J. W. Henson

Has returned to Richmond and resumed his practice after an absence of several weeks. While away, he did surgical work in Indiana for a while and later did some special work in Chicago.

Dr. W. A. Shepherd,

Of this city, has been spending his vacation in the mountains of Virginia.

Dr. A. G. Brown,

Richmond, spent his vacation with his family at Woodberry Forest, Va.

Dr. McGuire Newton,

Richmond, was registered at Hotel McAlpin, New York City, the latter part of August.

Dr. George E. Wiley,

Bristol, was appointed by Governor Stuart as one of the delegates from Virginia to the Convention of the Atlantic Deeper Waterways Association, meeting in Philadelphia, September 12 to 15.

Prevention of Blindness.

The National Committee for the Prevention of Blindness, in pamphlets recently issued, states that "there are in the United States today more than 10,000 persons who are totally blind because their eyes were neglected during the first few days of life. Many more are partly blind for the same reason." It is estimated that 50 per cent. of all blindness is preventable. In the Summary of State Laws and Rulings Relating to the Prevention of Blindness from Babies' Sore Eyes, Virginia has little to her credit. Is this not a subject which should have more legislation in our State? It might be well for us to remember as one of these pamphlets states that it is not a disgrace for a baby to have sore eyes as any baby may have the disease, but blindness from babies' sore eyes is often a disgrace, for in 99 cases out of 100, it can be prevented.

Dr. W. Reid Putney,

Assistant physician at the Virginia Epileptic Colony, at Madison Heights, was operated on for appendicitis at St. Luke's Hospital, this city, about the middle of August.

Dr. Casper W. Jennings,

Interne at the Retreat for the Sick, this city, is reported as much improved after undergoing an operation for appendicitis last month.

New Style Crutches.

We note from the *Boston Medical and Surgical Journal* that a French engineer named Schlick has invented a new style of crutch which, after about a year's trial, is still highly commended by soldiers who have tried it and is used with proficiency after about half an hour. It is stated that "the new invention resembles a walking stick with a horizontal handle. Above the handle is a spring rest sloped to fit the forearm. In use part of the body weight on that side falls upon the hand and wrist, the rest is borne by the injured leg and the balance of the weight can be shifted back and forth as conditions require." This re-

moves from the axillary region the weight and pressure which often caused trouble and gives the injured limb sufficient exercise to aid in recovery of function.

The American Hospital Association

Is to hold its annual meeting in Philadelphia, September 26-30, with headquarters at the Bellevue-Stratford Hotel. Dr. Winford H. Smith, of Johns Hopkins Hospital, Baltimore, is president.

Dr. W. Armistead Gills

Has returned to his home in Richmond, after spending sometime at Tate Springs, Tenn.

Dr. Wyndham Blanton,

Son of Dr. C. A. Blanton, of this city, has gone to the Presbyterian Hospital, New York, for research work. Later, he will go to Bellevue Hospital, where he has received an appointment as interne for the next two years.

Medical Society of Virginia.

Every member of the State Society should have received his preliminary announcement of the forty-seventh annual meeting which is to convene in Norfolk, October 24. The meeting will undoubtedly be both interesting and pleasant, as Norfolk meetings always are and officers of the Society hope for a large attendance. The president is Dr. Joseph A. White, of Richmond, and the secretary, Dr. P. A. Irving, of Farmville. Dr. R. Lloyd Williams, of Norfolk, is chairman of the Committee on Arrangements. Any of the above named will be glad to answer inquiries made of them.

Dr. and Mrs. Hugh F. Parrish,

Of Portsmouth, Va., were recent visitors at Natural Bridge, from which place they went to Luray, Va., for a visit.

Dr. and Mrs. Edward McGuire,

Richmond, were members of the early fall colony at Natural Bridge, Va.

Petersburg Doctors as Delegates.

Drs. R. A. Martin, W. F. Drewry and E. L. McGill, of Petersburg, Va., were appointed by the mayor of that city as delegates to the third North Atlantic Tuberculosis Conference, to be held at Newark, N. J., October 20 and 21.

The Southside Virginia Medical Association

Will hold its next quarterly meeting in

Farmville, September 12. Officers of the Association are Dr. H. A. Burke, Petersburg, president, and Dr. E. F. Reese, Jr., Courtland, secretary-treasurer.

Dr. and Mrs. E. G. Hill

Have returned to their home in South Richmond, after a visit to Lexington, Va.

Dr. C. Mason Smith

Has been re-elected city health officer of Fredericksburg, Va.

Association of Military Surgeons of the U. S.

The meeting of the above Association, scheduled for October 2-4, in Chicago, has been postponed owing to the recent military activities on the Mexican border.

Dr. B. B. Dutton, Jr.,

Winchester, Va., on his vacation visited his parents in Middlesex County, Virginia.

Dr. R. W. Stoneburner,

Who practiced in Ashland, Va., for nearly a year, has located at Toms Brook, Va., where there was a good opening for a physician. Dr. Stoneburner was raised at Edinburg, Va.

Dr. and Mrs. A. A. Sizer,

Schuyler, Va., were recent visitors in Lexington, Va.

The Mississippi Valley Medical Association

Will hold its annual meeting in Indianapolis, Ind., October 10-12, under the presidency of Dr. Willard J. Stone, Toledo, O. Dr. Henry Enos Tuley, Louisville, Ky., is secretary. The program includes papers on a number of interesting subjects in addition to the oration on medicine by Dr. J. P. Sedgwick, Minneapolis, and the oration on surgery by Dr. George W. Crile, Cleveland.

Surgeon C. E. Riggs, U. S. N.,

Has been detached from the Naval Training Station, Norfolk, Va., and sent to the Navy Yard, Washington, D. C.

Surgeon F. C. Cook, U. S. N., succeeds him at this Station.

The U. S. Civil Service Commission

Announces an open competitive examination for medical interne, for both men and women,

on October 4, 1916, at a number of places. From the register of eligibles resulting, certification will be made to fill vacancies in this position in St. Elizabeths Hospital (formerly Government Hospital for the Insane), Washington, D. C., at \$900 a year with maintenance, and vacancies as they may occur in positions requiring similar qualifications.

The positions are tenable for one year, and pay \$75 a month and maintenance. During the year, however, a postgraduate course in mental and neurological diagnostic methods is given, an examination is held, and promotions to the next grade, junior assistant physicians, are made. Beyond this there is regular advancement for men whose services are satisfactory. St. Elizabeths Hospital has over 3,000 patients and about 800 employees to care for. In addition to the general medical practice offered, the scientific opportunities in neurology and psychiatry are unsurpassed.

Applicants, who must be unmarried and 20 years of age or over on date of examination, must not have graduated previous to the year 1914 unless they have been continuously engaged in hospital, laboratory, or research work along the lines of neurology or psychiatry since graduation, which fact must be specifically shown in the application.

For further requirements, apply to the above named commission at Washington, D. C.

Dr. Blanton L. Hillsman,

Of this city, has moved his offices to Virginia Building at Fifth and Main streets.

Dr. Henry S. Stern,

Richmond, a graduate of the Medical College of Virginia in 1914, has received the appointment as medical inspector of the City Health Department, effective September 1, succeeding Dr. B. E. Summers, who resigned to take up private practice.

Dr. and Mrs. G. Chambers Woodson

Returned to their home in this city the latter part of August, after a visit at the Beach.

Sanatorium Not To Be At Ivor.

In deference to the wishes of the people of Ivor, Va., who entered a vigorous protest, the State Board of Health has decided not to purchase the former demonstration farm of the

Norfolk and Western Railway at that place for the sanatorium for colored tubercular patients. A number of other sites are now under consideration.

Dr. Bernard Kyle,

Lynchburg, Va., was among those recently registered at Natural Bridge, Va.

Individual Cups or Sterilized Glasses.

As it was thought during the recent typhoid scare in this city that some of the cases were traceable to a soda fountain, all establishments in Richmond, selling soft drinks, have been notified that beginning September 15, they will have to provide individual drinking cups for customers or install a device for the proper sterilization of all glasses.

Large Realty Estate.

We note from the *Journal of the A. M. A.*, that it is reported that all of Dr. John B. Murphy's estate of \$1,250,000, with the exception of \$250,000, was in realty.

Dr. Frank C. Pratt,

Of Fredericksburg, Va., has been elected a member of the health board of that city.

Dr. T. Allen Kirk,

Roanoke, Va., was a recent guest at Yellow Sulphur Springs, this State.

Dr. Robert Whitehead,

Of Newport News, Va., spent his vacation at his old home in Amherst, Va.

The Medical Society of the United States

Will meet in St. Louis, Mo., the first week in October. Officers of the Society are: President, Dr. A. H. Ohmann-Dumesnil; secretary, Dr. Geo. H. Thompson, and treasurer, Dr. Emory Lanphear, all of St. Louis.

The Virginia Pharmacist,

Which made its initial appearance with the September issue, is to be published monthly and is to be considered the official organ of the Virginia Pharmaceutical Association and the State Board of Pharmacy. The editors are to be congratulated on the copy in hand and we wish for it a big future. Messrs. Albert Bolenbaugh, E. L. Brandis and W. F. Rudd, all of this city, are the editors and have an associate staff of nineteen.

Dr. and Mrs. H. A. Bullock

Have moved into their new apartment at 1626-A West Grace street, this city.

Dr. and Mrs. Littleton Davis,

Of Roanoke, Va., motored to Richmond, early this month, for a visit to Mrs. Davis' parents.

Dr. A. E. Turman,

Of this city, accompanied by his daughter, recently visited his old home in Carroll County, Virginia.

Dr. Lewis M. Allen,

Of Gaylord, Va., recently left to join his wife in New Hampshire for the remainder of the vacation season.

Dr. Thos. N. Davis,

Of Lynchburg, Va., was a visitor at Natural Bridge, Va., late in August.

Do You Know That—

It is estimated that one million two hundred thousand Americans die each year?

Heart disease, pneumonia and tuberculosis cause more than 30 per cent. of deaths?

Sickness lowers earning capacity?

The U. S. Public Health Service is the nation's first line of defense against disease?

Disease is the nation's greatest burden?

Sunlight and sanitation, not silks and satins, make better babies?

Low wages favor high disease rates?

A female fly lays an average of 120 eggs at a time?

For Sale—Betz static machine, Betz sinusoidal apparatus, dry cell wall plate, Wappler portable X-ray and high frequency machine, one large vibrator, revolving instrument cabinet, adjustable examining chair, massage tables, etc. \$250 for entire outfit or any item sold separately for one-third catalog price. Address *Mrs. M. R. Slaughter*, 1421 Harrison Street, Lynchburg, Va.—(Adv.)

For Sale—\$2,000 practice in town on railroad, also house and lot valued at \$2,500. The practice and house and lot will be sold before the first of October for \$2,500. Address all communications to *Dr. H.*, care *Virginia Medical Semi-Monthly*.—(Adv.)

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THE SCOPE OF INFANT WELFARE WORK.*

By JOSEPH S. WALL, M. D., Washington, D. C.
Associate Professor of Pediatrics, Georgetown
University.

I want to express to you my appreciation of the privilege of speaking on the subject of infant welfare before your society. Those of us who have at heart the interests of child-saving always welcome an opportunity to further the ideals toward which we strive,—nor is there a more fertile field for the propagation of programs directed toward the reduction of infant mortality than in the smaller communities and rural districts of our states. Should the writer be able even in the smallest way to stimulate an awakening of interest in the subject, it will add to his appreciation of your kind invitation to be here.

How might the problems of infant welfare be best outlined? Perhaps, in keeping with our professional nomenclature, they may be divided into the groupings of the "disease" and the "remedy."

The "disease," the enormous loss of infant life, has been a reproach upon our civilization these many years. In the whole of the country at present, there is an annual loss of life under the age of one year of 300,000 children. Of this number it is believed at least 150,000 might be saved through the application of principles now known to be combative to excessive morbidity and mortality among the very young. In the state of Virginia alone, there is an annual loss of babies under one year amounting to 6,000.

The greatest asset of a nation lies in the numbers and virility of its young. Need I but call attention to the striking alarm now felt

in the countries of Europe engaged in the present war lest the devastations of such unprecedented slaughter of thousands in the flower of youth, result in disaster to their country's national entity?

The vital concern with which foreign publicists view this problem is shown in the array of startling methods advanced to cope with the situation which will confront them after the declaration of peace. It has even been suggested that monogamy, the badge of civilization, may be sacrificed to expediency; that plural marriages be permitted and various restrictions which now guard the sanctity of the married state be relaxed to ensure the perpetuity of the races.

And yet, in the United States, in all of the hue and cry of "preparedness," one fails to note a thought concerning the perpetuation of our race to combat this waste of 300,000 lives each year.

With all of our vaunted American superiority, the assumption of the relatively better economic state of our working classes, the low index of illiteracy, and the like,—it behooves us to initiate a seeking introspection to justify, if it is possible to justify,—the existence of our large death rate among the infantile population.

It is equally a reproach that for so many years the federal government expended its thousands and millions upon highly efficient departments engaged in the conservation of various national assets such as soils, forests, streams, minerals, cattle; the extermination of the boll-weevil because of the mortality it induced among cotton plants; fighting the plague of scale and parasite which killed the young of your orchards,—and yet until four years ago, there was no federal bureau to even investigate the problem of the conservation of infant life.

*Read by invitation before the Fauquier County Medical Society, June 14, 1916, at The Plains, Va.

Conservation planks are placed in political platforms,—but that devoted to the conservation of infant and child life is found solely in the platforms of organizations of social workers, a group notably poor in purse, or, of municipal and state health boards—equally notable for the paucity of public funds allotted them for the enforcement of their programs for health betterment.

We shall frequently have occasion to refer to the term “infant mortality” in our discussion, “infant death rate,” and the like. It is unfortunate that words synonymous with death and its concomitant measure of suffering, and anguish, its pall of depression and heart-ache, could not be avoided. Even if such designations must be used as an index fulfilling statistical requirements, let us look upon the falling death rate as equally representative of the rising health rate. Let one measure the terms of lower mortality in those of infant betterment, not only to estimate actual saving of lives, but necessarily, as well, the fuller measure of all that health and well being mean unto the baby, and through it, unto the home itself.

Why are studies in infant welfare so important?

One will find that in all social endeavor infant welfare is the foundation upon which the stones of uplift are builded—and quite rightly so. The very beginnings of life should naturally afford the best returns in research investment,—for the tracery of growth and development can be accurately followed only from the inception of the recorded curves.

The labile quality of the first year of life, moreover, most accurately reflects and adequately answers the influences of practically all the agencies now occupying the thought of every socially-minded individual. A few of these inquiries only will justify this assertion. They are—matters of food, clothing, housing, lighting, ventilation, water supply, the tuberculous soil, and, greatest of all, the living wage, a factory of tremendous importance in directly determining the infant death rate of a community.

The report of the Children's Bureau on the question of infant mortality of Johnstown, Penn., reveals the bearing of these various influences. For example: “It is not without

interest to note that in homes where water is piped into the house the infant mortality rate was 117.6 per thousand, as compared with a rate of 197.9 in homes where the water had to be carried in from outdoors. Or that in homes of 496 live-born babies where bath-tubs were found, the infant mortality rate was 72.6, while it was more than double, or 164.8, where there were no bath-tubs. Desirable as a bath-tub and bodily cleanliness may be, this does not prove that the lives of the babies were saved by the presence of the tub or the assumed cleanliness of the person having them. In a city of Johnstown's low housing standards, the tub is an index of a good home, a suitable house from a sanitary standpoint, a fairly comfortable income, and all the favorable conditions that go with such an income.” The same trend of a high mortality rate in connection with other housing defects is noted, such as with lack of cleanliness, dampness of the house, absence of a yard, defective sewage, etc.

The Johnstown economic findings were equally striking, reflecting most accurately the meagerness or amplitude of the wage earnings of the fathers. For example: “For all live babies born, the infant mortality rate of Johnstown is 130.7. It rises to 255.7 when the father earns less than \$521 a year or less than ten dollars a week, and falls to 84 when he earns \$1,200 or more or if his earnings are ample.”

The infant mortality rate of a community is a measure of its civic intelligence.

Sir Arthur Newsholme, the great English authority, has said: “Infant mortality is the most sensitive index we possess of social welfare. If babies were well born and well cared for, their mortality would be negligible. The infant death rate measures the intelligence, health, and right living of fathers and mothers, the standards of morals and sanitation of communities and governments, the efficiency of physicians, nurses, health officers, and educators.”

That which makes easier the pursuit of studies concerning infant mortality and morbidity is the ease with which the entree of the home can be secured through the medium of the baby. The baby is the fetish which at once puts even the stranger *en rapport* with the mother,—its age, its accomplishments, its

pretty tricks, its state of health form subjects of easy conversation even in the market place and shop. So much the easier, therefore, may the social investigator, the visiting nurse, or the county physician obtain an introduction to the inner circle of the home through its youngest inhabitant.

In the Johnstown Survey, Miss Emma Duke reports: "Above all, the bureau wishes to express its obligations to the mothers of Johnstown, without whose generous understanding and help, the inquiry could not have been conducted. Their good will is evidenced by the fact that, out of 1,553 mothers visited, only two refused information."

That there is need for investigation, and after investigation, for correction, is shown by a table of the mortality rate of various countries compared with our own:

TABLE A
Deaths per thousand births.

Russia	248	Scotland	112
German Empire	192	England and Wales	95
Austria	180	Denmark	93
Belgium	167	Ireland	86
Japan	160	France	78
Spain	158	Australia	72
Italy	153	Norway	65
United States	124	New Zealand	51
Switzerland	123		

If there is a needless sacrifice of 150,000 babies under a year of age in the United States each year, what are the causes determining this terrible holocaust of infant lives?

They may for convenience be divided into prenatal (including natal) and postnatal causes.

To prenatal influences must be attributed the rather large group of deaths in the early days of life, sometimes classed as prematurity, congenital debility, and the like, which have had their inception during pregnancy.

Carefully corrected figures from the registration area for the years 1910, 1911, and 1912, prepared by Mrs. Max West, of the Children's Bureau, show that among all the babies dying under one month, nearly three-fourths die of causes operative at or before birth, and eleven

of the states included in the summary assign these as the causes of the deaths of from 75 per cent. to 83 per cent. of all cases. The causes selected were malformations, congenital debility, premature birth, and injuries at birth.

Another tabulation shows that the number of deaths of infants under one month has remained fairly constant during the three years mentioned above, although the total number of deaths of infants under one year has decreased from about 136,000 in 1910, to about 120,000, in 1912, a decrease due largely, it is supposed, to the constantly smaller number of fatal diarrhoeal cases. This is a signal victory for the pure milk and infant welfare workers, and is evidence of the general awakening of interest in baby-saving. But this tabulation shows an actual increase in the deaths under one day, which means from prenatal or natal causes, of from 10 per cent. in 1910, to 13 per cent. in 1912. Here is a condition and not a theory which confronts us and imperatively demands more care and better care of the expectant mother,—a province in social work which has heretofore been much neglected.

TABLE C
Deaths of Infants. (Registration Area) Showing Increase of Those Due to Prenatal Causes.

Year	Under 1 Year	Under 1 Day	Per cent.	Under 1 Mo.	Per cent.
1910	136,350	13,265	10	51,296	38
1911	122,426	14,466	12	51,194	42
1912	120,715	15,358	13	52,018	43

Space forbids a detailed enumeration of all of the factors prominent in the prenatal period which prove deleterious to the child. Williams has found over 26 per cent. of early infant deaths in his hospital work attributable directly to congenital lues, a detectable and largely preventable cause of death; and let me add that he found but 6 per cent. due to eclampsia—the early detection of which by urinary examinations has for years been the

TABLE B
Prenatal Influences.

Under 1 Year.

Under 1 Day.

Year	Under 1 Year.			Under 1 Day.		
	All Causes	Prenatal Causes	Per cent.	All Causes	Prenatal Causes	Per cent.
1910	136,350	41,815	31	13,265	12,430	94
1911	122,426	45,385	37	14,466	13,660	94
1912	120,715	47,620	39	15,358	14,633	95

only prenatal care exercised by the average physician. It would be well if the lessons of Bruere's "Damaged Goods," were steeped well into the minds of physicians as well as laymen whom they are intended primarily to reach. The same incidence of inherited disease is prevalent in the prenatal clinics of the city of Washington.

One must not forget, and especially when most of you have largely to do with rural sections where the mothers do a good share, if not all, of their own domestic work, that the continuance of laborious work by the mother up to a time prior to her baby's birth is a prominent factor in causing infant death.

Miss Fannie Clement, superintendent of the Red Cross Town and Country Nursing Service, believes very strongly in the employment of women in rural communities as domestic helpers to relieve prospective mothers of their heaviest household duties, a practice that may be effectively encouraged by visiting nurses. She states: "The women in many rural districts working without conveniences of city life, and therefore called upon for much physical exertion, surely stand in need of a special consideration lest they be physically overtaxed to the detriment of themselves, their progeny, and the best interests of the community."

Natal causes of excessive infant deaths comprise *in toto* the injuries and accidents of childbirth, and these may be unavoidable, or they may represent what obstetricians call "bad obstetrics."

In the city of Washington, there are more still-born births in proportion to births, among the babies born in hospitals than among the babies delivered by physicians and midwives in private practice. Does this mean an indictment of the hospital obstetrician? Is it to be interpreted that the coming child has a better chance to be born alive if the mother is kept outside the precincts of hospitals supposedly possessing innumerable advantages over the home in the perfection of obstetrical technique? It is a question that deserves close study before an answer may be made.

The indiscriminate use of instruments to hasten delivery, to save time—perhaps for the benefit of the mother, often for the conveni-

ence of the physician—certainly wreaks disaster upon innumerable infant lives.

The following appears in the November, 1913, Bulletin of the Virginia State Board of Health:

"A high still-born rate means that we are either careless or criminally negligent in the care of our women during pregnancy and at delivery. Measured by this standard there is ground for grave concern in the fact that 2,291 children were reported still-born in Virginia during the last year. * * * We had no idea that this state of affairs existed until we were able to compile vital statistics from accurate reports of births and deaths, and we would not have discovered such a situation without such statistics. But now that we have them, we can certainly utilize them profitably in the *prevention* of needless deaths."

I have elsewhere called attention to the justice and necessity of considering the status of the child in all obstetrical procedures. "As a general theme, I would ask that the product of conception be given a greater measure of consideration in all matters obstetric when the safety or life of mother and child are considered coincidentally, and when balancing one's procedures to be enforced to effect the desideratum for the mother, all things being equal (or nearly so), as in high forceps or Cesarian section, to weigh gravely one's responsibility to the child rather than to lose sight of it entirely in the greater vision of the safety of the mother."

Post-Natal Causes of Infant Loss of Life.—These are the problems uppermost in everyone's mind as we are dealing with the concrete and not the abstract,—with a living baby rather than with the potential individual yet unborn. The baby who has lived, who has survived the early hazards already enumerated, is still to run a gauntlet of dangers ere it enters childhood.

"A baby who comes into the world has less chance to live one week than an old man of 90, and less chance to live a year than one of 80."—(Bergeron, quoted by Children's Bureau Publication No. 9.) These are its "chances,"—its expectation of life as the actuaries put it.

The two great groups to which the infant is especially liable are those of digestive diseases and respiratory diseases. Lack of maternal nursing stands at the head. In the absence

of the only food nature ever intended for the human offspring, there arises the necessity of sustaining life through the medium of substitute feeding, either by the use of cow's milk, or, unfortunately too often, the employment of some widely heralded patent food.

Space forbids the lengthy consideration of how these factors operate to cause infant morbidity and mortality. The use of improper foods, and of impure foods, notably contaminated milk, has in the past borne the brunt of blame for the deaths of the very young. Through public enlightenment, however, great strides have been made in securing clean milk for most communities and, as would naturally be supposed, the baby benefits most from such improvements as he represents the real milk consumer of the family. Associated with bad food, there has always gone hand in hand the baneful effects of hot weather. Notwithstanding attempts to prove that heat in itself is the cause of most deaths during the summer term, the fact remains that the enormous bacterial content of milk, rising with the increased readings of the thermometer, is the real cause of increase of digestive disturbances in the vast majority of instances.

Summer diarrhoea has become decidedly less frequent during the past few years in almost all of the large cities of the country. This is undoubtedly due to the improvement of the milk supply and the ever-increasing use of pasteurized milk.

This same fact has been experienced in institutions having the care of infants. In Washington, during the past five years, the infant deaths during the summer in the Foundling's Hospital have almost been negligible. Alfred H. Hess, of New York, has noted the same lessening of summer losses in the New York Hebrew Infant Asylum. He states: "We no longer dread the summer months and the heat. In fact, remarkable as it may seem, our mortality is lowest during the summer season. The significant fact is that during a period embracing three years, we had a total of but five deaths during the four hottest months of the year, and that the mortality was considerably higher during the winter months. In other words, we have to dread not 'summer complaint' but 'winter complaint.' This winter mortality is the result of pneumonia. These pneumonias have their begin-

nings in the simple every-day coryzas or colds."

Therefore, the respiratory group of diseases is now the one viewed with most concern and should be the object of vigorous attack.

In an interesting statistical study by W. C. Woodward, Health Officer of the District of Columbia, he shows: "Within the registration area of the United States, there occurred in the calendar year 1913, 159,435 deaths during the first year of life. Expressed in terms of percentage, computed upon the basis of the total number of infant deaths, the conditions peculiar to early infancy caused 33.16 per cent.; diseases of the digestive system, 27.12 per cent.; diseases of the respiratory system, 15.85 per cent.; general diseases, 9.48 per cent., and all other diseases and all malformations and injuries, 14.39 per cent." Of all deaths in the respiratory class reported by Woodward, bronchitis and pneumonia together caused 96 per cent. "It is manifest, therefore, that a campaign against deaths in infancy from diseases of the respiratory system is primarily and nearly altogether a campaign against bronchitis and pneumonia." The significant fact outstanding in this summary is the *sixteen* per cent. of deaths from respiratory diseases in the first year of life. But it is a source of gratification for you to know from the study quoted that "the very lowest percentage of infant deaths charged in any jurisdiction to diseases of the respiratory system was 10.87 per cent. in Virginia."

One must leave the factors of over-crowding, over-dressing, bad housing, bad sanitary conditions, etc., to that instant appreciation to which the mere mention of their names will direct your thought.

The Remedy.—According to Dr. L. Emmett Holt, "The fundamental causes of infantile mortality are mainly the result of three conditions—poverty, ignorance and neglect."

It would seem equally probable that the first cause given by Holt,—poverty, is the most fundamental of the three, and is unfortunately the one offering the greatest obstacle toward betterment of the conditions outlined in the preceding paragraphs.

The greatest sanitarian of modern times, General Gorgas, to whose far-seeing ability we owe the construction of the Panama Canal, has stated in no uncertain terms that the prob-

lems of sanitation are those of the living wage. His accomplishments in ridding the Canal Zone of untold hundreds of obstacles to health and life were made possible by the use of unlimited funds. It is well to bear in mind the slogan of the health department of New York City—"Public Health Is Purchasable. Within Natural Limitations Any Community Can Determine Its Own Death Rate."

The slogan of every state and every community should be "*Education.*" It has been the woeful lack of education, the paucity of knowledge of even the simplest principles of infant hygiene,—the survival of superstition and customs based on ignorance,—that in the past have directly contributed toward high death rates among the infantile population.

It is the duty of every state, of every city and of every community, by furthering education and enlightenment among its inhabitants, to promote infant welfare. Naturally, the leaders and directors in the van of the forces marshalled for this undertaking should be physicians.

What are these forces? First of all, the Federal Government which, under the leadership of Miss Julia Lathrop, Chief of the Children's Bureau, is doing such magnificent work in correlating the state-wide endeavors and in lending a helping hand in all activities devoted to the welfare of children. Already this Bureau has issued nearly a score of publications which can be obtained by every citizen of the United States on application to the department in Washington. Two of these bulletins deserve especial mention, the one on Prenatal Care, and a later pamphlet on Infant Care, both from the pen of Mrs. Max West. The knowledge should be spread throughout every community that these valuable publications may be obtained merely by writing for them and they should ultimately become as popular as the Farmers' Bulletins issued by the Department of Agriculture.

The Children's Bureau has in its possession and is ever enlarging a series of exhibits which may be obtained on application for demonstration before communities where it is desired to awaken interest in infant welfare.

More directly concerned in the program is the state. In many of our states sufficient importance has been attached to baby saving objects to cause the creation of Divisions of Child

Hygiene in the state departments of health, which further lends inspiration by specialization of this most important branch of public health endeavor.

The Division of Child Hygiene of New York under the leadership of Dr. H. L. K. Shaw has done sterling work in promoting a campaign for the betterment of infants among the smaller communities and rural districts of that commonwealth. This department last year visited 45 cities and 57 county fairs. Child Welfare Exhibits, with lecturers, stereopticon slides, moving picture films and special literature in several languages were sent through the State. In 31 of the cities visited the infant mortality rate fell below that of 1913, the preceding year, while in 12 cities *not* visited by the child welfare exhibits, in only four did the rate fall below that of 1913.

The activities of this particular state department in promoting the formation of infant welfare stations, outside of the city of New York, is shown in the accompanying chart as well as the coincident fall in the infant death rate.

TABLE D

Influence of State Activity. (Folks.) New York.	
In 1913,—	32 infant welfare centers.
In 1914,—	67 infant welfare centers.
In 1915,—	74 infant welfare centers.
Infant Death Rate—(State.)	
1913,—first 7 months,	111
1914,—first 7 months,	102
1915,—first 7 months,	98.

The State can in one particular alone enormously promote infant welfare work within its boundaries. It is by securing and enforcing laws requiring prompt registration of births. No agency can reach the babies of any community unless it knows where those babies are and the number of babies it should reach. No work along the lines of the prevention of blindness from ophthalmia of the new born can hope to succeed unless it is based upon accurate, and, above all, immediate reports of births. In fact, the State of Michigan, in addition to rigorous laws enforcing birth returns, passed an act in 1913 making it mandatory for those in charge to treat the eyes of the newly born with a prophylactic to prevent blindness. This law applies to all babies born in Michigan, and is not optional with physicians, but requires that the treatment

shall be given as soon as practicable after birth, and always within one hour.

To ensure knowledge of the necessity for proper returns of births, Michigan posts water-proof notices upon the trees and telegraph poles, in order to promote compliance with the law even as one sees in our own woods the legends, "No gunning allowed."

One view of the value and uses of birth registration, that of the late Frank W. Reilly, is as follows: "There is hardly a relation in life from the cradle to the grave in which such a record may not prove to be of the greatest value. For example, in the matter of descent; in the relation of wards and guardians; in the disabilities of minors; in the administration of estates; the settlements of insurance and pensions; the requirements of foreign countries in matters of residence, marriage and legacies; in marriage in our own country; in voting and in jury and militia service; in the right to admission and to practice in the professions and many public offices; in the enforcement of laws relating to education and to child labor, as well as to various matters in the criminal code—the irresponsibility of children under ten for crime or misdemeanor, the determination of the age of consent, etc."

It is passing strange that man should not have the same spirit of pride, let us call it, in insisting upon the proper registration of a baby's birth as he does in recording the word "registered" after the name of his favorite horse, cow, hog, or even dog!

What may the individual locality do for the promotion of the welfare of its own young denizens?

"Community action can remedy many conditions dangerous to the lives of infants. The purity of the water, the milk, and the food supply; the cleanliness of streets and alleys; the disposal of waste,—all these are within the control of the community."

The difficulty of the rural situation is that the individual must assume the responsibility for the sanitary policing of his own home. He must properly observe all of the principles of sanitation while living in the sovereignty of his individual life upon the premises he calls his own, because he is bereft of the services of individuals paid to exercise these functions for him should he become a member of a town

or city where water supply, sewage disposal and the like are under civic control.

It has been recommended by one of our state commissions that every community having a population of 10,000 should have at least one infant welfare station.

If space would permit, I should like to describe to you in detail the workings of one of these centers. The infant welfare station is really the baby health center of a community. It aims to extend to the babies and mothers coming within its reach, care and guidance for the promotion of health. It is interesting to note that the modern welfare center is the outgrowth of what was formerly called a "Milk Station." Inasmuch as the welfare station has exercised such a tremendous influence for betterment of infant health in every community where it has been placed, it would be well to at least describe the essentials of its operation.

TABLE E
Deaths per thousand births

	1910	1914
New Haven	260	160
Washington, D. C.	152	100
South Bend	135	95
Louisville	148	121
Boston	127	103
Holyoke	142	114
Springfield, Mass.	123	96
Duluth	223	187
Minneapolis	96	83
Montclair	111	84
New York City	125	95
Philadelphia	138	121
Providence, R. I.	145	115

Prenatal care is administered to the expectant mother who visits the center once a fortnight. Pelvic measurements are made, examinations of blood and urine, advice as to preparation of the necessary articles in her home for the puerperium, admonition as to food, exercise, sleep, etc., are given. Among the very poor, competent obstetrical service is afforded either gratis, or at a minimum cost, and if hospital care is thought essential, the nurse arranges for such. After the advent of the baby, the mother is urged to register her infant on the post-natal rolls for observation and guidance during its first two years of life.

This is accomplished by weekly "conferences" conducted by a physician who is assisted by the station nurse. Each week the baby is weighed, examined, its physical condition noted, and advice given as to details of food,

clothing, and hygiene. The aim of the whole work is to keep the baby well. In fact, many of these stations are known as "prophylactic centers" or "well baby clinics."

Every effort is made by the physicians and nurses to impress upon the mothers the necessity for breast feeding of their infants. As a result of the efforts in this direction, somewhat in the neighborhood of 60 per cent. of all station babies are exclusively breast fed and a large percentage receive at least some nutriment from the mother. This insistence upon maternal nursing has alone made the welfare station worth while.

Should the necessity arise for the use of artificial food, the mother is advised first in the selection of pure milk. Then she is taught the proper modification of the milk to meet the individual needs of her especial baby. This modification is first demonstrated by the center nurse and afterwards, under the latter's guidance, the formulas are made in the home. In difficult cases the preparation of food is continued in the welfare center, but it is usual for the average baby to prosper under home modification, predicated upon weekly supervision through the medium of the "conference." It is surprising to note the accuracy with which modification is carried out by the colored mothers, but one should remember that the art of cooking consists in the combination of formulas and that in this art the colored cook is notably efficient.

When babies become sick from illness not connected with feeding, they are referred to physicians or hospitals for treatment,—thus further emphasizing the fact that the utility of the welfare center is one of prevention.

In the City of Washington, about two thousand babies come under the influence of the welfare stations each year and it is calculated that one baby in every seven within the city is thus made the recipient of care and supervision along the lines of prophylaxis in matters of baby hygiene.

The infant welfare problem in rural or sparsely settled communities presents certain special features which require treatment rather distinct and different from that administered in urban situations.

I assume that your interest is naturally directed to the methods to be employed here and now for promotion of infant betterment with-

in your own vicinity, and whatever I may say along these lines is actuated by the endeavor to place before you those programs which have proven effective elsewhere under similar situations,—perhaps they are already familiar to most of you.

Much can be done along the lines of general education, the teaching of the mother in respect to care for herself and her baby, without the employment of agencies requiring expensive equipment and burdensome financial expenditures.

Great good can be accomplished by the use of the local press. There is always space open in the newspapers for subject matter concerning the care of the baby. The "woman's page" of any weekly or monthly periodical is ever ready to carry "copy" relating to the child and its welfare. Attempts should be made, therefore, that such literature frequently become a part of publications reaching the mothers of a community, for to them it is reading matter of the most attractive nature.

Mothers and prospective mothers should be put in touch with state and federal bureaus which will send to them direct much well written and easily readable matter relating to their needs. Interest in babies should be stimulated by "baby weeks," new style, and not old style, "baby shows," "baby Sundays," "baby parades," etc. In one town in your state there was conducted a "baby revival week," which, let us trust, was productive of all of the old-time fervor associated with camp-meeting days, but directed to the saving of bodies and lives instead of souls.

Baby welfare exhibits can be held in connection with grange meetings, county fairs, horse shows and similar gatherings where the people can be reached in numbers. There are a number of organizations which will furnish exhibit material for such purposes, such as the Red Cross, the Children's Bureau and the American Association for Study and Prevention of Infant Mortality. The expense of such demonstrations is small in comparison with the enormous good accomplished.

Associations of church women and women's clubs can be enlisted to further the cause of baby welfare; little mothers' leagues may be established in the schools and the teaching of the potential mothers of a community in matters of health, and especially baby health, can

be propagated more easily and with a greater degree of instant acceptance among the young girls than to any other group.

Finally, if sentiment can be sufficiently aroused in a county or populous town, the employment of a visiting nurse is far and away the greatest power that can be invoked to prevent infant morbidity and mortality. Not only can she conduct baby conferences at some stated place once each week, but she can ferret out in her rounds cases of illness and neglect which can be instantly benefited when they become known; she becomes the friend of the expectant mother; she acts as guardian of the school children and conducts regular inspection of the schools assigned to her jurisdiction. This latter function alone would repay the cost of her maintenance. Dr. Ennion Williams, your very active and efficient Health Commissioner, in a study of the physical conditions of school children in certain typical counties of Virginia, states: "We need not stress the fact that when 23 per cent. of the children of the rural schools in the inspected counties have defective vision, the menace constituted thereby is a serious one to all the children whose vision is impaired. Nor need we say that where 34 per cent. of the children have defective hearing, they will be under that handicap throughout life unless corrective measures are taken while there is still time. In the same way, when 62½ per cent. of the children in the inspected schools have defective teeth, it is unnecessary to point out that this means bad nourishment, bad digestion, and bad health for at least a large percentage of the children whose teeth are faulty. * * * On the other hand, certain defects disclosed by our inspection have a more immediate bearing upon the public health as such. For example, 50 per cent. of all the children inspected showed enlarged tonsils, and 37½ per cent. showed adenoids; 40 per cent. had other enlarged glands; 26.7 per cent. were anemic, and 49 per cent. were unvaccinated." It is Dr. Williams' opinion that "if a county can not see its way clear to raise money for both a school inspector physician and nurse, it would be best to forego the inspecting doctor rather than the nurse."

The report of the State Commissioner of Health relates that a school nurse has been employed for Loudoun County and one will cer-

tainly be employed for Albemarle during the next school year.

Fauquier County is already represented in the van of progress with a visiting nurse from the Town and Country Branch of the Red Cross.

Other parts of Virginia are also supplied with visiting nurses from the same source. The Washington Star on Sunday, June 4, contained the following:

HOT SPRINGS, VA., June 3.—Through the efforts of Miss Gladys Ingalls, president of the Hot Springs Valley Nursing Association, "Clean-up day" was celebrated in Hot Springs this week for the first time. There was a parade of 114 school children bearing brooms, brushes, dusters and other cleaning implements, and led by a band, and there were talks in the moving picture tent on sanitation and hygiene by Dr. Roy Flannagan, chief inspector of health of the State of Virginia; Dr. B. E. Summers, chief inspector of health of Richmond, and Dr. Lewis Cowardin. Miss Ingalls gave a report on sanitary conditions, and presented a banner to Thomastown, which was decided by a committee to be in the most hygienic condition of any of the group of adjacent villages which have been interested in the movement. The day came at the end of "Clean-up week," during which the villagers, especially the children, have been working hard to clean and beautify neglected yards, streets and gardens and vacant lots. Mrs. N. J. Thomas, seventy-eight years old, who has taken much interest in the welfare of Thomastown, helping the children to beautify the village, was chosen custodian of the banner and carried it and marched in the parade with the children, who, to wind up the afternoon, were taken to the "movies."

The Hot Springs Valley Nursing Association, which was started a couple of years ago by Miss Gladys Ingalls and has been continued chiefly through her efforts, is the first organization of its kind to be started in Virginia, and one of only forty-four in the United States. It maintains a local Red Cross visiting nurse, and next fall, through Miss Ingalls' efforts, will begin to build a community house, which

will be equipped for clinical work as well as social and settlement work.

In conclusion, let me present two suggestions toward infant betterment which are not dependent upon the upbuilding of specific agencies nor the employment of influences other than those which already exist in this and every community. They relate to prenatal and postnatal care.

It should be the practice of every physician to secure early observation of each expectant mother who comes within his care. The method of being called early to supervise these mothers is to teach them individually and collectively the value of prenatal care and the benefits which accrue from such care both to themselves and to their children.

Every father should be brought to realize that the wife and mother, both before and during this important epoch in her life, the puerperium, shall be surrounded by every comfort, care, and skill within his means to supply. This is the burden the male must assume and should assume in the equations of society.

The second observation I would make is this: Let every physician in his own individual practice conduct a "well-baby clinic" in his office, or on his daily rounds, in the operation of which every baby under his care or whom he has assisted in bringing into the world, shall be seen and examined every fortnight or at least once each month. In no field of medicine is prevention greater than cure, than in that of infant welfare.

Let the physician tell the new mother, "For the first year I will see your baby every two or three weeks,—not because it is sick, but because it is well and we must keep it so."

There may be some who, from ignorance of, or indifference to the necessity for preventive measures applied to the welfare of their infants, refuse this co-operation. This group of individuals needs "education" to lead them into the light of modern conceptions of duty and of economic reward embraced in the doctrine of prophylaxis applied to the well-being of their young.

Another group, because of limited financial resources, may be apparently unable to secure at least one year's observation of the baby from the standpoint of preventive medicine. They may find the burden of expense for medical at-

tendance when the baby is *sick*, all they can afford, let alone the payment of fees for visits which they deem of doubtful utility, when the infant, to all intents and purposes, is well.

This group may be answered in two ways, first, by pointing out the very obvious fact that it requires much less expense to maintain a baby's health by periodic supervision, than it does to care for one during some severe and prolonged illness.

In the second place, let the physician arrange with his patient for a year's supervision of the baby by an agreement that this will be extended for a lump sum, to be fixed according to the circumstances. This is the practice of every obstetrician. He extends to the mother before, during, and after confinement, so much of his time and energy as the case demands—usually for a fixed fee, commensurate with his patient's means. His visits may be many or few; the hours of the day and night spent in watchful waiting may in one case be but a slight demand upon his time; in another, they may seriously encroach upon his professional duties. The post-partum visits are continued until the recovery of the mother is assured.

Should one lose sight of the fact that the desideratum of the puerperium is the birth and the life of the baby? Is not, therefore, the health and life of the child to be considered equally paramount to that of the mother? But the period of convalescence for the mother lasts but one month; for the new-born, the snares and pitfalls of disease are in ambush for at least twelve months, and, as we have seen, the toll of lives is still too great.

2017 *Columbia Road*,

INDICATIONS FOR SUBTEMPORAL DECOMPRESSIONS IN TRAUMATISMS.*

By S. W. HOBSON, M. D., Newport News, Va.

It is not the purpose of this paper to embrace so voluminous a subject as the wide scope of brain injuries, nor to enter upon an analysis of brain symptoms with their craniotopography; but as each surgeon sees only a limited number of brain cases and these are frequently referred to hospitals later, our statistical information is somewhat confused upon the importance of early diagnosis and operation.

*Read before the annual meeting of the Association of Surgeons of the Chesapeake and Ohio Railway, at Old Point Comfort, Va., August 18-19, 1916.

However, while I have nothing especially new or original to present, it may not be amiss to review the essential features of a class of cases too frequently relegated to an expectant plan of treatment. I refer to those cases commonly diagnosed as "fracture of the base of the skull."

The process of brain injury may be summarized as: (1) Shock and Depression; (2) Excitement—Irritation—Stimulation—Swelling and intra-cranial pressure; (3) Exhaustion and Edema. Shock or slight concussion are usually transient, lasting from a few minutes to several hours, and any prolongation of the severe pressure symptoms beyond this time, especially if they are intensifying as time goes on, is indicative of an associated injury which demands immediate surgical interference. This injury, in the absence of depressed bone, is usually hemorrhage or contusion, both of which should be dealt with specifically and directly.

It is to be remembered that the symptoms of compression are expressive of an impairment of the functions of the entire brain by an insufficient and imperfect circulation of blood, due to a constriction of the intra-cranial space, by the hemorrhage or contusion and its subsequent swelling. It is during this stage of stimulation—congestion and increased intra-cranial pressure—that the operation should be done, for later on, during the stage of depression and exhaustion, the blood supply and nutrition in the cells is choked off by the swelling and edema, and the additional shock of the operation to the exhausted cells renders the operation more hazardous.

The point of surgical attack should be directed according to the focalization symptoms, but when a careful digestion of all the symptoms, general and local, including X-ray, discloses no focal information, a subtemporal decompression should be done—on one or both sides. This operation may not only lead to the seat of the hemorrhage, but serves to relieve the intra-cranial pressure by draining bloody cerebro-spinal fluid from the middle fossa, the most pendent portion of the brain. The relief of pressure afforded by the drainage and breach of bone in this stage of stimulation and swelling, prevents in a large measure subsequent neuroses by removing the causative factors, such as edema, clot infiltration, thickened membranes and other products of inflammatory action.

The technique best adapted to brain injuries is some modification of the submuscular method proposed by Cushing. A good practice is to make an incision from about the top of the scalp extending down to the middle of the zygoma; the temporal fascia is incised and the fibres of the muscle separated, the edges of the wound are retracted forcibly and the periosteum scraped away to the extent of the exposed area. The bone is trephined and rongueured away from two to four inches down to the base, or to any extent the control of hemorrhage may make it necessary.

The dura is nicked and explored at intervals until the base is reached, when narrow tape or rubber drainage is inserted beneath the sphenoidal lobe. The muscle and fascia are approximated with buried sutures, the superficial fascia and skin being closed with only room for the egress of drainage.

The operation is simple, may be rapidly done through this thin lamina of bone, and is almost free from danger of shock for the reason that it tends to lower the pressure toward normal. The sudden appearance of shock so frequently manifested in brain cases is due to the markedly disturbed intra-cranial pressure which results in a modification of the heart and respiratory action. This disturbance is very limited in decompression done in the stage of stimulation and already increased pressure, because it results in a descending tendency toward normal.

SOME POINTS AND DONT'S OF DIAGNOSIS IN THE PRACTICE OF MEDICINE AND SURGERY—ALSO POINTS AND DONT'S TOWARDS FELLOW PRACTITIONERS.*

By W. S. SLICER, M. D., Roanoke, Va.

Do we not often lay entirely too much stress upon certain symptoms? Do we not often lay entirely too little stress upon certain symptoms? Are we not prone to often over-estimate symptoms in our patients? Do we not often under-estimate symptoms in the same patients? How often have we told our patients who are suffering from myalgia, that they had la grippe, or that it was inflammatory rheumatism, or some other serious illness?

*Read before the Southwest Virginia Medical Society, at Radford, Va., June 28, 1916.

How many cases of follicular tonsillitis have we had in our recent diphtheria epidemic here classed as diphtheria and treated for same? How often do we allow our patients who have certain neuroses to impress on us that they are extremely ill, when they are not? Now, it is equally true, we have allowed these patients to over-estimate these conditions and to impress upon us that they are extremely severe, and while we oftentimes have over-estimated symptoms and conditions, it has just as often happened that the same conditions and symptoms have been under-estimated by both ourselves and the patient.

Have you not seen cases that have been diagnosed as la grippe and treated as such until the rose spots or typhoid hemorrhage had occurred? Do you not know of cases found in our recent epidemic of diphtheria that had been diagnosed and treated for follicular tonsillitis until one member of the family develops and dies of diphtheria? Then the laboratory man is called in and swabs are taken and proper diagnosis made, but it is too late. Three children have had it and are well under local treatment: one is dead: it has been communicated to other families, and now we have a diagnosis of diphtheria. This is inexcusable in the cities, and certainly inexcusable in Roanoke, where we have the advantage of a competent laboratory man to aid us in our diagnoses. I can recall two cases where anti-toxins have been administered with a diagnosis of diphtheria two days after a tonsil operation. Is this not inexcusable?

Mistakes are often made in neurasthenic and hysterical patients: in each case practically every ache and pain is charged up to neurasthenia or hysteria. What if we take time and pains to make thorough investigation? We can oftentimes find pathological conditions which, when relieved, will cure the hysteria or neurasthenia. Further, hysterical patients in whom the cause cannot be found may develop any pathological condition: therefore, we should be extremely careful before charging every ache and pain to hysteria or neurasthenia.

In connection with this, I wish to report a case of hysteria plus pathological conditions:

Mrs. R., age twenty-five, housewife, had been married eight months; no miscarriages. Was admitted to the Shenandoah Hospital, October

16, 1915, in a profound state of shock and anemia. Eight weeks prior to this, had had an exploratory laparotomy, at which time the appendix was removed and the pelvic organs found normal. Two weeks after the operation, as I understand, she began suffering pelvic pain, which continued at intervals. She was seen by a physician seven weeks after the operation, who advised that she was hysterical, that her symptoms were over-estimated, that she needed mental diversion, rest, etc. Another physician was called, who, knowing the reputation of those who had preceded him in the case, was also of the opinion that she was simply an hysterical woman. Within the next few days she suffered excruciating pelvic pain, followed by gradual decline, loss of appetite, no fever, pulse increasing in rapidity; and still it was thought she was an hysterical patient. However, on seeing her the next day, one of the anemias was thought of, and a blood examination was made. She was brought to the hospital where, upon examination, I felt a mass in the pelvis, and diagnosed tubal rupture. The cul-de-sac was opened through the vagina. At this time pulse was 160, hæmoglobin 30, temperature sub-normal, and the patient in extremis. Several pints of blood clots were removed with membrane: left tube was seized with forceps, the rupture was found, the bleeding controlled by linen sutures applied around the tube, and the wound packed with iodoform gauze. Of course, salines were administered, as were other stimulants, during the operation, which required only a few minutes. The patient on the next morning seemed better in many respects. Tap water, Murphy drip, was given continually with appropriate stimulants, but she developed a reverse peristalsis and died the next morning primarily from loss of blood, and, secondarily, exhaustion.

It might be well at this point to call attention to a classification of ectopic gestation, and I believe for the most concise understanding it would be well to divide it into four clinical groups: (1) Where the patient suddenly develops severe abdominal pain and quickly goes into collapse. (2) Where the patient has suffered indefinite uneasiness and abdominal pain with a slight vaginal discharge and occasional fainting. (3) Where the gestation has been uninterrupted to the latter weeks or pos-

sibly full term. (4) Where distinct blood-clot (pelvic hematoma) fills the pouch of Douglas. We find more cases under group two, and often the cases are not diagnosed until they pass into group one, or rarely into group three. Group four is the sequence of groups one and two.

Now, with patients presenting the aforesaid symptoms, we must make a differential diagnosis between ectopic gestation and appendicitis, tubo-ovarian and cholecystic lesions, and even rupture of duodenal ulcer.

The case which I have reported belonged in the beginning distinctly to class two. In reporting this case, I mean absolutely no reflection on either of the physicians who saw her. Each one of us is just as guilty of charging similar symptoms to neurasthenia or hysteria at the time the patient was seen by these gentlemen who had treated her prior to my being called to the case. When I saw her the diagnosis was easy,—severe pain in the lower abdomen, followed by rapid anemia, rapid pulse, sub-normal temperature, mass in the cul-de-sac, and profound shock.

Some Don'ts. Don't make a diagnosis without careful examination. Don't call tonsillitis, la grippe. Don't call all gastric symptoms ulcer of the stomach. Don't call all uterine symptoms cancer. Don't call follicular tonsillitis, diphtheria. Don't call diphtheria, follicular tonsillitis. Don't be too prone to feel that the neurasthenic or hysterical patient cannot have other pathological conditions complicating the ones that already exist at the time of your first examination. Don't take the patient's word for things. Don't be too anxious to get the patient who is blessing out the other doctor, for he will bless you out in due turn.

Don't wait on laboratory findings for diagnosis if your clinical symptoms are present. Don't be too prone to express your opinion of another doctor—I mean in the way of criticism,—for your remarks will invariably be exaggerated. Don't be too eager to run to other doctors' cases, and should you be called to such cases in emergency, it is your duty to the family, the physician, and yourself, to turn that case over to their family physician. Don't hold cases that are not yours. Don't invite yourself to return in consultation. Don't try to make impressions on the family to whom you have been called by a fellow prac-

itioner that you are "the big man." Don't split fees. Don't consult with unethical men, and by this I mean if you cannot go to the bedside with him, he should not be permitted to enter your hospital, or laboratory, or your operating room. Nor should you make X-ray or laboratory examinations for him, for if he is ethical, he is ethical; if not ethical, he is not ethical, and consultation is consultation it matters not how, when or where. Don't agree with your consultant just to be nice and in order to get future consultations. Remember that at all times your first duty is to your patient, while of course your differences of opinion as physicians can and should be satisfactorily settled, and all necessary changes in treatments can be made without the family's knowledge of just how or why it was done and by whom these changes were suggested. In selecting your consultant, get a man whom you feel can and will render you such help as you need.

This paper is presented just to point out some facts that exist in every-day diagnosis and practice of medicine and surgery.

A PLEA FOR MORE HOME APPENDECTOMIES.

By A. B. GRUBB, M. D., Cripple Creek, Va.

A medical missionary once found himself the victim of a disease (probably appendicitis) when he was 50 miles from any physician. He needed a hasty life-saving operation. He explained to his loving wife how the operation was done and he was put to sleep and his wife and a few converts did the operation and his life was saved.

Yet here in America how pitiful it is to see lives go out in our isolated districts and even in our railroad towns for lack of an early operation,—or now and then there is no operation at all.

Murphy says "There is constantly increasing mortality in large hospitals. Why this increase? Failure in diagnosis and procrastination! The subject needs to be re-written by forceful teachers every five to seven years. Early operation is the only safe practice. Let us not compromise with crime by procrastinating."

When any physician is called to see a ruptured case at midnight and does not hastily summon his nearest medical neighbor to assist

him in removing the appendix and putting in a large drainage, he has failed to do his duty and has compromised with crime. He may be a timid physician and feel keenly his inexperience, but certainly he knows he can carve a turkey, or a chicken, and can carve wood or flesh; then, why not with his training in anatomy remove the appendix, though it be his first one? He should keep in practice by doing some vivisections on dogs, and then when an urgent case comes before him, he will feel his ability to handle the case. Not only should he be ready for a ruptured appendix, but a ruptured gall bladder, duodenum, tubal pregnancy, perforated gastric ulcer, etc. By doing them he can save lives, and, in fact, the mortality can be kept down to almost nil if the Fowler position, Murphy saline, McGuire sparteine and other modern methods are used. He can raise the head of the bed on chairs and bricks to give the Fowler position; he can give saline either by the drop method, or allow approximately an ounce of water to run in about every fifteen minutes and then close stop-cock to the syringe and wait another fifteen minutes before allowing more to flow.

There are in Virginia many patients in a desperate surgical condition who are carried over rough roads to a railroad, after which the train must be waited for a long time, and when the patient finally reaches the skilled surgeon he is moribund, and dies from the operation. The family physician could have saved that life by operating maybe 12 to 24 hours earlier.

Though I have never tried opening and draining without removing the appendix in a diffuse peritonitis, yet that would be better by far than a late operation because the toxins could be draining through the tube, and nature would soon slough off the appendix. If a faecal fistula should form, it will generally soon heal spontaneously. Now and then an abscess has formed and the whole condition is happily local before you see them. Then by a stab puncture, the abscess can be opened when the appendix may slough off. In one of my cases a fistula followed puncture within three days, and ran profusely for a few days, but healed over in less than a week. The patient, a child, did not stay in bed over one day, but was up playing with the fistula discharging.

In conclusion, the only key to success is an early operation, even if your wife must do it for you.

Proceedings of Societies, Etc.

AMERICAN PROCTOLOGIC SOCIETY.

Reported by COLLIER F. MARTIN, M. D.,
Philadelphia, Pa.

The following is an abstract of the principal papers read before the American Proctologic Society at its meeting at Detroit, Mich., June 11-12, 1916, editorial mention of which appeared in a preceding issue of the *Semi-Monthly*.

Why Proctology Has Been Made a Speciality.

By T. CHITTENDEN HILL, M. D., Boston, Mass.

Particular attention is called to the inadequate treatment that rectal fistula receives at the hands of the general surgeon. The author claims that the general surgeon "has never taken the pains to learn the underlying principles of a fistula operation, nor has he the requisite skill, experience or inclination to carry out the necessary steps in the post-operative treatment of these cases, to bring them to a successful conclusion."

While in London there are two hospitals devoted to the exclusive treatment of diseases of the rectum, Hill feels that better results can be obtained by establishing special departments in our large general hospitals. He urges that proctologists be appointed to all general hospitals. The many advantages of staff association, consultations, etc., in which proctology touches on the work of men in other fields, would prove of mutual benefit.

He believes that in the near future a fifth year will be added to the present four-year medical course. This fifth year will probably be devoted to the medical specialties, and proctology should be included among them. The undergraduate certainly should have the chance to acquire reasonable proficiency in the newer methods of examination and treatment of rectal disease.

The Post-Operative Treatment in Rectal Surgery.

By W. H. STAUFFER, M. D., St. Louis, Mo.

This paper is based upon a review of over 25,000 rectal cases treated, of which 1,500 were operative. Four hundred of these cases had

been operated upon previously by approved methods by other surgeons.

There are two reasons for these 400 secondary operations: First,—Not selecting the operation indicated by the pathology; Second,—Improper post-operative attention.

In selecting an operation or treatment, the following requirements must be met: First,—Complete restoration of functions; Second,—Time required for cure; Third,—Pain produced.

Unsatisfactory results,—Complete or partial incontinence often are caused by needless traumatism. He does not believe in divulsion. Division of nerves causes sensory disturbances.

Incontinence may be due to fistula operation. Believes that where the fistula opens more than two inches above the sphincter, the two step operation is indicated.

In dealing with malignancy he mentions the operation of Evans as producing the least mutilation and disturbance of function in selected cases.

Operations should only be performed after a definite diagnosis has been made.

It is insisted that the best results are obtained by proper diagnosis, careful preparation, appropriate operation, and careful after-treatment. The surgeon should always make the first dressing and should always inspect the operative field daily. The patient should be kept under observation until recovery is assured.

Analyses, Selections, Etc.

Simple Guides for the Artificial Feeding of Infants.

The *New York Medical Journal* of January 1, 1916, contains an article by Edelman in which he says that the quantities of the various elements to be used are as follows:

Proteins: Allen and Grulee have shown that the amount of protein contained in one ounce of milk is required to each pound of weight in twenty-four hours to maintain a nitrogen equilibrium (that is, no gain), and in order that the infant may build up sufficient nitrogen in the tissues, the proteins must be one and a half ounces of milk for each pound in twenty-four hours. That is, an infant weighing ten pounds requires ten

ounces of milk in twenty-four hours to maintain a nitrogen equilibrium or keep its weight, and fifteen ounces to store up nitrogen or make a gain.

Fat. The same is true of fat; it requires one and a half ounces of milk in twenty-four hours to the pound—that is, the infant in order to gain, must have the fat contained in one and a half ounces of milk for every pound of its weight in twenty four hours.

Sugar. An infant weighing below ten pounds requires one ounce of sugar in twenty-four hours. An infant weighing above ten pounds requires one and a half ounces of sugar in twenty-four hours. Edelman never gives more than two ounces of sugar in twenty-four hours. When giving sugar for the first time, or after any nutritional disturbance, it is never the required amount; but he starts with a teaspoonful and increases every day, or every other day, until he reaches the required amount, being guided by the infant's tolerance and stools.

The foregoing guide gives to the physician a simple method of using the various elements. It should be used as a barrier. To limit the formula as a whole, Edelman uses the caloric method. A calorie is the amount of heat necessary to raise the temperature of one kilo (2½ pounds) of water from zero to 1 degree C. It is a heat unit and is used as expressing a food value. With it we know exactly how much food to furnish the infant in twenty-four hours, with reference to its requirements and weight. But to ascertain the required calories it is necessary to divide infants into three classes:

Class 1—Fat baby over five months, or an average baby at any age, requires 40 to 45 calories per pound in twenty-four hours.

Class 2—Average baby under four or five months, or a moderately thin baby at any age, requires 50 to 55 calories per pound in twenty-four hours.

Class 3—An emaciated baby at any age requires 60 to 65 calories per pound in twenty-four hours.

Bearing these three classes in mind, it is only necessary, when seeing the infant, to place it in one of the classes. This can readily be done by inspection, palpation, and weighing of the infant.

It may be asked, Why does an emaciated baby require more calories than a fat baby?

1—An emaciated baby cries and frets more, and uses more calories than a fat baby.

2—The amount of heat produced is in proportion to body surface—that is, the greater the skin surface, the more the heat produced. The skin surface of fat babies is the same as that of emaciated babies, therefore they produce the same amount of heat. We can readily see that the emaciated baby requires more calories to make up that heat, because its weight is less.

In order to make the formula according to the caloric method, it is necessary to know that one ounce of 4 per cent. milk equals twenty calories, and one ounce of sugar by weight equals 120 calories.

As to the number of feedings in twenty-four hours, either two, three or four-hour intervals are used. Edelman uses the three-hour interval in all babies who are not premature, and in the latter he uses a two-hour interval. If the three-hour interval is used, he gives food at 6 and 9 A. M. and 12 M., and at 3, 6 and 9 P. M., and again at 2 A. M., until six months of age. If the two-hour interval is used, he has ten feedings. The four-hour interval, he must admit, he has not as yet given a thorough trial, for in dispensary practice it is impossible to have the mothers carry it out.

The quantity to give an infant at each feeding is determined by the following rule: Give one or two ounces more at each feeding than the number of months in the baby's age; never less than three ounces, and never more than eight ounces. Experiments have shown that an infant one week old can take three ounces every three hours, with good results, and Edelman's experience bears it out. The reason is that the liquid portion of the milk passes into the intestine immediately, and the solid portion of the milk takes from three to three and a half hours to pass through. The liquid portion makes up about three-quarters of the milk and the solid portion makes up the other quarter.

The rule for the diluent of milk: That depends upon the number of feedings and the amount given at each feeding. Example: Baby three months old: the number of feedings according to the rule would be seven: amount to give at each feeding would be, ac-

ording to the rule, from four to five ounces. We then multiply seven feedings times five ounces and we get thirty-five ounces of food for twenty-four hours. If we now deduct the amount of milk we desire to use; we get the quantity of the diluent to be used. Having learned these guides, we can now proceed to feed our baby.

Example: Baby A., six months old, weighs 15 pounds, stools normal. This baby belongs to the first class, forty to forty-five calories, and according to the rules requires six feedings (after five months): no night feeding. The amount at each feeding in this baby would be seven to eight ounces (one to two ounces more than the baby's age).

Protein and fat requirements would be fifteen pounds (the baby's weight) multiplied by one and a half ounces equals twenty-three ounces of milk required. The sugar required is one and a half ounces for the twenty-four hours (baby weighing over ten pounds). Total amount of food for the twenty-four hours would be six feedings, and eight ounces to each feeding; six times eight equals forty-eight ounces of food for twenty-four hours, including milk and diluent.

The weight of the baby is fifteen pounds. The calories necessary for each pound are forty to forty-five. The child requires fifteen times forty-five calories, or 675 calories in 24 hours. From this amount we must deduct the calories for the sugar to ascertain the amount of milk and diluent required,—one and a half ounces of sugar times 120 calories per ounce of sugar equals 180 calories. Subtract 180 from 675, equals 495 calories to be made from the milk. We divide 495 by twenty (because there are twenty calories to each ounce of milk) and get about twenty-four ounces. This entire formula of forty-eight ounces requires twenty-four ounces of milk, twenty-four ounces of diluent (in this case, boiled water) and one and one-half ounces of sugar (here, cane sugar because this is a normal baby). The amount is to be divided into six parts of eight ounces each to be given at 6 and 9 A.M. and 12 M., and 3, 6 and 9 P. M.

This, to Edelman's mind, is the simplest and most successful method of artificial infant feeding we have today.—(*Therapeutic Gazette*, June, 1916.)

Vegetable-Engendered Ptomaine Poisoning.

Botulism was referred to by us in an editorial, some time since, on food poisoning, sausage being held under indictment; but recently it has been proven that the *Bacillus botulinus*, an obligative, anaerobic, spore-bearer requiring darkness and moisture for growth, proliferates in vegetable proteids, especially in home-canned vegetables and fruits. Commercial interests score here, for the commercial canners subject their products to higher temperature than is practicable in home canning.

This bacillus is not itself pathogenic and does not develop in the body; but it elaborates its toxin in food products, the absorption of the toxin being prompt in producing a thrombosis in the blood vessels of the central nervous system, with paralysis.

In Darmstadt eleven out of twenty-one persons who ate a salad made from home-canned beans died of botulism; and in California two "epidemics" of botulism were the result of eating home-canned pears and apricots. In California, Dickson worked the matter out without any peradventure of doubt that the bacillus will proliferate in canned string-beans, and the resultant product promptly kill animals.

The spores resist a temperature of 185 degrees F. for thirty minutes. Fractional sterilization, the commercial practice, is the more certain in killing the spores.

The natural habitat of the *B. botulinus* has not been determined; but it has been recovered from pigs' feces.

It has long been known that aldehydes may develop in canned fruits; but this new menace is much more disturbing. Physicians should warn their patrons against the careless canning of fruits and vegetables. It is quite possible safely to can at home if thoroughgoing methods are employed, especially fractional sterilization; that is, immersing the canned and lightly sealed jars in boiling water—some interval after their first cooking and filling into jars—and keeping them in the actively-boiling water-bath for thirty minutes or more. An ordinary wash-boiler serves the purpose.—(*Editorial, Medical Council, September, 1916.*)

Vitamines and the Deficiency Diseases.

Vitamines are basic organic substances found in foods and necessary to proper nutrition. Ex-

posure to heat, as in ordinary cooking, does not destroy them. They exist in small amounts in most foods, especially in legumes, fresh vegetables, the outer coats of grains, fruit juices, eggs, fresh meat and milk, yeast, butter-oil, and cod-liver oil.

Denatured foods—cured meats, white flour, polished rice, pure starch, casein, canned foods long kept, etc.—are largely devoid of vitamins.

Many investigators have shown by animal experimentation that a certain content of vitamins is necessary to nutrition, an unbalanced diet in the animals being productive of interrupted growth, faulty metabolism, infective diseases of the eyes, glandular atrophies and polyneuritis.

Scurvy, osteomalacia, rickets, pellagra, "serofula," and beri-beri are deficiency diseases in man, and, to an extent, tuberculosis and certain nervous diseases. Many diseases are aggravated and recovery retarded by food deficiency—a deficiency of actual nutritive material and of vitamins. Calories are not the whole of diet; a certain vital element must be present also. Nature, not the chemist, must balance our rations. Chemistry may make nutritive substances; but there is something lacking which is vital to nutrition and growth—vitamins.

Fortunately, the symptoms caused by vitamin starvation are readily corrected if taken in time. Cod-liver oil, fresh milk, the yolks of raw eggs, fruit juices and unsalted butter are admirable, while active yeast is particularly so. Then have the patient eat whole-wheat-bread and plenty of vegetables and fruits, and his trouble disappears. Also throwing the water away in which vegetables are boiled wastes the water-soluble vitamins.

During the past summer we have practiced vitamin feeding with a number of poorly nourished infants—tin-can-fed infants—with surprisingly good results. And many nervous and worn adults have also markedly improved. And, Doctor, don't use denatured cod-liver oil and the casein-glycerophosphite "tonics"; but give whole oil, whole cereals, milk and natural foods. You will be gratified with the results. (*Idem.*)

The Intranasal Treatment of Dysmenorrhea.

Marvin Pechner, New York, reports twenty cases of dysmenorrhea treated by thoroughly cocaineizing the genital spots of the nose with 10 per cent. cocain solution, for a period of one

to five minutes. In passing, it may be said the spots are situated at the anterior end of the lower turbinate and the tuberculum septi.

Pechner goes on to say that since Fliess (Relation of the Nose and Female Genitals, Leipsic, 1897) called attention to the relationship existing between the nose and the genitalia and the adnexa and reported the results he had obtained by treating the nose in cases of dysmenorrhea, articles by various authors have appeared from time to time corroborating the experiences of Fliess and adding weighty testimony to the efficacy of the treatment.

Cocain was employed by Fliess in his first series of cases, but he subsequently used epinephrin, trichloroacetic acid, the galvanic cauterium and bipolar electricity.

Seifert (*Zeitschrift f. Laryngol, Rhinol u. i. Grenzgeb.*, 1912, v. 431) refers to 296 articles that have been written on this subject. Emil Mayer (*Jour. A. M. A.*, Jan. 3, 1914, pp. 6-8) reported a series of 93 cases treated by him in conjunction with Dr. Joseph Brettauer, in which he employed menthol, cocaine and caustics.

In the great majority of cases reported, the results have been rapid and lasting, the number of cases in which no relief was obtained being very small.

In Pechner's own series, likewise, relief was prompt and in most instances permanent.—(*Medical Review of Reviews*, September, 1916).

Narcotic Drug Addiction.

Narcotic drug addiction is one of the gravest and most important questions confronting the medical profession today. Instead of improving conditions, the laws recently passed have made the problem more complex. Honest medical men have found such handicaps and dangers to themselves and their reputations in these laws, and the regulations evolved to facilitate their enforcement, that they have simply decided to have as little to do as possible with drug addicts or their needs. That this is wrong and not in accord with the highest principles of medicine must be conceded, and yet we sympathize deeply with our colleagues who have taken this course. The prospects of annoyance and suspicion, with the danger of making honest mistakes or of having methods misunderstood and misconstrued are too great—as shown by the unhappy experiences of more than one physician of standing—to make it attractive to the average doctor to devote his time and attention

to the problems of drug addiction and a class of patients that are generally looked down upon. Consequently there are few medical men who will treat or have anything to do with the drug addict. The druggists are in the same position and for similar reasons many of them have discontinued entirely the sale of narcotic drugs. The poor drug addict is in a precarious condition, indeed, for he is denied the medical care he urgently needs; open, above-board sources from which he formerly obtained his drug supply are closed to him, and he is driven to the underworld where he can get his drug, but, of course, surreptitiously and in violation of the law. Through no fault of his—except that he is the victim of a drug habit—he is forced to become a law breaker. Someone may say this is unnecessary and he can go to the authorities. This is true; he can. But he knows that he will get no sympathy from the police, for they will only look upon him and treat him as a "dope fiend." He knows only too well what that treatment will be and the hell he will be forced to undergo through the lack of a correct knowledge of what drug addiction really is, on the part of the authorities. Is it any wonder he prefers to continue as he is?—(*American Medicine*, New York.)

Memorial Hospital,

Richmond, in its report for the year ending June 30, 1916, shows that 3,377 patients received treatment during the year. Of this number, only 171 died, 1,882 were cured and the greater part of the others were reported as improved.

Plans are practically complete for the erection of the hospital for colored people and the nurses' home, to be built in connection with Memorial Hospital from the subscription fund of the early summer, and occupants of houses which have been purchased as sites for these new buildings have been requested to vacate their premises October 1. The colored people's hospital is to be six stories high, a story and a half of which will be devoted entirely to operating rooms. The general and emergency wards will be located on the ground floor and the hospital will be equipped with all modern appliances throughout. The nurses' home, to be five stories in height, will have accommodations for 108 nurses. Plans for the contagious disease pavilion will be completed shortly.

The County Society.

This Department is conducted by the Committee on Component County Societies at considerable trouble and expense, and a copy of the Journal sent to members of the local societies and to the doctors of the unorganized counties. All of this is done for the purpose of interesting you in the work, which we take to be a great one, and of getting your aid in promptly completing the organization, and developing the usefulness of the societies already chartered. Your active co-operation is earnestly desired.

The Committee is composed of Drs. Southgate Leigh, chairman, R. S. Griffith, T. V. Williamson, C. P. Jones, E. H. Terrell, Joel Crawford, G. A. Stover, J. R. Garrett, D. M. Kipps, Stephen Harnsberger and W. H. Ribble, Jr.

The Committee will be glad to answer all inquiries addressed to 109 College Place, Norfolk, Va.

To the Individual Members of the Profession in Virginia.

During the past few weeks, through these columns, the Committee has been presenting for your consideration some facts concerning organization, and the overwhelming advantages of organized effort for the benefit of the individual doctors, the profession as a whole, and the public in general. We hope that we have so impressed the matter upon you that you will be willing *now* to do your part.

Other states have been ahead of Virginia in organized work, and have reaped the advantages. Fortunately for us we have not had the serious problems forced upon us as some of the others have, and yet these same problems and difficulties are likely to come at any time, and we must be in a position to handle them promptly and effectively.

With a strong and compact local organization in each county, and these units banded together in a well managed State Society, every problem, both small and large, can be promptly and effectively looked after in a manner beneficial and creditable to the profession.

The completing and strengthening of our local organizations (the County Societies) is the first and absolutely essential step. Then comes the developing of the possibilities and influence of the organizations.

This is a practical business proposition. Every other important line of business or profession is thoroughly organized except ours, and more good can come from medical organization than from any of the others.

We need better laws governing the practice of medicine, medical education, care of the sick and helpless, and many other matters of local and state-wide importance. Strong medical organization can guide all these matters correctly and intelligently.

In developing the usefulness of the local and state organizations, the most important object of all is the question of assisting, suggesting to, and encouraging the individual doctors in higher medical education. This has now become a pressing need. Every physician must do more in reading, studying and developing his knowledge and ability. If he does not, he will soon be left behind. If properly conducted, our local societies will in a short time each become a centre of medical education and development.

In some states the work has gone forward so well that each local society has a post-graduate course of study. In others the State Society at its annual meetings has practical courses of instruction in certain important procedures.

What we need in Virginia is, in the first place, to complete and strengthen our organization, local and state, and then through the good management and good work of the executives of our State Society, learn from the other states of the many methods they are successfully carrying out, and present them to the doctors of Virginia so they may have all of the modern opportunities of progress and advancement.

This is not theorizing but practical common sense talk.

Thorough and intelligent co-operation is all that we need.

Doctors of Virginia, we call upon you, each and every one of you, to help in this great work of uplift and development.

How can you help?

By calling your local societies together at once, and strengthening their organization. Every reputable doctor should belong to his local society.

If you belong to an un-chartered society, insist that a charter be obtained without delay.

If you are in a county where no society exists, call an immediate meeting of the local profession and organize.

It is clearly "up to you," *Doctors of Virginia*, and we have faith in you to believe that you will be equal to the occasion, that you will

do your duty to the fullest extent. We would, however, beg that you *act promptly*.

To the Officers of the County Societies.

Do you realize the importance and responsibility of your position? The members of your societies look to you to guide them in their organization and their scientific work. Are you doing your best?

If you have not held a meeting recently, won't you help in the work by calling one *at once*? Even if you have had no meeting for a year or more, the reasons are still more urgent why you should get the members together *now*.

The coming meeting of the State Society will probably be the most important ever held. There will be a very large attendance. In addition to the scientific program, business of vital importance will be brought up.

If the local societies want it, and we believe they do, a *House of Delegates* will be formed. The question of a *State Journal* will be discussed. Possibly a Defense Fund will be agitated. These and many other weighty matters will be considered. Your society should have full representation. You will probably be asked to send delegates to help the Council to decide certain of the above questions.

When you meet, consider the educational work of your society. That should be developed as rapidly as possible, and that after all is the main reason for the existence of the Local Society.

You are especially urged to see that all of your assessments due the State Society are paid *at once*.

Personal letters and personal talks with your members will easily get them to pay their back dues. Forward your assessments, \$2.00 *per year per member, to the State Treasurer at once*.

You are probably tired of having this question of dues brought so often to your attention but it cannot be helped. No successful organization can run without money, and the State Society is not an exception. Its work is of great importance and should not be allowed to suffer for lack of a few dollars.

To Organized and as Yet Unchartered Societies.

You are urged to apply to the Committee

for a charter *at once*. You have everything to gain and nothing to lose. The Local Societies have absolute control over the State Society and its membership.

Would you like the State Society to elect members from your county without your consent? When you are chartered, no man in your county can get into the State Society except through your society. You will have entire control of election, suspension and expulsion of your members who are automatically so treated in the State Society. The State Society is simply a banding together of the local societies. "*In Union there is strength.*"

The profession of the state needs more strength and power, and it can get it only through organization. What could your society do *by itself* in important legislative matters? But banded together with the other societies of the State, it can do everything for the good and elevation of the profession.

The Committee earnestly hopes to hear from each one of you *within the next ten days* so that charters may be issued in time for the State Meeting.

To the Profession in the Unorganized Counties.

The Committee hopes you have read the *Semi-Monthly* for July, August and September. If you have not read each copy, let us know and we will send you reprints. If you have read them, including the "The County Society" section, you *know that you need a society in your county*, and that you should organize *at once*.

Any one or more of you can call a meeting. Send a call to each reputable doctor in your county.

A form similar to this would be advisable:

"Dear Doctor:

"A meeting of the physicians of _____ County is called for _____ at ____ o'clock at _____, for the purpose of organizing a County Society.

"The need for such a society is urgent and pressing. We are anxious to get our charter in time to take active part in the State Society meeting in October.

"You are urged to attend the meeting. If unavoidably detained, please write us and authorize us to enroll your name.

"Fraternally,

"(Signed) _____"

At the meeting elect a president, vice-president, a secretary-treasurer, and any other officers you desire.

Write *immediately* to the chairman of the Special Committee, 109 College Place, Norfolk, Va., applying for a charter. Send him also a list of your officers with addresses, a list of your members with addresses, and a list of the eligible non-members in your county.

The charter will be issued promptly and without expense. Your society then becomes a component part of the State Society.

The Committee will be glad to furnish all desired information, including sample copy of Constitution and By-laws.

Please act promptly in this matter.

The Question of Dues, and a Plain Talk to Delinquents.

Each Local Society is responsible to the State Society for \$2.00 per year per member, for each year the Local Society has been chartered. The collection of the dues may be made in any way that the Local Society may desire. The best plan is to assess each member so much a year, say \$3 or \$4, the amount to be sufficient for the expenses of the Local Society and also to cover the amount due the State Society.

The State Society has nothing to do with the collection of dues from members of the local societies. The State Treasurer, through error, has in some instances sent bills to the individual members of the local societies. This error should not prevent the local treasurer collecting the dues and sending the assessments to the State Society as prescribed by the Constitution.

This talk, however, is intended especially for members of local societies and delinquents.

Pay your dues at once to your local treasurer. If you are delinquent, pay up all your back dues. If there is misunderstanding as to the amount due, write the Special Committee and we will try to straighten the matter out.

The only trouble that the Committee has had has been in regard to dues. It is needless here to discuss the causes of this trouble. Suffice it to know that it exists, and we are doing our best to clear it up. The State Society must have funds to carry on its affairs. The assessment of \$2 a member levied on the local societies is small, but when a number of local soci-

ties get behind in their payments, the amount grows large and seriously cripples the work of the State Society.

There are quite a number of the local societies behind in paying their assessments, and the local treasurers complain that the members will not pay up.

This is intended as an earnest appeal to the members of the local societies to help push the great work of organization. Just at this time nothing you can do will have greater effect than paying your present and past dues.

Please pay up at once, and to your local treasurer.

The Norfolk Meeting of the State Society.

The Local Committee of Arrangements solicits the active cooperation of the profession of the State in making the meeting successful.

Detailed and extensive preparations have been made for the comfort and pleasure of the visiting doctors and their families. The climate of Norfolk in October is delightful. Hotel accommodations are first class and ample, and the Committee (Dr. R. L. Williams, chairman) will be pleased to make reservations if desired. The halls of meeting will be quiet and well arranged. The exhibits, which will be extensive, will be shown in the lobby of the hotel, where will also be located an information bureau. A number of pleasant entertainments have been arranged.

In short, everything possible is being done to make an attractive and satisfactory meeting, and it only remains for the doctors of the State to arrange their affairs and come.

A cordial welcome and a good time awaits you.

To "Wither Warts While You Wait."

The cry goes up, "what will cure warts?" A remedy has never proved itself sufficiently sure for the Clinic to recommend, but a formula is in the possession of the editor which "withers warts while you wait."

R Sulphur sub. ʒv.
Concentrated acetic acid. ʒiiss.
Glycerin ʒij.

M. Sig.—Apply the paste to the warts on small pieces of linen or spread with a brush at night. Wash off the next morning. Repeat till the warts drop. This works every time.—*Ex.*

Editorial.

What Profiteth a Man That He Gain the Whole World Yet Lose His Health?

Such is the query propounded by the U. S. Public Health Service in a recent issue of its *Health News*, which then argues the futility of attempting to over-ride natural laws without paying the price.

Naturalists say that long ago the prehistoric waters were infested with a species of enormous shark which finally became extinct by reason of the workings of its voracious appetite. Thus Nature eliminates the over-fed.

The desire for ease of life and plentiful diet is universal and is the great stimulus of man and animals alike. When man takes more ease and food and drink than is his share, Nature discards him.

In the race for power and place, for ease of circumstances and relief from the stimulus of hunger, the modern man is apt to forget that unless he is careful of his body he will soon be made to suffer for the infraction of Nature's inexorable physical law. With the loss in body tone comes an equal loss in mental acuity and the brain, which for a time was able to operate despite the complaints of an over-fed, under-exercised, self-poisoned body, stops working.

Statisticians have discovered that the mortality rate of persons in the United States over 45 years of age is increasing. The strenuous life of today is not alone responsible for this. Lack of health-giving exercise, superfluity of diet, lack of restoring sleep, over-stimulation the high pressure of the race for power, wealth and position, plus physical neglect,—these bring early decay. The goal is reached, wealth is amassed, honor, position and power are just being grasped when accomplishment turns to the ashes of dissolution. The brilliant mind becomes clouded, the steady hand is no longer accurate, the eye which once gazed fearlessly on the whole world is dimmed and it is not long before the final break-up occurs. All of this was entirely preventable.

Other things being equal, it is the man who leads the well-balanced life, who lasts the longest, whose work to the end is uniformly the best, he who neither over-works nor over-plays, neither over-eats, over-drinks, nor over-sleeps, he who maintains a standard of simple healthy

diet in moderation, who offsets mental work with physical recreation, who is as honest with his own body as he is with his own business. When success comes to such an one, his physical and mental condition is such that he can enjoy in peace of mind and contentment of body the fruits of his labors.

The regulations of U. S. Public Health Service state: "It is the duty of officers to maintain their physical as well as their professional fitness. To this end they shall be allowed time for recreation and study whenever their official duties will permit." If the Government regards it as essential that its sanitary experts shall be safeguarded in this way, is it not equally important to every citizen that he similarly maintain a high standard of physical integrity? Physicians may well bear these thoughts in mind.

The Southside Virginia Medical Association

Held its regular quarterly meeting in Farmville, September 12, with a good attendance. The subject for general discussion was "The Early Diagnosis and Treatment of Cardio-Vascular-Renal Conditions" in addition to which several other interesting papers were read. Between the afternoon and evening sessions, a banquet was tendered the visiting members by the local fraternity. Drs. H. A. Burke, Petersburg, and E. F. Reese, Courtland, are president and secretary, respectively, of the Association.

Dr. James W. Reed,

Ocean View, Va., has been appointed a member of the Norfolk County, Va., Board of Health to succeed Dr. W. P. McDowell, resigned.

Dr. McDowell, who was connected with the Board for two years or more and was for more than a year its secretary, resigned as he expects to leave shortly for Boston to pursue a course of post-graduate work for ten months.

Drs. Dix and Wilson were re-appointed members of the Board for another year.

Dr. Robert C. Bryan,

Richmond, Va., who has been connected with Mrs. Harry Payne Whitney's hospital at Juilly, France, for the past three months, returned home the middle of September.

The Lynchburg and Campbell County Medical Society

Held its first meeting following the summer

vacation, September 4, Dr. E. W. Peery presiding. Some interesting case reports were given but the address of the evening was by Dr. Southgate Leigh, Norfolk, chairman of the committee on component county societies. The meeting was made a social affair following the business session and refreshments were served.

In speaking of Dr. Leigh's talk, the secretary, Dr. Bernard H. Kyle, writes as follows: "Dr. Leigh came and gave us a rattling good talk on 'The County Society as an Organization.' The Society made a motion that was carried to hold a special meeting in two weeks to take up some of the suggestions outlined by Dr. Leigh. I would suggest to every county society in the State to have Dr. Leigh visit them as early as possible, for the purpose of taking up this question with them. Very few men in the societies really know what the society is doing for its members and the county at large.

Dr. and Mrs. W. F. Driver,

New Market, Va., recently motored to this city for a visit to relatives and friends.

Dr. George M. Preston,

Of Lynchburg, Va., spent his vacation at Weyers Cave, Va.

Dr. D. M. Thomasson,

Lynchburg, Va., attended the Mayo Clinics at Rochester, Minn., in August.

Dr. James E. Smith,

Petersburg, Va., accompanied by his family, took an automobile trip in August, on which they visited a number of places in this State. They were gone thirteen days and covered 852 miles in this time.

Dr. J. M. Williams,

Formerly of Disputanta, Va., has returned from a post-graduate course of study and located in Petersburg, Va., where he will give his time to diagnostic work.

State Delegates to Conference.

Governor Stuart has appointed the following delegates from Virginia to the North Atlantic Tuberculosis Conference to be held at Newark, N. J., October 20 and 21: Miss Agnes D. Randolph, Richmond; Drs. J. J. Lloyd and

W. E. Brown, Catawba Sanatorium; Harry T. Marshall, University; Charles R. Grandy, Norfolk; Mrs. S. W. Jamison, Roanoke; Messrs. Julius Goetchius, Saltville; I. E. Spatig, Lawrenceville, and A. T. Lincoln, Marion.

The American Public Health Association

Will hold its annual meeting in Cincinnati, October 24-27, under the presidency of Dr. John F. Anderson, New Brunswick, N. J., formerly of the U. S. Public Health Service. In addition to the scientific program which has been divided under half a dozen sections, an elaborate program of entertainments has been arranged. Mr. S. M. Gunn, 755 Boylston street, Boston, Mass., is secretary of the Association.

Dr. Raymond H. Brockwell,

Of the 1916 class Medical College of Virginia, is located at 6 East Grace street, this city.

Dr. and Mrs. A. L. Wilson

Have returned to their home in Lynchburg, Va., after a visit to Nantucket, Mass.

Dr. Carrington Williams,

Richmond, has recently been registered at Brunswick Inn, Waynesboro, Va.

Dr. and Mrs. Robert E. Booker,

Lottsburg, Va., went to Baltimore for a short stay the middle of the month.

Few Cases of Poliomyelitis in Virginia.

The State Board of Health, in a bulletin issued about the middle of September, announced that there had only been twenty-two cases of infantile paralysis, including several cases of doubtful diagnosis, reported to the State Board of Health since September the first. While this is seven more than reported during all of September, 1915, it is below the figures recorded for several months when the disease was found in this State but was not in epidemic form.

A Prize of \$300.

The American Association to Promote the Teaching of Speech to the Deaf is authorized to pay \$300 of the income from the Alexander

Graham Bell Grosvenor Memorial Fund for the best essay on the subject, "Teaching and Training Little Deaf Children in the Home," received on or before 12 o'clock noon on November 1, 1916. The award will be made by the Board of Directors. Each essay submitted shall consist of from 20,000 to 21,000 words. Three typewritten copies of the essay shall be prepared, each bearing a distinguishing mark or *nom de plume*, but nothing to tell who the writer is; the three copies shall not be folded, but sealed in a plain flat envelope bearing only the title of the essay and the distinguishing mark or *nom de plume* of the writer. Then the name and address of the writer with the mark or assumed name shall be typewritten on a card or sheet of paper and sealed in a small envelope. These two envelopes shall then be sealed in a third envelope, bearing no indication of who the sender is, and addressed to "The Judges of the Alexander Graham Bell Grosvenor Memorial Fund, Volta Bureau, 1601 35th street, Washington, D. C." The essays should reach the Volta Bureau during the last week in October and not later than noon of November 1, 1916.

The judges will report their findings to the Board of Directors, who reserve the right to withhold awarding the prize should the judges report that none of the essays possessed sufficient merit to warrant an award. The essay awarded the prize becomes the property of the American Association to Promote the Teaching of Speech to the Deaf, and will be published in *The Volta Review* and later in book form.

Dr. Samuel P. Oast,

Portsmouth, Va., returned home from duty with the Red Cross service abroad, the middle of this month.

The Fairfax County (Va.) Medical Society,

At its quarterly meeting held in Alexandria, last month, elected Dr. R. L. Wilkins, president; Dr. C. L. Starkweather, Occoquan, vice-president; Dr. T. C. Quick, Falls Church, secretary, and Dr. F. M. Brooks, Swetnam, treasurer.

Married—

Dr. Guy Munsey Naff, North Emporia, Va., and Miss Eunice Hines, Drewryville, Va., September 6.

Dr. William Belvidere Meares, Jr., a graduate of the University of Virginia in 1915, and Miss Helen Loving Thomas, Farmville, Va., September 16. Dr. Meares, who was formerly of Linwood, N. C., is at present in charge of a section of the hospital at the medical headquarters, Ancon, Canal Zone.

Born—

A daughter to Dr. and Mrs. P. M. Strother, of Lynchburg, Va., August 26.

Dr. F. W. Hains,

Petersburg, Va., is much improved after a case of erysipelas of the ear.

Dr. J. Allison Hodges,

Of this city, left early in September for St. Louis, where he was to read a paper by invitation before the Life Insurance Presidents of America. Mrs. Hodges accompanied him and they were to spend a short time in Canada before returning to Richmond.

Dr. J. D. Buchanan,

Marion, Va., attended a meeting of the State Democratic Committee in Richmond the middle of the month.

Dr. E. A. Waugh

Returned to his home in Lynchburg, Va., the first of September, after spending his vacation in Canada.

Dr. and Mrs. W. S. Ferguson,

Lynchburg, Va., have been on a visit to relatives in Orange, Va.

The American Association for the Study and Prevention of Infant Mortality

Is to hold its annual meeting in Milwaukee, October 19-21, at which time a number of subjects of practical interest will be discussed. Dr. S. McC. Hamill, Philadelphia, is president, and Dr. William C. Woodward, Washington, D. C., president-elect. Information as to the meeting may be obtained of the secretary, Dr. Philip Van Ingen, New York City, or the executive secretary, Miss Gertrude B. Knipp, 1211 Cathedral street, Baltimore, Md.

Dr. and Mrs. J. Herbert Claiborne,

Of New York City, were visitors at White Sulphur Springs, W. Va., this month.

Dr. and Mrs. E. C. S. Taliaferro,

Norfolk, Va., were registered at Crockett Springs, Va., this month.

Dr. Aaron Jeffrey,

Newport News, Va., and family, who motored to Richmond early in September, have returned home.

Hernia and Workmen's Compensation.

According to *Public Health Reports*, for September 1, 1916, the Supreme Court of Michigan has decided "that an employee who suffered from hernia, which was discovered shortly after severe muscular exertion and strain, was entitled to compensation, on the ground that the hernia was the result of an 'accidental injury.'" This was decided in spite of the fact that occupational diseases are not included within the terms of the Michigan workmen's compensation law.

Dr. J. B. McKee

Announces the change of his post-office address from Fairwood to Troutdale, Grayson County, Virginia.

Dr. H. Gilbert Leigh,

Of Petersburg, Va., has been on a recent visit to Blue Ridge Summit, Pa., where his child has been sick.

The Clinical Congress of Surgeons of North America

Will hold its seventh annual session in Philadelphia, October 23-28. It is arranged to hold clinics in the various hospitals each day during the meeting. Dr. Charles H. Mayo, Rochester, Minn., is president and Dr. Franklin H. Martin, Chicago, secretary.

Dr. Charles K. Mills

Has been appointed consulting neurologist to the Philadelphia Hospital for Contagious Diseases.

Dr. and Mrs. John R. Blair,

Of this city, left early in September to spend some time touring through the mountains of Virginia.

Dr. and Mrs. E. C. Levy,

Richmond, left the middle of the month for a visit at Mountain Lake, Va.

Dr. and Mrs. Walter A. Newman,

Manassas, Va., have been spending sometime at Ft. Sam Houston, Texas.

Dr. W. A. Plecker,

Of the Virginia Bureau of Vital Statistics delivered an address on the "Prevention of Typhoid Fever" before the men of the R. F. and P. Railway Shops, in this city, early in September.

Dr. C. C. Coleman

Has returned to his home in Richmond after several weeks' vacation during which time he visited among other places his old home in Rockbridge County.

Alexandria (Va.) to Have New Hospital.

The corner-stone of Alexandria's new hospital, at Duke and Washington streets, was laid on the afternoon of September 12 by the Alexandria-Washington Lodge of Masons.

Dr. Elisha Barksdale

Has returned to his home in Lynchburg, Va., after spending two months in post-graduate work in New York.

The Lynchburg (Va.) Hospital and City Home.

After undergoing repairs for some months, reopened September 15.

Dr. Lucien Lofton

Has been named by the Administrative Board one of the district physicians of this city, to fill the vacancy caused by the death of Dr. J. F. Crane.

Dr. and Mrs. Henry R. Carter,

Ashland, Va., have returned home after a motor trip to Atlantic City.

A New Hospital.

The Pacific Hospital of Los Angeles, we note from the *Pacific Medical Journal*, is planning to build a hospital to cost \$1,000,000.

Dr. E. C. L. Miller,

For the past few years professor of bacteriology at the Medical College of Virginia, has been called from this city and will possibly locate in California. It is at present expected that his work will be divided by several professors.

Major Junius Lynch,

Of Norfolk, Va., who has been in charge of the medical corps at Camp Stuart in Richmond, was mustered out September 18, at his own request.

Dr. J. Lawn Thompson,

Of Washington, D. C., has moved his office and residence from The Cumberland to 1404 M Street, Northwest.

Psychopathic Clinic at Sing Sing Prison.

The Rockefeller Foundation, by vote of the trustees, on May 24, 1916, appropriated the sum of \$10,000 to the National Committee for Mental Hygiene for the maintenance of a psychopathic clinic at Sing Sing Prison, Ossining, N. Y. Dr. Bernard Glueck, who has been in charge of a department of the Government Hospital for Insane in Washington, D. C., has been appointed psychiatrist in charge. This medical service will insure the careful examination and treatment of every prisoner and such defects as possible will be corrected in an effort to improve the mental and physical standard among prisoners.

Dr. Ennion G. Williams,

State Health Commissioner, was among the speakers on "Better Health Day," observed in Emporia, September 6.

Dr. Edward B. Brooks,

After a visit to his home in Chase City, Va., has returned to Charlottesville, where he will be connected with the University Hospital during the coming year.

For the Hard-of-Hearing.

The Volta Bureau, 1601 Thirty-fifth street, N. W., Washington, D. C., announces that any hard-of-hearing person may secure from them literature that may prove helpful. They claim to give no medical advice, have no medicines or instruments for sale, and do no teaching.

Increase in Automobiles.

From the *Buffalo Medical Journal* we note that in 1906, there were 48,000 motor vehicles registered in the United States, while during the year ending July 1, 1916, there were registered 2,445,664, or about one to 44 inhabitants. The rate in Alabama is about one to every 200 persons, while the maximum was reached in Iowa, where there is one for every 16 persons, or an average of about 1 car for every three families.

For Sale—\$2,000 practice in town on railroad. also house and lot valued at \$2,500. The practice and house and lot will be sold be-

fore the first of October for \$2,500. Address all communications to *Dr. H., care Virginia Medical Semi-monthly.*—(Adv.)

Obituary Record.**Dr. Thomas Emmett Stratton**

Died at his home in this city, September 6, aged 76 years. At the outbreak of the war between the states, Dr. Stratton, then a student at the Medical College of Virginia, joined the Confederate army. After more than a year of active service, he was detailed back to college that he might finish his medical education. He graduated in 1863 and again joined the service. After the war, he practiced his profession for a time in Campbell and Charlotte Counties before he located in Richmond. He was at one time connected with the U. S. Public Health Service and also with the former Richmond Board of Health, being for one term its president. He had for many years been one of the Richmond city physicians. He is survived by his wife and a brother.

Dr. J. B. Whitehead,

A Nelson County physician, died September 5, at his home near Lovingson, Va. He was seventy-two years of age and was unmarried.

Dr. Charles L. Hall,

A retired physician of Mt. Jackson, Va., died September 5, after an illness of two years, aged sixty-five years. He graduated from a Baltimore college in 1876 and practiced medicine for about thirty years at Lost City, W. Va. He was formerly a member of the West Virginia House of Delegates from Hardy County. His wife survives him.

Surgeon Rudolph H. von Ezdorf,

Surgeon in charge of the U. S. Marine Hospital at New Orleans, and for the past eighteen years a member of the U. S. Public Health Service, died at Lincolnton, N. C., September 8. He was born in Pennsylvania forty-three years ago and graduated in medicine from the George Washington University Medical School in 1894. He was widely known for his investigations into the cause and cure of malaria, typhoid and yellow fever. He is survived by his wife and a daughter.

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SOME DIFFICULTIES IN THE DIAGNOSIS OF PNEUMONIAS.*

By JOHN STAIGE DAVIS, M. A., M. D., University, Va.,
Professor of Practice of Medicine,
University of Virginia.

My awkward title was suggested by some of the troubles encountered in our experience with the disease in question at the University of Virginia Hospital in the last six months. This is an increasingly frequent affliction, and practically always due to some strain of pneumococcus. The impression prevails that, clinically and pathologically, pneumonia of any type is one of the easiest conditions to recognize. While in the main this may be true, we have had a respectable proportion of cases of the so-called concealed variety, in that no characteristic pulmonary physical signs were detectable until quite an advanced period and occasionally doubtful even then. Only the croupous form will be considered.

In children particularly, though not exclusively, the diagnosis of appendicitis or gastritis or even colic had been made before admission, and meningitis too was twice very strongly suspected. As it is very important therapeutically to recognize the nature of the trouble at the earliest possible moment, we found it necessary to look for other signs than those of conventional consolidation and rales which are not so very rarely conspicuous by their absence.

Cabot attempts to console us for failure to discover these time-honored harbingers of pulmonary pneumococcic ravages by the assurance that no localization has occurred, that the process is primarily a septicæmia of varying grades and may never get further. Cole and his

associates, however, demur to this and deny us this crumb of comfort, as they claim that the condition is far more frequently a spread from a local focus (tonsils, etc.) which invades the blood and lymphatics especially in the more severe cases. There are four strains of pneumococci, according to the Rockefeller Institute, for two of which a reliable specific remedy has been found, which even in one dose will completely eradicate the germ from the blood stream, though a repetition may be necessary for the final cure of the disease. The fourth type is the one commonly found in healthy mouths, and of the others the first and second are seen in carriers only, unless, of course, the disease is present. Dunn says that children are oftenest affected by the fourth, which is of low virulence, and so most of them survive, the left side being more frequently involved and high up in the arm pit.

There has been much discussion as to the relative roles of the blood and lungs as original habitats of the germ, and even the highest authorities disagree amongst themselves and have changed their personal views more than once. The gross pulmonary changes may be secondary and not absolutely necessary (as typhoid ulcers and pyæmic abscesses), and may be regarded as a salutary effort to minimize the danger, since many of the germs in the sputum are dead which nature may have difficulty and delay in doing. Leucocytes help to localize the process but immunized serum is the main defense, though Warner and Herrick had discouraging results, judged by either of these standards, since 60 per cent. of the bacteræmic cases died. Palpable invasion of the blood adds greatly to the gravity.

Certainly in some of our cases the best efforts fail to find positive physical signs until several days had elapsed, and in one or two we were never sure that any existed at any time.

*Read before the Mercer County (W. Va.) Medical Society, July 20, 1916.

The detection of the germs in the blood is often difficult, and has not been a routine matter with us of late, but the identification of the particular strain from the sputum is more feasible and necessary for specific therapy.

The toxæmia is often far out of proportion to the extent of pulmonary involvement. Massive pneumonia may obscure sounds so we should listen for silence as much as for noise, according to Hare, who also says that lesions of the apex are associated with fear of falling in children who consequently clutch at their mothers, but this, I should say, was only the vertigo from the high toxæmia so characteristic of this localization.

During the winter and spring terms of our last scholastic session, we had forty-eight cases with six deaths, an apparent mortality of 12 $\frac{3}{10}$ per cent.; but this is not so bad since Pesek death rate was 34 $\frac{3}{10}$ per cent., as reported in January 1916. Our cases were divided as follows: 24 whites—8 females with no deaths, and 16 males with one death;—and 24 colored—comprising 7 females with 3 deaths, and 17 males with 2 deaths. The one white subject who died was alcoholic, syphilitic, and delirious on admission. Of the two fatal colored male cases, one had purulent pericarditis and the other pneumococcal meningitis. Our greatest absolute and relative mortality was in the colored women, of whom one died from the heart complications of acute articular rheumatism on which pneumonia supervened, another from sarcoma of the nose, after recovery from pneumonia, and the third was a rachitic infant seven months old. At least three of these fatalities, then, are not properly attributable to pneumonia, and in that view the mortality would be reduced one-half, or to 6 $\frac{1}{4}$ per cent. Two of the colored cases were jaundiced (bilious type), both recovering. The ages varied from six months to seventy-three years, both extremes being in white females and recovering. The right side was affected twenty-three times, and the left eighteen times, and both sides seven times. Most of them ended beautifully by crisis from the third to the eleventh day, but one case had two relapses and remained with us thirty days, though the average stay in the hospital was seventeen days. Of this number, 19 are recorded as showing on admission no physical signs of their trouble, and in 8 more the point is either not noted or

referred to as doubtful. Of these, nine began with pain and nine with chill, and one mode of onset was not stated as the patient was delirious.

While *one* solitary but impressive *chill* is conventional, several patients were undutiful enough to complain of repeated rigors, and as to pain, it was located as often outside of the chest as within its limits. In fact, the epigastric, hypochondriac, and even iliac regions vied with each other as seats of the suffering, as well as the extremities, and even the head was twice drawn back and ached so violently that meningitis was first suspected and lumbar puncture done. Once violent acute nephritis with uramic convulsions initiated and complicated a severe but favorable case. I shall first take up our first means of constructive diagnosis, and then try to set apart the conditions that have proved confusing.

1. While a *single chill* is the most usual initial symptom, as already stated, it is by no means typical and may be replaced by a convulsion, nausea, vomiting, coughing, or *violent pain* in and outside of the thoracic limits, though more often within the sphere of influence of the intercostal nerves, but sometimes hard to localize. From far Cape Town comes a recent report by Burton of abdominal pain, persistent vomiting of green fluid for three days (which precipitated a vain exploration) and then rusty sputum one day before any physical signs could be detected in a favorably progressing case. Palleston reports pain in the side of the neck and rigidity of the neck and arms as an early sign, and concludes that pneumonia may run its entire course without consolidation.

Chills started twenty of our last forty-eight cases and *pain* eighteen, the remainder dividing the other modes of onset, but occasionally some insatiable subject would present a combination of several of these symptoms.

Weil's sign of defective expansion in the sub-clavicular region of the affected side (wherever in it the process may be) is sometimes of value.

2. *Blood spitting* was once mentioned as the initial symptom, and certainly several times, preceded the detection of consolidation in this series as it often does in general practice.

3. *Dyspnoea*, too, was once the first complaint. It may be peculiar and slow, accord-

ing to Freeman, a characteristic post-inspiratory pause, i. e., there is inspiration, pause, expiration, grunt. This cycle is not continuous nor regular, but is separated at times by rapid respirations without pauses.

4. *Rapid rise of temperature*, exceeding in 18 cases 105° F., and 3 times 106° F. by the second or third day, with suppressed cough, rapid grunting breathing, dilating nostrils, flushed cheeks (not always confined to nor even on the affected side), and herpes of the lips with disturbance of the pulse, respiration ratio was conspicuous. Indeed, high fever seemed the fashionable feature this session, and some rivalry was apparently evident among the patients in this respect. The temperature, too, is often rather fluctuating than steady, despite the requirements of text books. The pulse rate varied from 80 to 180, and the respirations from 24 to 60.

5. Probably our best single guide was in the *leucocytosis* which attains a higher figure, especially in the relative number of the polymorphonuclears than in any other inflammatory disease. The numbers range from 13,400 to 74,000 per cmm, with 81 to 92 per cent. puns. Over 20,000 per cmm. virtually excludes most other troubles. This rise was not always evident the first day, but by the second could usually be detected and saved several from surgical intervention when sent in for supposed acute abdominal troubles.

This is the most reliable single symptom of suspected pneumonia. It is also prognostic in that its failure in a case physically pneumonic is of very grave import. It is temporary, increasing toward the crisis when it should rapidly disappear. Its persistence thereafter indicates a complication. Absence of eosinophiles too is ominous. I cannot forbear to digress further just here and demur to the statement that a fall in blood pressure, according to Gibson's rule, is necessarily fatal, nor is a pulse rate over 140, as once contended. I have been deluded by high pressures in arteriosclerosis or when failing kidneys were insidiously drawing down the curtain and been terrified by low ones in obese subjects who recovered, as Tice recently intimates. One of our cases had a pressure of 84 mm. systolic, and 145 pulse rate, and yet recovered all right.

6. The oft-repeated statement that the urinary *chlorides* were *diminished* for various in-

conclusive reasons, has not been verified in our experience as they were as frequently reported normal. Slight albuminuria was usual but probably febrile.

7. The *X-ray* we found very serviceable, and several times it clearly revealed an affected spot scarcely more than suspected by other means, and once not even considered. We did not begin to use this measure until late in the series, or might have been spared some uncertainties. Our limited experience accords with that of Mason who says that the shadow always touches the pleura and is triangular in shape with its apex toward the root of the lung and its base at the surface. Consolidation begins just under the pleura, so that, according to this investigation, there is no such thing as a central pneumonia, but the consolidation is silent as long as the affected area is separated from the trachea and bronchi by relatively normal pulmonary tissue. There must be a medium of uniform density between the large air tubes and the point of auscultation to get bronchial breathing and typical voice sounds. The triangular character of this shadow is the latest as well as the earliest picture as it returns in resolution. Often the first sign is in the axilla. This observation suggests a pleurogenous origin for pneumonia, and may mean that the germ invades the lung that way, for we almost always have an early complicating pleurisy.

8. *Blood cultures*, as observed, are quite troublesome and often negative, so were not made as routine matters. We as often missed them as not.

The identity of pneumococcus septicæmia and pneumonia is still undecided for the lanceolatus can do many other things, and may set his affections on the tonsils, middle ear, meninges, joints, or pericardium instead, though, of course, it is one of the most frequent inhabitants of the respiratory tract, generally of the fourth type.

A combination of these conditions in a person acutely ill should, of course, direct attention at once to the probability of pneumonia, but, alas, undutiful humanity is not so complacent and often hides the conclusive picture, so we have to consider the confusing possibilities of some other troubles. These are:—

1. *Appendicitis*. In children particularly the initial pain is often referred to the right iliac region where rigidity and fancied tender-

ness may deceive the very elect. The great pmn. leucocytosis has here helped us the most, and once or twice X-rays have settled the diagnosis. This is not as common in children as pneumonia, and a rectal examination of these little patients may detect an enlarged vermiformis.

2. *Meningitis*. One of our cases seven years old was admitted on the presumption of this condition, and gave the typical rigidity and retraction of the neck with Kernig's and Brudzinski's signs, but with 37,000 leucocytes to the cmm., a lumbar puncture excluded the more dreaded disorder and the patient recovered by crisis on the third day with very slight pulmonary signs at any time. The fortunate rarity of meningitis as a complication is commented on by every one, despite the identity of the etiologic agent, but it occurred once in this series and became responsible for the fatality it quickly precipitated. The pneumococcus was recovered from the cerebrospinal fluid in pure culture with a large number of pmn. cells.

3. *Pleurisy with effusion, (serous or purulent)*. In children particularly this gives signs very similar to consolidation, but the usual history of its being secondary, the dislocation of the heart, together with the exploring needle, will solve the problem perfectly even in the encysted cases where mobile fluid is undetectable.

Simple dry pleurisy very often complicates pneumonia, as mentioned already, but the distinction is soon made physically if the process gets no further.

4. *Acute miliary tuberculosis* deceived us at least once completely in that pneumonia was first suspected and then appendicitis, as the leucocytosis was relatively low, but an exploratory operation failed to reveal the latter and X-rays the former. Our suspense was not borne very long, as a regrettable autopsy soon resolved all doubts. The pneumonia types of this condition are peculiarly confusing, but fortunately we have had very few cases. I should be inclined to rely chiefly on the X-ray and leucocyte count to make the distinction.

5. Dr. Osler warns us of the possibility of so-called *pneumo-typhus*, where the onset of typhoid fever masquerades with pneumonic signs. I have never had such a case but should rely chiefly on the leucopenia and blood cultures of typhoid to set me straight.

6. *Infarct of the lungs* is very sudden and without temperature, despite physical signs, and generally occurs in persons ill of valvular heart trouble.

7. *Sub-diaphragmatic abscess* in one instance gave considerable trouble, being confused with pneumonia amongst other things. X-rays again, with moderate leucocytosis, proved the key to the situation, which was successfully relieved by surgery.

8. *Gall stones* and *peptic ulcer* have both caused confusion, but the absence of fever in the latter and the usual biliary symptoms in the former, with the characteristic tender spots, as well as the very slight, if any, increase of the leucocytes in either, are usually conclusive.

9. *Pericarditis* with *effusion* could rarely deceive, but would show the typical pear-shape area of dullness, and be finally excluded by X-ray or puncture.

10. The danger of overlooking pneumonia in *delirium tremens* should be kept in mind.

11. Fussell considers pneumothorax, pulmonary congestion, atelectasis and influenza as liable to cause error, but none of these have been troublesome in our cases and could be distinguished by the leucocyte count and X-ray.

Two of our cases were sent in for gall stones, which indeed existed, once in a male subject only 21 years old, but the real attack that brought the latter to the hospital was pneumonia from which he recovered. The other was a diabetic who also is still alive.

In all this review, it is presumed, of course, that a careful physical examination has been made without finding any of the classic conditions recognized as characteristic. Such has been my experience, especially in the last half year, when it looks as if the spirit of change and deception had pervaded even the bacterial world.

It is, of course, of paramount therapeutic importance to distinguish the conditions mentioned at the earliest possible moment, as, particularly in those requiring surgical intervention, life may soon be lost by delay, and even in the genuine pneumonias, the earliest institution of the fresh air and specific treatments certainly gives the best results.

No wonder the wheels of war are creaking—two years without Greece.—*Southern Progress*.

SIMULTANEOUS DISLOCATION OF BOTH HIP JOINTS IN THE SAME PATIENT.

By E. M. MAGRUDER, M. D., Charlottesville, Va.,
Surgeon So. Ry. Co. and C. & O. Ry. Co.

Mumford, Visiting Surgeon of the Massachusetts General Hospital of Boston, in his recent work, "Practice of Surgery," says: "Dislocations of the hip are extremely rare and most physicians will live through a lifetime of practice without seeing one. So rare and so interesting is the condition that today even at the Massachusetts General Hospital, where Bigelow (Henry J.) conducted his clinical investigations on the subject, a dislocated hip is still regarded as a precious curio, which must not be reduced by the casual house surgeon but must be reserved for the inspection and treatment of the visiting surgeon him-self."

The above remarks have reference to dislocations of one hip joint, and if they be true of single dislocations, how much more rare and interesting should simultaneous dislocation of both hip joints in the same person prove to be!

I have made considerable research in surgical literature and can find no mention of such a condition, nor does my own experience of sixteen years in Railway Surgery cover such a case until during the last twelve days, when I had the unique experience of treating a patient with simultaneous dislocation of both hip joints.

Hip joint dislocations are divided into two varieties according as they are *behind* or *in front* of Nelaton's line, viz., a line drawn from the anterior superior iliac spine to the tuberosity of the ischium; this line crosses the centre of the acetabulum just above the greater trochanter.

Hip joint dislocations are therefore of two chief varieties:

1. *Backward Dislocations*, those behind Nelaton's line, on to the back of the ilium or into the great sacro-sciatic notch.

2. *Forward Dislocations*, those in front of Nelaton's line, on to the front of the pubes or into the obturator foramen.

On September 20, 1916, James Edwards, 22 years old, a colored laborer on the construction work of the Southern Ry. Co., while standing on the front end of a lever car, facing backward and working the lever, on his way to work near Proffit, Va., fell backward, landing on his back between the rails. The car from

which he fell and a second car close behind the first, ran over him violently flexing his thighs on the abdomen or pelvis; he was not rendered unconscious and was brought to the University Hospital at Charlottesville, Va., where I treated him.



Backward Dislocation of Heads of both Femurs to the Great Sacro-sciatic Notch.

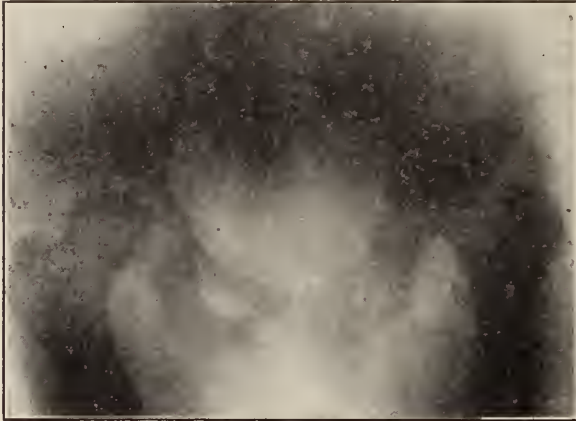
The *objective symptoms* present are pretty well shown in the photograph, viz., Internal rotation of both lower extremities with inversion of both feet, adduction and slight flexion of both thighs, touching of the knees, slight flexion of both legs. When the patient lay on his back both knees were lifted up from the bed by the flexion of the thighs, while the feet overlapped each other on account of the internal rotation of the two lower extremities.

The *subjective symptoms* were: Pain and tenderness about both hips, impaired mobility

of both hip joints, rigidity of gluteal and thigh muscles, and inability to stand. The most comfortable position was sitting upright with thighs flexed.

In the *treatment* of the case the patient was etherized lying on his back in bed. The *diagnosis* indicated by the symptoms and X-ray photograph was backward dislocation of heads of both femurs to great sacro-sciatic notch.

The right-sided dislocation was easily reduced on the second attempt by the manipulative method of Bigelow for backward disloca-



Backward Dislocation of Heads of both Femurs to the Great Sacro-sciatic Notch.

tions, viz., Flexion of leg upon the thigh, flexion of thigh upon the pelvis, adduction of the thigh, then adduction of the thigh followed by external rotation and extension of the whole limb.

The left-side gave much more trouble. The same method was used as with the right side, with the result that the head of the femur kept jumping from back to front, from the great sacro-sciatic notch to the front of the pubes; then from the latter position it would be dislodged by Bigelow's manipulative method for forward dislocations, but instead of landing in the acetabulum it would jump across the latter to the sacro-sciatic notch again. This happened several times. Reduction was finally effected by making traction in the axis of the femur flexed at right angles to the pelvis while the head of the bone was shoved by the fingers from the front of the pubes into the acetabulum. In each case the resounding *thud* was heard as the bone went into position. The knees were then tied together and the patient made comfortable in bed.

In addition to the above mentioned injuries there were a few abrasions on the back and lower extremities. These were sponged off with gasoline and painted with tincture of iodine and alcohol (equal parts).

On the next day the temperature rose to 103° and the pulse to 120, and crepitant and subcrepitant rales appeared over both lungs behind, thus ushering in an attack of pneumonia, which, however, cleared up in a few days. The patient suffered very little during convalescence and is now ready to get out of bed.

The photographic work was done by Dr. H. F. Woodberry, of the University Hospital Staff, who also kindly assisted me in the manipulative work.

POSSIBILITIES FOR MENTAL CORRECTION.

By ALICE C. HINCKLEY, A. M., Richmond, Va.
Director Home Place School.

The stage in human progress when deformity was looked upon with derision or indifference is past. Now it attracts the keenest sympathy and scientific interest, as shown by the many institutions devoted to its study and amelioration. We are only emerging from the period when mental deformity was considered benignly amusing; and are gradually arriving at an appreciation of its extent, its variations, and its dangers to the body politic. It is not the purpose of this article to consider any of these phases, but rather to present as a problem in conservation of humanity the possibilities for the cure of certain types of mental deviation, and incidentally the amelioration of other types.

The de-formed mind like the deformed body, manifests the widest variation in kind and degree; and the underlying causes, known and unknown, are also varied. The last analysis reveals an anatomical or physiological basis for the lack of development. This is necessarily the case, since mind requires a material vehicle or basis for impression and expression. The manifestations may point to an insufficiency or sluggishness in the brain cells, a generally unstable nervous system, a lack of muscular co-ordination, unbalanced action of the ductless glands, disturbed metabolism, and the like.

The combined research of medical, psychological, and educational forces trained upon this problem should eventually remove all of these conditions from the realm of hopelessness,

except that of absence of brain cells. Investigation and experimentation in these fields are even now being conducted with gratifying results. The time is ripe for the concentrated efforts of research workers in the physical and the mental phases of this problem, applied to the same cases, so that findings may be comprehensive, definite, and conclusive. That is to say, a physician should do the medical research and a psychologist the mental research; and so, working in accord, the results would represent the accumulated knowledge and skill of both fields of endeavor.

For the past five years the writer has been making just this combination by enlisting the co-operation of skilled physicians who were chosen on account of their proficiency in the line demanded by the individual case. The cases have fallen into the following groups:

1. (a) Absence of speech associated with serious but not total deafness or with apparently normal hearing, these ranging in age from three to five and a half years; (b) absence of speech associated with mongolianism in cases ranging from four to fifteen years of age; (c) speech defects of all kinds and degrees, from a slight lisp or nasality to a serious stutter or unintelligible babble, with or without cleft palate, or with athetosis.

2. Imperfect co-ordination shown in some one or more parts of the muscular system, from the speech mechanism to the hands and feet; and in serious cases associated with inability to concentrate or to take in more than one presented idea at a time, though they may express their own limited ideas with facility.

3. Defective vision or hearing interfering with normal development, in some instances so obscured by other symptoms as to escape detection by ordinary examination.

4. Nervous and mental instability, which may range from a restless moving about, or weakness of attention, to a disorganization and aimlessness in mental action, without sequence of thought, or recognition of the relation between cause and effect. (The courts, both juvenile and adult, catch many of these).

5. Slow mental action, which, with proper direction and a fair chance to reach its conclusions apart from competition with quick and precocious minds, or from the confusion incident to frequent interruptions or discour-

aging criticisms, may become strong, deep and logical.

These cases have extended from the normal downward; some have been in school during treatment and some have been unable to meet the requirements of the school class even after a fair amount of treatment. Even those of low grade (not including idiots, of course) have improved materially under specialized treatment; i. e., all the brain material they possess has been brought into activity, and in some instances they have been able by this means to enter ungraded classes and perform helpful service under direction. On the other hand, an appreciable number have been entirely removed from classification with the mentally subnormal and are holding their own with normal children in school. As soon as they are capable of doing that, they are discharged as cured. The cases that have taken treatment while attending school are stuttering and other speech disorders; trouble with some one or two school subjects, as arithmetic or reading or writing or spelling or history ("hating" these subjects meaning inability to enjoy them through easy execution); wandering attention; absence of ordinary foresight, and the like.

Every case has made its contribution to a more perfect understanding of the subject, since there are practically as many variations as cases. The following local cases are cited as illustrative of different types:

1. A case referred by Dr. E. J. Moseley, Jr., was a girl, five and a half years old, of the mongolian type, who was unable to walk or to talk. She was carried about in arms or in a baby carriage and was very listless and timid. After two months' treatment she was able to walk from one object to another in the room. After three months' treatment her attempts at repeating words were intelligible and she showed considerable animation during lessons (or play) but lapsed as soon as fatigued. After seven months' treatment she now walks up and down stairs without assistance, romps on the sidewalk with other children, is interested in what is going on, listens to the general conversation and occasionally interjects a word, says a great many words voluntarily, but has not yet been able to connect words. It is not my province to discuss Dr. Moseley's part of the treatment, but it is gratifying to state that

she is nearly two inches taller and somewhat more slender than she was before the special treatment began.

2. A girl, twelve years of age, was in a condition of general inco-ordination of muscle and mind, as shown in a shuffling gait; inability to direct the hand and finger movements or to co-ordinate voice and movements of the hands or feet; the divergence of the eye muscles; grimaces and turning the tongue up sideways in the mouth when speech was attempted, unintelligible speech; drooling with mouth hanging open; restlessness; inability to fix attention; extreme fatigue when held to one exercise for five or ten minutes.

With four months' treatment her muscular and mental condition were much improved. Her eyes were helped by glasses and that facilitated other improvement. Drooling stopped. Her tongue took a natural position and speech was intelligible but not perfect. All facial muscles relaxed except the upper lip which still lifted in an exaggerated way when she talked. She learned to lift her feet in walking and to use her fingers with fair accuracy, even threading a coarse needle. She became more composed and more easily managed. She frequently persisted in doing the same thing for an hour at a time. She later entered one of the ungraded classes in the public school and did handwork; but during vacation had a private teacher and learned to read and write short words. She now shows much interest and a fair degree of proficiency in assisting with housework, making doll clothes, and studying her books.

3. A four-year-old boy, referred by Dr. B. M. Rosebro, is a case of right-side hemiplegia seriously involving the speech centre. The mentality is normal. Two months' treatment gave considerable improvement in the wrist movement and intelligible utterance of new words, but little improvement in old words except during the repetition of one word at a time. The treatment was too short to expect more. New association tracts in the brain require time to grow and become established, to say nothing of the slowness of the process of effacing old habits that are once fixed.

4. A boy nine years old, referred by Dr. E. T. Rucker, came to me from a public school class for defective children. His attempts at speech was perfectly unintelligible, and he had

grown sullen and irritable. There was an early history of rickets and he was still small, thin and apathetic. The first month he came to me clinging to his mother's hand. At the end of four months' treatment he is self-confident, cheerful, (though he still cries occasionally at home when crossed), interested in play and other activities, can go about the city alone on the cars and knows how to get help if he needs it. His speech is intelligible with reasonable care, though the old habit still gets right of way when he is in a hurry or at play. With a more cheerful outlook on life he has improved in facial color and expression, has gained flesh, and is more active generally. He thinks logically, has definite opinions, and now gives every evidence of being mentally normal.

5. A girl three years old was referred by Dr. H. Stuart MacLean, at the suggestion of Dr. Tom A. Williams. This patient had made no attempt to talk, did not understand or respond to language, and was generally irritable and unmanageable. She drooled constantly, and there was entire absence of control of bodily functions. The mouth habitually hung open. The front of the upper jaw was lifted in such a way that when the jaws were closed an elliptical opening remained, and the upper lip stood out even with the nose. Lips and tongue were entirely immobile.

The case was a puzzling one to the medical specialists who were called to see her, but they were practically agreed that there was a mental involvement. The writer found it to be a case of deafness so serious as to require the help of the strongest instrument to find any hearing at all. The child had not known that the mouth was for any purpose except eating. She had gotten her cue for finding out what was going on by watching and following the eyes of those about her.

Her recovery or reclamation, has been gradual, continuous, and in accord with the normal approach to speech of the hearing child. In the fifth month her upper jaw and lip were found to be in normal position. After eight months' treatment her hearing is almost normal. She is amenable to reason though her will is as strong as ever. She is happy and playful; has good control of natural functions; understands all usual conversation about the home; readily performs simple tasks to direction; appreciates and initiates jokes; can hold her attention on

one subject for half an hour or more; says numbers of words voluntarily and will attempt any word by repetition. Her thought shows good sequence and altogether she gives evidence of possessing an unusual mind.

The school cases that have been treated for inability in certain school subjects, or for lack of concentration or judgment, are omitted as educationally technical and necessitating an undesirable extension of this article.

These five cases are typical of what can be done for the improvement of the mentally subnormal, and for the rescue of the potentially normal mind which will eventually become subnormal unless it is freed from the obstruction which prevents its normal development.

There can be no question as to the value of this means of conserving human resources. To say nothing of the relief to the feelings of relatives and friends, or the protection to society, or the saving to the State treasury, it makes life worth while to the individual; not only in a negative way by removing him from the helpless and dependent class, but in an active and positive way by releasing his mental energy and applying it to that calling for which he is mentally and temperamentally fitted; an harmonious self-expression—a transformation from an irresponsible consumer to an economic producer, and responsible citizen.

2231 West Grace Street.

Clinical Reports.

LARGE ABDOMINAL SARCOMA IN A TWO-YEAR-OLD CHILD.*

By FRANCIS R. HAGNER, M. D., Washington, D. C.

E. P., male, aged twenty-six months.

I was requested by Dr. B. R. Read, to see this patient for a tumor in the abdomen. The mother presented the following history of the child: As an infant, strong and healthy; at birth, weighed nine and one-half pounds. Breast-fed infant. Good weight all along; never lost weight. Always constive; laxative needed daily. Dentition normal, never upset with eruption of any tooth. Bottle at ten months. Weight twenty-eight to thirty pounds. At sixteen months, fell out of high chair to the floor, striking on right side; was irritable

for two days, but no illness followed. Weaned at 20 months. Apparently perfectly well until New Year's day. Had great amount of candy and after this seemed to be unusually constipated. Sudden onset of fever which lasted four or five days, present only in the afternoon and evening. Weight unknown. Recovered from acute constipation, and seemed to be as well and active as ever. Enemas were given for constipation, and in massaging abdomen for expelling enemas, noticed lump or swelling in right side. This did not seem to disappear.

The patient was first seen by me on January 18th. At this time there was an enormous mass or tumor filling the whole of the right side of the abdomen and extending well over to the left side, palpation seeming to show that it extended to the region of the left kidney. This mass was irregular in shape and outline, and varied in consistency from a stony hardness to soft fluctuation.

On January 19th, an injection of indigo-carmin was administered hypodermically, and fifteen minutes later the child was cystoscoped. The bladder appeared normal, as did the ureteral orifices. On watching the ureteral openings, the blue colored urine could be seen escaping from both sides. A diagnosis of probable sarcoma of the kidney was made and the hopeless condition of the patient explained to the family. They were anxious that an effort should be made to find out if it was possible to do anything for the child, so on January 28th, ten days after the examination, an exploratory incision was made. It was found impossible to remove the growth as it was adherent over a large area, and we felt sure that an attempt to take it out would result fatally to the child.

The only symptom that this child had of any kidney involvement was the passage a few days before it was seen by me, of a little blood, and the catheterized specimen obtained at cystoscopic examination showed blood also. It is a question, of course, how long this tumor had been present. The child had had no illness up to the time it was discovered and the family doctor had never examined the child's abdomen. There are so many soft areas through the tumor that it is more than probable this is a round cell sarcoma and these cases often prove fatal within a few months. During the ten days from the examination to the explora-

*Read before the Medical and Surgical Society of the District of Columbia, February 3, 1916.

tory incision the patient failed rapidly as he had had loss of appetite and sleeplessness, and from being a healthy looking child, he became pale and anemic.

As is the case with many children with incurable conditions, this child is very precocious. At three months he walked backward and could say "Ma-ma." At six months he could tell about pictures and call such words as moon, water (waddie), baby, daddie, etc. He chattered before he could sit up, recognized all the different letters of the alphabet at twenty months, and has started lately to write the letters H, I, O, Q, S, U, D, V, and X. He is losing every day and I am sure will live but a short time. *Seventeenth and I Streets.*

Proceedings of Societies, Etc.

The Lynchburg and Campbell County Medical Society

Held its semi-monthly meeting October 2nd, with the largest attendance of the year. The local dentists attended in a body. The program included papers by Drs. H. W. Dew, on "Focal Infections;" W. M. Brunet, on a "Review of the New York Medical Journal;" C. E. Busey, on "Pyorrhea," and Phelps (dentist) on "Gingivitis Expulsiva." Dr. Bernard Kyle reported a case of poison from Sanatogen.

Dr. Elisha Barksdale was elected a delegate to the State Society meeting, with instructions to favor a House of Delegates. A large program has been arranged for the next meeting. Dr. Joseph Colt Bloodgood has accepted an invitation to address the Society November 4 at 5 p. m. and the public at 8 p. m., on the subject of cancer.

At a special meeting on September 19th, the business affairs of the Society were discussed and members who have not been attending expressed themselves as willing to attend in the future. Dues are being paid and I hope to have all dues for this Society in the treasurer's office before the State meeting. It was decided to hold meetings twice a month in the future, on the first and third Mondays in each month. Dr. W. H. Dulaney was elected an honorary member. The doctors seem more interested in the Society than ever before in the history of the organization.

BERNARD H. KYLE, M. D., *Secretary.*

The County Society.

This Department is conducted by the Committee on Component County Societies at considerable trouble and expense, and a copy of the Journal sent to members of the local societies and to the doctors of the unorganized counties. All of this is done for the purpose of interesting you in the work, which we take to be a great one, and of getting your aid in promptly completing the organization, and developing the usefulness of the societies already chartered. Your active co-operation is earnestly desired.

The Committee is composed of Drs. Southgate Leigh, chairman, R. S. Griffith, T. V. Williamson, C. P. Jones, E. H. Terrell, Joel Crawford, G. A. Stover, J. R. Garrett, D. M. Kipps, Stephen Harnsberger and W. H. Ribble, Jr.

The Committee will be glad to answer all inquiries addressed to 109 College Place, Norfolk, Va.

From the Councilor's Bulletin.

Organizations and institutions, like individuals and species, are subject to change and development. Like individuals, they grow and conform to environment. This growth is not only an increase in size; it involves a change in form and function. It is no more reasonable to expect that the medical organization of today should be the exact prototype of that of our fathers than to expect that the man should have the physical appearance, the voice, the walk and the manner of the boy from which he grew. The medical society of former days was a gathering of physicians mainly for the purpose of hearing and discussing papers prepared by their own members. Weekly, monthly, or quarterly, the meetings were held, and after adjournment the society was forgotten or was at least in a state of suspended animation until the next regular meeting. In those days medical colleges were few. Post-graduate courses, except in foreign lands, were almost impossible, and then only at great expenditure of time and money. Medical journals were few and expensive. The medical society afforded the busy practitioner the only opportunity of voicing his experiences, his errors, his successes and his doubts. With a comparatively sparse and scattered population and few well-trained physicians, all of whom were engaged in the same line of work, there existed a condition of affairs vastly different from that of the present age.

Today with two-thirds of the country densely populated and the rest being rapidly settled, entirely different conditions exist. Medical

journals, books and monographs are far more plentiful. Post-graduate courses are attended with comparative ease; specialism, due to the enormously broadened field of medical activity, has created interests which are, apparently at least, diverse. Any physician in the land, no matter how remote, can have access every week to the best in current medical literature. The growth of medical science has well-nigh eliminated some diseases formerly common, and has also greatly increased the duties and responsibilities of the profession to the social body. Better preliminary training and more scientific educational methods have almost abolished the sectarian lines of the past. The educated physician of today has duties and responsibilities to society as well as to his individual patients.

From this it follows that the medical society of past years, with its occasional meeting for purely personal improvement, is today inadequate. The modern physician has a wider field than his own personal *clientele*. The ideal medical society of today has opportunities and duties far wider than the professional organization of thirty years ago. It must be, as formerly, a meeting ground for the exchange of the ideas and the experiences of its members, but it must be something more. It must be, in the true sense of the word, an organization. Organism implies functional activities. The more complex the organism the greater are the functional possibilities. The ideal county society of today is one which embraces all the reputable medical men in its territory. Its first duty is self-preservation, since all organisms must exist before they can functionate. This involves protection from dangers, both internal and external. Internal protection includes, as a prophylactic measure, the maintenance of a high intellectual and moral standard as a requisite for membership and the establishment of such a system of procedure as will conserve the self-respect and dignity of each individual member; consequently those rules of gentlemanly professional conduct, commonly called the principles of ethics, have been formulated. It, therefore, becomes the duty of the society having adopted such a principle to exert its authority and influence in enforcing it fairly, impartially and judicially. Under external dangers is involved the protection, by the united weight and power

of the society, of its individual members against impostors and those who seek to prey upon them. The application of this principle justifies the society in taking up, investigating and, if advisable, legislating upon such questions as free dispensaries, lodge and contract practice, as well as providing for the systematic defense of its members from unjustifiable suits for damages. These questions have been dealt with by some of the more advanced societies in a manner eminently satisfactory to their members and with great increase in the influence and effectiveness of the society.

But an organization must have some work besides self-preservation. Its only reason for existence is the good it may accomplish. It has a twofold obligation: first, to its members; second, to those outside its ranks. To its members, the opportunities for benefit are unlimited. The society should be a constant stimulus and aid to each member, helping him to make of himself the best and most useful physician which he is capable of being. By papers and discussions, clinical meetings, lectures, demonstrations and establishment of reading rooms, journal clubs, medical libraries and laboratories, in some one of many possible ways each society can aid its members to improve themselves. To the laity the society can be of the greatest service. In the county or town in which it exists it should be, through its officers, the recognized authority on all matters of public sanitation and hygiene. Water supply, sewage, food and drink adulteration, tenement-house and factory inspection, child labor, school inspection, these and many similar topics can all be investigated, acted upon and in time practically controlled by a society of live, up-to-date, active physicians. As the public sees the wisdom of the society's recommendation it will soon learn to refer to the authoritative mouthpiece of the local profession all the questions which arise which have a medical or scientific aspect. If the society acts wisely, cautiously and fairly, its right to settle all these questions will soon be recognized.

This is not a vision, but an actual possibility. There are in existence today medical societies which are exercising all of these various functions. It is possible for the county society of ten or fifteen members to be alert, public-spirited and useful. It is also possible for the city society of hundreds of members to be lethargic

and unprogressive. It is not a question of size or location, but of desire and earnest effort. *Each society will be exactly what its members make it.* If each member bears ever in mind his duty to his profession, his neighbors and his country, he will find that the ways are well-nigh unlimited by which the local medical society can be made of value to the individual and the community.

From Dr. D. J. Loring of Indiana:

"Our work was begun two years ago by getting every physician interested in becoming more familiar with scientific and practical knowledge which would be of advantage to him at the bedside, and which would broaden him as a physician. With this end in view, we rented a room, formed a club and endeavored in every way to appeal to and to build up the social, scientific and material spirit and welfare of the profession. From every point of view, I desire to report that we have been eminently successful.

"In carrying out this plan we divided our work in such a way that each physician was required to act as a teacher of some special subject, and all the others took their places as students once more. Anatomy and surgery were assigned to one, physiology and practice to another, and so on through the list of subjects, one fundamental and one practical branch being allotted to each teacher. Our meetings were held twice a week, regular lessons were assigned, and we were expected to be present and to give one hour's time to the recitation and study of the subject for the evening's work. In this way we were enabled not only to exchange our individual views as to what we believed, but could always have some good medical authority to place us right if it was found that we were wrong. This plan proved very satisfactory, and we soon learned that the physician who was teacher of the topic assigned derived far greater benefit from his course, for the reason that he was required to study more to hold his ground, sometimes against the combined opinions of the members of his class.

"After going along in this way for a time it soon became apparent that the general good demanded that our faculty should be changed from time to time in order that the teachers could become proficient in more than one sub-

ject. I desire to report to you that we found this plan most satisfactory and that it has resulted in a marked improvement of the professional attainments of every individual member of our profession, which means of course, of the profession as a whole.

"The social feature of our plan has done as much, if not more, for the general good of the profession, as the scientific work, and I am now able to report to you that we have no one in this county not on the most friendly terms with the others, and that this is not because they have to be friendly, but because they actually desire to be friendly.

"In connection with this work our county society has kept up its regular meetings, always with increased interest, until today, although ours is not one of the large counties, I believe that I can honestly report to you that we have one of the best, if not the best, county medical society in the State of Indiana, and we are resolved to go on and to keep it well to the front.

"It did not take us long to determine that in consideration of the increase in the cost of living in recent years our services were inadequately paid for, and we concluded that it was nothing but just that the general scale of prices should be increased one-half. In order that this might be uniformly done, we each signed a schedule of fees and caused this to be published with the signatures of every physician in the city attached, definitely fixing the prices of services during the day, and also during the night. The new schedule went into effect without a single ripple, and it has been strictly maintained. I have never known any complaint on the part of the public, or of the agreement being violated by any member of our profession. The public seemed to understand the necessity for the change of schedule, largely because it knew our profession was making a heroic effort to give the people better service. The results have been that our physicians are paid one-half more for their services and the night work has been reduced to a minimum, giving us the evenings for postgraduate work and to spend with our families.

"While we have not accomplished all that we set out to do, we have certainly made rapid progress, and are still determined to go on in the same way and never stop or to falter until our ideals are attained.

"Probably this very crude plan might be radically elaborated and improved with benefit, but it has worked so well, and has given such universal satisfaction, that I think none of our profession would be willing to disturb our present satisfactory condition.

"Should you in your work be able to use what we have done as an incentive for others to do likewise, or to elaborate it in any way for the promotion of medical organizations, I am sure that you will have the very best wishes of every member of our profession here in your work."

Another Word to Delinquents.

Nothing will do more at this time to bring about success than for you to pay your dues at once to your local treasurer. Please send check to him *as soon as you read this notice*.

Local treasurers are urged to telephone their delinquent members and persuade them to pay. Then send your County assessments to the State Treasurer by the next mail.

The State Society is "hard up" and needs funds badly.

The adoption of the State Journal and other improvements, depend largely upon how well the local treasurers and the members respond to this appeal.

The Norfolk Meeting of the State Society.

The program, which appears in this issue, has been arranged to provide for general meetings, meetings of a surgical section and meetings of a medical section. If need be, other sections will be formed. By thus dividing the work each paper will be reached at the appointed time, and in this way the members may more intelligently and conveniently attend the various sessions.

The general meetings and the Medical section will be held in the Banquet Hall on the fifth floor of the Monticello Hotel and the Surgical section in the Palm Room on the second floor. The Exhibits will occupy the lobby on the first floor. The Information Bureau will adjoin the Exhibits on the first floor. Here will be located the Registration desk where all tickets and badges may be obtained and all kinds of information furnished. A number of Automobiles will be found near the Hotel, marked "Guest Car." They will be free for the use of the visiting doctors and ladies.

As the program will show, the papers are

numerous and important, and ample time will be given for full discussions. From a scientific standpoint, the success of the meeting is thus already assured.

The business matters to be brought up are of great importance, especially to the country doctors, members and prospective members of the county societies, and they are all of them urged to attend.

Arrangements for the entertainments have not been fully completed, but will be announced in detail at the meeting. There will be an Oyster Roast on the last day at Cape Henry, besides other entertainments for both the doctors and visiting ladies.

In other states the Educational side of the Annual meetings has been splendidly developed. We believe that great things are ahead for the State Society. *A record attendance for this meeting is essential.*

The Local Committee is carefully planning every detail so as to ensure a successful, satisfactory and enthusiastic meeting. They want everybody to come, to stay the entire time and when they leave to take with them the most pleasant recollections of Norfolk and the State Society.

Be sure to come and bring your family and friends.

The Proposed House of Delegates.

As at present constituted, the membership of the State Society is composed of the members of the Component County societies, old members of the State Society from Counties where no local societies have been organized, and a few members from the organized counties who have not as yet joined their local societies. The number of the last named is very small and is growing smaller each month, since the old members are rapidly and loyally responding to the urgent call of the State body and affiliating themselves with their local organizations.

The District Councillors are elected by delegates from the local societies (See Constitution, Art. VI, sec. 3). This already gives the County Societies practical control of the affairs of the State Society. To make this control more practical and to give more local representation, it is now proposed to adopt the plan, already in effect in other states, of having a House of Delegates, to be composed of one or more rep-

representatives from each county society, together with the members of the Council and officers of the society. Such a House would have in charge all the business affairs of the Society, thus giving the general membership more time to devote to scientific work and development. The Council will be continued, and will be more in the nature of an Executive Committee to handle the affairs of the organization between meetings. Reports from other states lead us to believe that the plan is very popular and effective.

The Council requests each local society to send an official delegate to the coming meeting, to confer as to the advisability of the House of Delegates and the details of the plan.

The Meeting of Presidents and Secretaries.

In another column President White of the State Society has called a meeting of the Presidents and Secretaries of the County Societies to be held during the stay in Norfolk. Such a gathering will not only be most interesting, but it will result in great good for the local and State organizations. Secretary Sullivan of the Ohio State Society will be present and give out much useful information and advice.

This notice is intended as an *urgent appeal* to the officers of each local society to attend.

PROGRAM OF THE FORTY-SEVENTH ANNUAL SESSION OF THE MEDICAL SOCIETY OF VIRGINIA, AT NORFOLK, VA.

All General Meetings will be held in the Banquet Hall of the Monticello Hotel.

The Medical Section will be held in the Banquet Hall.

The Surgical Section will be held in the Palm Room.

Local Committee of Arrangements.

DR. R. L. WILLIAMS, Chairman
 DR. W. E. DRIVER
 DR. SOUTHGATE LEIGH
 DR. S. E. BROWN
 DR. H. L. COLLIER
 DR. CHAS. R. GRANDY
 DR. R. C. WHITEHEAD
 DR. THOS. V. WILLIAMSON
 DR. L. MENDELSON
 DR. E. A. HATTON

OFFICERS

President—DR. J. A. WHITE, Richmond, Va.

Vice-Presidents—DR. M. J. PAYNE, Staunton, Va.

DR. E. E. FEILD, Norfolk, Va.

DR. R. M. WILEY, Salem, Va.

Secretary—DR. PAULUS A. IRVING, Farmville, Va.

Treasurer—DR. MARK W. PEYSER, Richmond, Va.

Chairman Membership Committee—DR. WM. D. TURNER, Ocean View, Va.

Chairman Legislative Committee—DR. A. L. GRAY, Richmond, Va.

Chairman Judiciary Committee—DR. C. R. GRANDY, Norfolk, Va.

Chairman Necrological Committee—*DR. J. W. AYLER, Newport News, Va.

Executive Council.

DR. H. S. MACLEAN, Chairman.

DR. T. W. MURRELL, Clerk.

State at Large—

DR. W. F. DREWRY.

DR. H. S. MACLEAN.

DR. GEO. J. TOMPKINS.

DR. T. W. MURRELL.

DR. J. STAIGE DAVIS.

First District—DR. H. D. HOWE.

Second District—DR. R. E. WHITEHEAD.

Third District—DR. MCGUIRE NEWTON.

Fourth District—DR. E. L. KENDIG.

Fifth District—DR. H. S. BELT.

Sixth District—DR. J. R. GARRETT.

Seventh District—DR. L. M. ALLEN.

Eighth District—DR. F. M. BROOKS.

Ninth District—DR. R. H. WOOLLING.

Tenth District—DR. W. F. HARTMAN.

Delegates to the American Medical Association.

DR. ROBT. C. BRYAN, Richmond, Va.

DR. W. E. ANDERSON, Farmville, Va.

DR. SOUTHGATE LEIGH, Norfolk, Va.

PROCEEDINGS.

TUESDAY, OCTOBER 24, 1916, 8 P. M.

Meeting for the public and the profession. The Society will be called to order by the President, DR. JOS. A. WHITE, Richmond, Va.

Invocation—REV. S. W. MELTON, D. D., Norfolk, Va.

Address of Welcome—HON. W. R. MAYO, Mayor of Norfolk, Va.

Response—DR. J. W. SIMMONS, Martinsville, Va.

Report of Committee of Arrangements—DR. R. L. WILLIAMS, Chairman, Norfolk, Va.

Papers.

CATAWBA SANATORIUM—Illustrated Lantern Slides—DR. J. J. LLOYD, Catawba Sanatorium.

MALARIA IN VIRGINIA—Illustrated Moving Pictures—DR. W. A. BRUMFIELD, Lynchburg, Va.

INFANTILE PARALYSIS—DR. McGUIRE NEWTON, Richmond, Va.

1910 EPIDEMIC OF INFANTILE PARALYSIS AT CHARLOTTEVILLE, VA.—DR. H. T. MARSHALL, University, Va.

REPORTS OF OFFICERS—Standing Committees, etc.

WEDNESDAY, OCTOBER 25, 1916.

9.00 A. M.—Meeting of Executive Council.

10. A. M.—Report of Clinical Cases. (Five minutes for each report.)

PERNICIOUS VOMITING, ACCOMPANYING HYDATID MOLE WITHOUT FETUS—DR. H. T. MARSHALL, University, Va.

PRIAPISM—DR. ISRAEL BROWN, Norfolk, Va.

Subject for discussion:

NEPHRITIS.

(a) Etiology and Pathology—DR. E. G. HOPKINS, Richmond, Va.

(b) Symptoms and Diagnosis—DR. W. H. RIBBLE, JR., Wytheville, Va.

(c) Medical Treatment—DR. PHILIP W. BOYD, Winchester, Va.

(d) Surgical Treatment—DR. R. P. BELL, Staunton, Va.

A REVIEW OF ONE HUNDRED CASES OF NEPHRITIS—DR. A. G. BROWN, Richmond, Va.

DIET IN SO-CALLED BRIGHT'S DISEASE—DR. L. B. WIGGS, Richmond, Va.

*Deceased.

Leaders in Discussion:

- Dr. J. Garnett Nelson, Richmond, Va.
 Dr. S. S. Gale, Roanoke, Va.
 THE SURGICAL CARE OF WOUNDS IN THE EUROPEAN WAR
 —Dr. Robert C. Bryan, Richmond, Va.
 NOTES ON THE TREATMENT OF WOUNDED AT THE AMERICAN
 AMBULANCE AT NEUILLY SUR SEINE.—Dr.
 S. P. Oast, Portsmouth, Va.
 WEDNESDAY AFTERNOON, OCTOBER 25, 1916.
 3 TO 7 P. M.

Surgical Section—Palm Room.

- TWISTED OVARIAN CYST, WITH REPORT OF CASES—Dr.
 John W. Winston, Norfolk, Va.
 REPORT OF CASE OF ABSCESS OF THE ORBIT WITHIN THE
 MUSCLE CONE—Dr. C. M. Miller, Richmond, Va.
 CANCER OF THE THYROID—Dr. L. B. Wilson (invited
 guest), Rochester, Minn.
 WHAT WE KNOW TODAY ABOUT THE TONSILS—Dr. D.
 A. Kuyk, Richmond, Va.
 A PRELIMINARY REPORT ON THE McDONALD SOLUTION—
 Dr. Chas. S. White, Washington, D. C.
 THE USE OF BICARBONATE OF SODA AS A PROPHYLACTIC—
 Dr. Jas. H. Culpepper, Norfolk, Va.
 PSEUDOMYXOMA OF THE PERITONEUM, WITH REPORT OF
 A CASE—Dr. J. D. Collins, Portsmouth, Va.
 WEDNESDAY NIGHT, 8 TO 10 P. M.

Surgical Section.

- THE SURGERY OF DEFORMITIES OF THE MOUTH AND FACE.
 —ILLUSTRATIVE CASES—LANTERN SLIDES—C. C.
 Coleman, Richmond, Va.
 PLASTIC OPERATIONS ON THE FACE—LANTERN SLIDES—
 Dr. J. S. Horsley, Richmond, Va.
 THE OPERATION OF CRANIAL DECOMPRESSION FOR CERTAIN
 INTRACRANIAL CONDITIONS—Dr. William
 Sharpe (invited guest), New York, N. Y.
 SOME RESULTS IN X-RAY AND ELECTRICAL THERAPEUSIS
 —Dr. C. M. Hazen, Bon Air, Va.
 SEMINAL VESICULITIS—Dr. D. L. Hirschler, Norfolk,
 Va.
 INTUSSUSCEPTION IN HERNIAL SAC—Dr. Israel Brown,
 Norfolk, Va.

THURSDAY MORNING, OCTOBER 26, 1916.

9:30 TO 1 P. M.

Surgical Section.

- REPORT OF CASE OF STAB WOUND OF THE ABDOMEN WITH
 PROTRUSION OF THE INTESTINES—Drs. Geo. F.
 Riggins, Churchland, Va., and C. B. Byrd,
 Norfolk, Va.
 REDUPLICATION OF THE URETER—Dr. J. F. Geisinger,
 Richmond, Va.
 INDICATIONS FOR HYSTERECTOMY AS SHOWN IN TWO
 HUNDRED CASES—Dr. Chas. R. Robins, Rich-
 mond, Va.
 GASTRIC ULCER—Dr. A. M. Willis, Richmond, Va.
 EXTERNAL ACCIDENTAL HEMORRHAGE, WITH REPORT OF
 CASES—Dr. Burnley Lankford, Norfolk, Va.
 THE TREATMENT OF TETANUS—Dr. Stephen H. Watts,
 University, Va.
 A BRIEF REVIEW OF THE GROWTH OF SURGERY FROM THE
 BEGINNING UP TO THE EIGHTEENTH CENTURY—
 Dr. M. D. Delaney, Alexandria, Va.
 ALCOHOL INJECTION FOR PRURITUS ANI—Dr. H. B.
 Stone, Baltimore, Md.

THURSDAY AFTERNOON

General Meeting in Banquet Hall.

THURSDAY NIGHT, 8 TO 10:30 P. M.

Surgical Section.

- SOME OBSERVATIONS MADE FROM RECENT CASES OF EC-
 TOPIC PREGNANCY—Dr. A. S. Brinkley, Rich-
 mond, Va.

CONGENITAL PYLORIC STENOSIS—A COMPARISON OF THE
 OPERATIVE PROCEDURES AND A CONTRIBUTION TO
 THE TECHNIQUE—Dr. W. L. Peple, Richmond,
 Va.

X-RAY DIAGNOSIS OF PYLORIC STENOSIS—Dr. A. L.
 Gray, Richmond, Va.

Leader in Discussion:

- Dr. McGuire Newton, Richmond, Va.
 SARCOMA OF THE LONG BONES, WITH REPORT OF CASES
 —Dr. W. H. Goodwin, University, Va.
 THE PRINCIPLES AND PRESENT STATUS OF BONE SUR-
 GERY—Dr. Southgate Leigh, Norfolk, Va.
 A NEW SIGN IN MASTOID DIAGNOSIS—Dr. A. A. Burke,
 Norfolk, Va.
 THE INDICATIONS FOR OPERATIVE INTERFERENCE IN
 ACUTE MASTOIDITIS—Dr. J. Warren White, Nor-
 folk, Va.

WEDNESDAY AFTERNOON, 3 TO 7 P. M.

Medical Section—Banquet Hall.

- MANAGEMENT OF THE BREASTS—Dr. C. J. Andrews,
 Norfolk, Va.
 POST-PARTUM HEMORRHAGE—Dr. Virginius Harrison,
 Richmond, Va.
 PREMATURE DETACHMENT OF PLACENTA—Dr. J. J. Mc-
 Cormick, Norfolk, Va.
 THE THYROID IN PREGNANCY—Dr. Greer Baughman,
 Richmond, Va.
 OBSERVATIONS ON A SERIES OF CASES OF TWILIGHT
 SLEEP—Drs. M. P. Rucker and H. N. Mason,
 Richmond, Va.
 INTESTINAL OBSTRUCTION CAUSED BY NORMAL PREG-
 NANCY—Dr. Thomas B. Leonard, Richmond, Va.
 THE USES AND ABUSES OF PITUITRIN—Dr. J. L. Rawls,
 Norfolk, Va.

WEDNESDAY NIGHT, 8 TO 10 P. M.

Medical Section.

- DILATATION OF RIGHT VENTRICLE WITHOUT DILATATION
 OF LEFT VENTRICLE—Dr. P. S. Roy, Washing-
 ton, D. C.
 THE USE OF DIGITALIS—Dr. J. Morrison Hutcheson,
 Richmond, Va.
 THE AGE INCIDENCE OF COMMON CONTAGIOUS DISEASES
 IN CHILDHOOD—Dr. N. Thomas Ennett, Rich-
 mond, Va.
 SOME UNUSUAL ASPECTS OF SOUTHERN MORTALITY—
 Dr. J. Allison Hodges, Richmond, Va.
 DYSCHYLIA GASTRICA—Dr. Douglas VanderHoof, Rich-
 mond, Va.

THURSDAY MORNING, OCTOBER 26, 1916.

9 A. M. TO 1 P. M.

Medical Section.

- ALCOHOLISM AND PERSONALITY—Dr. Jas. K. Hall, Rich-
 mond, Va.
 EFFICIENCY AND ECONOMICS IN THE MANAGEMENT OF
 THE INSANE—Dr. W. S. Gordon, Richmond, Va.
 THE RELATION OF SYPHILIS TO MENTAL DEFICIENCIES—
 AN ANALYTICAL STUDY OF FIFTY CASES—Dr.
 Wm. H. Higgins, Richmond, Va.
 SYPHILIS AND SUICIDE—Dr. M. C. Cycle, Richmond, Va.
 VAGOTONIA—Dr. Beverley R. Tucker, Richmond, Va.
 LUMBAR PUNCTURE AS A DIAGNOSTIC AND THERAPEUTIC
 AGENT—Dr. J. D. Willis, Roanoke, Va.
 SYMPTOM COMPLEXES SIMULATING NEURASTHENIA—Dr.
 H. J. Hayes, Richmond, Va.
 SOME NEW PHASES OF FUNCTIONAL NERVOUS DISORDER
 —Dr. Tom A. Williams, Washington, D. C.

THURSDAY AFTERNOON, 3 TO 7 P. M.

General Meeting.

- Address by the President, Dr. Jos. A. White, Rich-
 mond, Va.
 Address by Mr. G. V. Sheridan, Executive Secre-

tary, Ohio State Medical Association (invited guest), Columbus, Ohio.

Report of Executive Council; election of officers, committees, etc.

THURSDAY NIGHT, 8 TO 10 P. M.

Medical Section.

MENINGITIS—Dr. L. T. Royster, Norfolk, Va.

THE DEPENDENCY ON EARLY DIAGNOSIS FOR ULTIMATE RESULTS IN TREATMENT OF PULMONARY TUBERCULOSIS—Dr. E. E. Watson, Salem, Va.

PEPTIC ULCER—Dr. Edward McGuire, Richmond, Va.

FORTY YEARS ON THE FIRING LINE—Dr. W. B. Barham, Newsoms, Va.

LIGHT AS A CAUSE OF DISEASE—Dr. Thos. W. Murrell, Richmond, Va.

BACKACHE AND SCIATICA—THEIR CAUSES AND TREATMENT—Dr. E. E. Feild, Norfolk, Va.

THE RELAXATION OF ALCOHOL—Dr. Frank Hancock, Norfolk, Va.

FRIDAY MORNING, OCTOBER 27, 1916.

9 A. M. TO 12 M.

General Meeting.

THE EFFECT OF HEAT ON CIRCULATION—Dr. C. D. Kellam, Norfolk, Va.

THE ATTAINMENT OF FINANCIAL SUCCESS—Dr. Ira J. Haynes, Richmond, Va.

FURTHER STUDIES IN ANAPHYLACTIC CONDITIONS OF THE LUNGS AND RESPIRATORY TRACT—Dr. W. E. Driver, Norfolk, Va.

PRACTICAL PHYSIO-THERAPY—Dr. L. B. Scott, Norfolk, Va.

DEMENTIA COMPLICATING FEBRILE DISEASES—Dr. G. C. Parker, Norfolk, Va.

Unfinished business.

Introduction of President-Elect.

Adjournment.

PAPERS AND DISCUSSIONS.

The time limit in reading a paper is twenty minutes. In discussions or speaking to a motion no speech is to exceed five minutes, and no speaker is permitted more than twice in discussing a paper or speaking to a motion. The absence of the author when his paper is called in the regular sequence relegates such a paper to the end of the program.

REGISTRATION, BUTTONS, ETC.

All members, fraternal delegates, invited guests and visitors are requested to register promptly. Registration cards may be gotten at the Registrar's desk. Any member who has not already been provided with a society button may secure one from the Registrar. Any member who has already been provided with a button, but lost or misplaced it, may get another for 25 cents.

ANNUAL DUES.

Members not members of county societies are requested to remit the annual dues (\$2.00) to the Treasurer as promptly as possible.

CHANGE OF ADDRESS.

Members will please notify the Secretary of changes in postoffice addresses.

RAILROAD RATES.

The Atlantic Coast Line, Seaboard Air Line, Southern Railway, R. F. & P.—W. S., Danville and Western and Franklin and Pittsylvania Railroads will authorize the sale of round-trip tickets to Norfolk on October 22nd, 23rd and 24th, final limit October 29th.

The Chesapeake and Ohio, Norfolk and Western and Virginian Railways will sell tickets on the same dates, with same final limit, at corresponding fares.

HOTEL RATES.

The Monticello will be the headquarters of the

Society. The rates at most of the hotels will be from \$1.00 per day and up. European plan.

EXHIBITS.

Ampñe space has been reserved for exhibits of Medical and Surgical Supplies, etc.

EXHIBITORS.

The Welch Grape Juice Co., Baltimore, Md.

Fairchild Bros. & Foster, Drugs, New York.

C. B. Fleet Co., Drugs, Lynchburg, Va.

Horlick's Malted Milk Co., Racine, Wis.

Hynson, Westcott & Co., Supplies, Drugs, Baltimore, Md.

Kalak Water Co., Brooklyn, N. Y.

Eli Lilly & Co., Drugs, Indianapolis, Ind.

The McKee Co., Surgical Supplies, Washington, D. C.

S. J. Priden & Co., Books, etc., Atlanta, Ga.

The Physicians Specialty Co., Electrical Instruments, Leesburg, Va.

Powers & Anderson, Hospital Supplies, Richmond, Va.

Reed & Carnrick, Drugs, Jersey City, N. J.

Van Horn & Sawtell, Cat Gut, etc., New York, N. Y.

The Chas. Willms Surgical Co., Surgical Supplies, Baltimore, Md.

Weder Manufacturing Co., Surgical Supplies, Philadelphia, Pa.

Laine Chemical Co., Drugs, New York, N. Y.

Chas. H. Phillips & Co., Drugs, New York, N. Y.

D. Appleton & Co., Books, New York, N. Y.

W. B. Saunders & Co., Books, Philadelphia, Pa.

Analyses, Selections, Etc.

The Allen Treatment of Diabetes and Caution.

Many of our readers are familiar with the plan of treatment of diabetes mellitus brought forward during the past two years by Dr. Allen. * * * * Like many plans it is not entirely original, differing only from temporary starvation of the diabetic in that the starvation is more rigorous and that it is instituted at once in its most severe form.

It has been known for years by every one who has studied this disease that diabetic patients can often be made sugar-free of their intake of food, particularly of the carbohydrates, if materially decreased or entirely arrested. It has also been known to be a fact that such patients, when permitted to receive starchy foods, are often found to be capable of retaining and utilizing a larger amount of sugar than before they were starved. And, again, it has been well known that certain forms of starch, like that found in the potato, in oatmeal, and in rice, are apparently more easily assimilated and retained by such patients than is the starch from which bread is made. Once more, it can be said, without fear of contradiction, that those who have had the largest

experience in the treatment of diabetes recognize the fact that in cases which have lasted long enough the body is not alone suffering from the loss of sugar, but that it also turns upon its fats and proteins, destroys them, and makes sugar in the process. The organism is, therefore, self-destructive under such conditions, the more so as the educts from this utilization of the fats result in the development of poisons which induce diabetic coma, and the acid character of these poisons robs the body of alkaline substances.

In other words, the most serious problem in a case of diabetes is not so much the large amount of sugar which may be eliminated, as the degree to which these secondary compensatory, but, nevertheless, destructive, processes are carried out.

We believe that it is essential for the safe and proper treatment of every case of diabetes that he should remain upon his ordinary diet until the physician, by daily examinations of the twenty-four hours' urine, obtains a clear conception of the average amount of sugar loss, and determines whether ketone bodies, which are associated with acidosis, are present, and if so, in what relative quantities, since acetone shows that the body oxidizes oxybutyric acid into diacetic acid and then into acetone, whereas if oxybutyric acid is found in the urine it indicates that the oxidizing power of the body is unable to reduce this poisonous substance into innocuous acetone. The physician, in this way gaining a conception of the status of the patient in relation to his disease, can then institute such dietetic rules as will fit the particular individual, and, still continuing his examinations of the urine, be able to compare the results obtained with the standards reached or discovered in the first days of observation. To our minds Allen's proposition, which ignores these facts, jeopardizes a certain number of patients. We have more than once seen the institution of a strict antidiabetic diet plunge the patient from a condition of fair health into diabetic coma within a day or two.

We think it also a good rule and practice to recognize the fact that no one routine method of treatment can be employed in all patients suffering from the same disease, since that which suits one patient may be quite improper or ill-advised for another. In other words, the recommendation that the Allen treatment be

instituted promptly in every case is, we believe, unfortunate and unwise. For these reasons we have perused with much interest a contribution by Joslin, Brigham, and Hornor, in the *Boston Medical and Surgical Journal* of March 16 and 23, in which they report fourteen cases of diabetes mellitus unsuccessfully treated by fasting. Possibly no one in this country has done more toward the scientific investigation of this obscure malady than Joslin, and therefore anything which he may say in regard to this matter is of the greatest possible importance.

It is only fair to state that, in the opening of their article, these writers say that they thoroughly believe in the fasting treatment of diabetes as outlined by Dr. Allen, and that under this treatment their diabetic patients do better than ever before. They go on to say, however, that their object in publishing this paper is to show that some of the patients so treated have died, and to point out the apparent failure. They have used alkalies less and less in the treatment of acid intoxication, endeavoring to avoid the necessity for the use of alkalies by preventing acidosis. They have found it advantageous, however, in long-standing and complicated cases, without otherwise changing the habit or diet, to begin the treatment by omitting the fats in order to decrease the source of the acid bodies, after two days to omit the protein and simultaneously to halve the carbohydrates daily to 10 grammes, and then, if sugar has not disappeared from the urine, to fast the patient. There is not space in this leading article to quote in detail their various accurate and scientific observations, which were made upon the respired air and the contents of the urine. Those who wish to look into this matter further will find this portion of their study most interesting.

The opening paragraph of the second section of their paper states, in different words, the views we have already expressed in this article, as follows: "Changes in the diet and regimen of patients who have suffered from diabetes for many years are always dangerous, and particularly so when the case is of extraordinary length. Treatment of such individuals should never be undertaken lightly nor without a full realization of the gravity involved." Their feeling in this view is emphasized by the quoting a case in which for nine days after the pa-

tient came under observation she was not allowed to make the slightest possible change in her regimen. These authors close their paper with these words: "The experience derived from these patients has led us to adopt a preparatory treatment to fasting for very severe, long standing and complicated cases." The plan which they follow we give below, as printed in the journal from which we quote.

SUMMARY OF TREATMENT.

Fasting. Fast until sugar-free. Drink water freely, and tea, coffee, and clear meat broth as desired. In very severe long standing and complicated cases, without otherwise changing habit or diet, omit fat, after two days omit protein and halve carbohydrate daily to 10 grammes, then fast.

Carbohydrate Tolerance. When the 24-hour urine is sugar-free, add 150 grammes of 5-per cent. vegetables and continue to add 5 grammes carbohydrates daily up to 20, and then 5 grammes every other day, passing successively upward through the 5, 10 and 15 per cent. vegetables, 5 and 10 per cent. fruits, potato and oatmeal to bread, unless sugar appears or the tolerance reaches 3 grammes carbohydrate per kilogramme body weight.

Protein Tolerance. When the urine has been sugar-free for two days, add 20 grammes protein (3 eggs) and thereafter 15 grammes protein daily in the form of meat until the patient is receiving 1 gramme protein per kilogramme body weight, or if the carbohydrate tolerance is zero, only 3/4 gramme per kilogramme body weight.

Fat Tolerance. While testing the protein tolerance, a small quantity of fat is included in the eggs and meat given. Add no more fat until the protein reaches 1 gramme per kilogramme (unless the protein tolerance is below this figure), but then add 25 grammes daily until the patient ceases to lose weight or receives not over 40 calories per kilogramme body weight.

Reappearance of Sugar. The return of sugar demands fasting for 24 hours or until sugar-free. The diet is then increased twice as rapidly as before, but the carbohydrate should not exceed half the former tolerance until the urine has been sugar-free for two weeks, and it should not then be increased more than 5 grammes per week.

Weekly Fast Days. Whenever the tolerance is less than 20 grammes carbohydrate, fasting should be practiced one day in seven; when the tolerance is between 20 and 50 grammes carbohydrate, upon the weekly fast day 5 per cent. vegetables and one-half the usual quantity of protein and fat are allowed; when the tolerance is between 50 and 100 grammes carbohydrate, the 10 and 15 per cent. vegetables are added as well. If the tolerance is more than 100 grammes carbohydrate, upon weekly fast days, the carbohydrate should be halved.

STRICT DIET.

Meats, Fish, Broths, Gelatine, Eggs, Butter, Olive Oil, Coffee, Tea, and Cracked Cocoa.

Foods Arranged Approximately According to Per Cent. of Carbohydrates.

Vegetables (Fresh or Canned.)

	5 per cent.*	
Lettuce	Sauerkraut	Okra
Cucumbers	Beet greens	Cauliflower
Spinach	Dandelion greens	Egg Plant
Asparagus	Swiss chard	Cabbage

Rhubarb	Celery	Radishes
Endive	Tomatoes	Leeks
Marrow	Brussels sprouts	String-beans
Sorrell	Watercress	Broccoli
	Sea kale.	
	10 per cent.	
Pumpkin	Squash	Onions
Turnip	Beets	Mushrooms
Kohl-Rabi	Carrots.	
	15 per cent.	
Green peas	Parsnips	Canned lima beans
Artichokes.		
	20 per cent.	
Potatoes	Baked beans	Boiled rice
Shell beans	Green corn	Boiled macaroni
	Fruits.	
	5 per cent.	
Ripe olives (20 per cent. fat)		Grape fruit.
	10 per cent.	
Lemons	Strawberries	Peaches
Oranges	Blackberries	Pineapple
Cranberries	Gooseberries	Watermelon.
	15 per cent.	
Apples	Blueberries	Raspberries
Pears	Cherries	Huckleberries
Apricots	Currants.	
	20 per cent.	
Plums	Bananas	Prunes.
	Nuts.	
	5 per cent.	
Butternuts	Pignolias.	
	10 per cent.	
Brazil nuts	Hickory	Filberts
Black walnuts	Pecans.	
	15 per cent.	
Almonds	Beechnuts	Pine nuts
Walnuts (Engl.)	Pistachios.	
	20 per cent.	
	Peanuts.	
	40 per cent.	
	Chestnuts.	
	Miscellaneous.	
	5 per cent.	
	Unsweetened and Unspiced Pickle, Clams, Oysters, Scallops, Liver, Fish Roe.	

(30 grammes 1 oz.) Contain Aproximately	Protein. G.	Fat, G.	Carbo- hydrate. G.	Calories.
Oatmeal, dry weight....	5	2	20	120
Meat (uncooked, lean)...	6	3	0	50
Meat (cooked, lean).....	8	5	0	75
Broth	0.7	0	0	3
Potato	1	0	6	25
Bacon	5	15	0	155
Cream, 40 per cent.....	1	12	1	120
Cream, 20 per cent.....	1	6	1	60
Milk	1	1	1.5	20
Bread	3	0	18	90
Butter	0	25	0	225
Egg (one)	6	6	0	75
Brazil Nuts	5	20	2	210
Orange or Grape Fruit (one)	0	0	10	40
Vegetables, 5 and 10 per cent. group	0.5	0	1 or 2	6 or 10
Oysters, six	6	1	4	50

1 gramme protein, 4 calories.
 1 gramme carbohydrate, 4 calories.
 1 gramme fat, 9 calories.
 1 gramme alcohol, 7 calories.
 6.25 g. protein 1 g. nitrogen.
 1 kilogram equals 2.2 pounds.
 30 grammes (g) or cubic centimeters (c.c.) equals
 1 ounce.
 A patient "at rest" requires 25 per kilog. body
 weight.

The point which the writer of this article wishes to make and emphasize is not that the Allen treatment of fasting diabetics is

*Reckon available carbohydrates in vegetables of 5 per cent group as 3 per cent., of 10 per cent. group as 6 per cent.

essentially erroneous, or that it will not, in a large number of cases, produce excellent results, but that it cannot be applied haphazard in all cases, and that, if so applied, it will sometimes induce disaster, for every case of diabetes should be approached by the physician "reverently, discreetly, and in the fear of God."—(*Editorial, Therapeutic Gazette, June, 1916.*)

The Pituitary Body and its Effects Upon Nutrition and Development.

Entirely apart from the extraordinary interest and importance which is centered in the active principle of the posterior portion of the pituitary body as exercised upon the circulatory apparatus and the uterus, it is becoming increasingly evident that this posterior lobe exercises other functions in the body and that the anterior lobe may possess valuable therapeutic properties in a limited class of cases which, because they cannot be benefited in any other way, ought to receive special attention at the hands of those who keep themselves abreast of all the real advances which are made in our knowledge concerning the glands of internal secretion. We have known for a number of years that part of the gland has an extraordinary effect on growth, and also that it is connected with the ability of the body to retain sugar. Constantly increasing evidence shows that the anterior lobe in early life has much to do with physical development, and later with the development of the sexual organs and sexual characteristics.

One of the most exhaustive and interesting papers which has appeared in connection with this important subject has been contributed by Goetsch to the *Bulletin of the Johns Hopkins Hospital* for February, 1916, who reports a number of experiments made upon the lower animals. He shows, amongst other things, that the feeding of young male rats with extract of the anterior lobe resulted in a definitely stimulating effect upon the growth of the animal body as to gain in weight and in its general appearance of vigor. There was also earlier descent of the testicles and the glands appeared larger and more vascular than the testicles of a control animal which, at the start of the experiment, had been of the same size. In other words, the use of the anterior lobe extract shortened the

period of complete sexual development by one month, or one-third. When the posterior lobe extract was employed in another experiment it failed to produce a stimulating influence upon the development of the sexual glands in any way comparable to that exerted by the anterior lobe extract.

Further experiments upon the effects of the anterior lobe extract upon breeding and pregnancy were performed. In the case of female rats there was increase in weight and growth comparable to that which occurred in the male rat when the anterior lobe extract was given, and a pair of rats that received the anterior lobe extract bred at the age of three and one-half months, which is much earlier than is usually the case. An examination of the ovaries of the fed animals showed that they were better developed at the same age than in those which did not receive anterior lobe. There was greater vascularity and the Fallopian tube had a more freely branched fimbriated extremity, the uterus was better developed and the sexual apparatus better fitted for functional activity. The author then goes so far as to conclude, from some experiments carried through more than one generation, that the second generation may be influenced by feeding the first with the anterior lobe.

If the entire lobe is given the results are not so marked, but the author seems to think that in instances where faulty development exists the best results will be obtained by pituitary whole gland extract rather than the extract of one lobe. It may, however, be definitely stated that the extract of the posterior lobe does not stimulate growth in general and the development of the sexual glands as does the anterior lobe even after a very short period of use.

What the exact bearing of this research will be upon human medicine it is, at present, difficult to determine. An interesting field of observation is, however, opened to physicians who have cases which fail to develop, as puberty approaches, to the extent which is normal. It would appear that they are justified, from this and other researches, in administering extract of the anterior lobe, the more so as a considerable number of cases have now been reported in human beings in which great improvement has followed its use.—(*Ibid.*)

Renal Pain: Diagnostic and Clinical Significance.

Four main pathological conditions are apt to be confounded with renal lesions because of the accompanying pains: these are (1) coincident disease of the gall-bladder and ducts, (2) gastro-duodenal ulcer syndrome, (3) appendicitis, (4) diseases of the large intestine.

Three points deserve consideration in renal pain—the type of the pain, its original site, its final location and path of radiation. The type of pain may be of two kinds, (a) true, renal pain situated in the flank and lumbar regions, constant in character, dull and without radiation; (b) pelvic or urethral pain, diffusely located, colicky in quality, intermittent in character, radiating through the inguinal region into the genitalia and rectum. If with one or the other type of pain there is also pus or blood, or gravel in the urine there is then barely any doubt that the pain is of renal origin. An interesting peculiarity of renal pain is that it never becomes paroxysmal: it is always dull and constant and nearly always accompanied by local tenderness, Murphy's sign or Thompson's sign or costovertebral tenderness.—(*J. Bentley Squier, International Journ. Surgery; American Journ. Surgery.*)

The Reappearance of Menstruation After Childbirth.

After analyzing the histories of 209 patients detailing 309 births, in some instances covering from three to five confinements and lactations in the same patient, which were found available for this study (Hugo Ehrenfest, M. D., in *Am. Jour. of Obstets.*) comes to the following conclusions:

1—In over 50 per cent. of all lactating women, menstruation appears within twelve weeks after delivery.

2—In over 80 per cent. of all lactations, first menstruation appears before the cessation of lactation.

3—In primiparous women the percentage of those who begin to menstruate before the child is weaned is still larger.

After comparing with other available statistics, Dr. Ehrenfest comes to the following conclusions:

It seems extremely probable that my own figure of approximately 80 per cent. of appear-

ance of first menstruation (followed by the more or less regular continuation of the function) before the child is completely weaned, fairly well represents the actual conditions for American women of average health.—(*Western Medical Review.*)

Chenopodium in Uncinariasis.

Oil of chenopodium was employed alone in a series of cases of uncinariasis, while in another series it was given alternately with other well known vermifuges for comparison (W. A. Bishop and O. F. Brosins). The results and relative effectiveness of the different drugs were measured by daily counts of the number of worms expelled in the stools. Chenopodium was found to be decidedly more effective than other remedies, including thymol. Its administration was also much simpler and the patient was, therefore, much more likely to undergo repeated administrations to accomplish a complete cure. Doses of eight minims each were enclosed in capsules and each course of treatment consisted in the administration of two capsules every two hours for six hours. The last dose was followed in four hours by two ounces of castor oil. No dietetic restrictions are necessary and the treatment can be repeated every three days until a cure is effected. For children the dose can be calculated by Young's rule. The drug seemed to be quite without danger in the doses here recommended.—(*New York Medical Journal.*)

Atropin in Gastric Disturbances.

Pletnew (*Therapie Monatschrift*) states that atropin is peculiarly useful in gastric disturbances. It promptly checks secretions; markedly reduces acidity in hyperchlorhydria; diminishes pylorospasm, relieving the pain and distress. Morphine is contraindicated in gastric disturbances as its use is followed by increased secretion: with atropin, however, these untoward effects are not in evidence.

If you know of a skeleton hidden away
In a closet, and guarded, and kept from the day,
In the dark; and whose knowing, whose sudden display

Would cause grief and sorrow and lifelong dismay,
It's a pretty good plan to forget it.

—Exchange.

Editorial.

To the Members of the Medical Society of Virginia, to the Members of the County and District Societies, and to the Members of the Profession in Virginia Who Belong to Neither, but Who Ought to Belong to Them:

The meeting of the Medical Society of Virginia at Norfolk, October 23d to 27th will be one of the most important in its history.

The Society is in a kind of transition stage due to the adoption of the A. M. A. plan of reorganizing State Medical Associations on the basis of County Societies, membership in the State Society being practically dependent on being a member of a County or District Society.

Most of the counties in the State have organized and been chartered, but some have not as yet come into the new plan, and therefore, there are two classes of members: one that belongs to the State Society through their County Societies, and another that still belongs on the old plan from the State-at-Large, as it were.

This is an anomalous condition and creates considerable confusion, especially in regard to the finances of the Society, because one set is expected to pay its dues through the treasurer of the County Society and the other directly to the Treasurer of the State Society.

In consequence there is conflict of authority in the matter of collections, with the natural result that in many cases there is no collection at all. The Society cannot keep in business without money, and some way out of this difficulty must be met at the meeting in Norfolk. This, however, is only one of the important matters which needs adjustment, and it will require the earnest co-operation of all the medical men of the State who take an interest in the Medical Society of Virginia to put it back on a sound business and scientific basis.

A very efficient way of doing this is to have a meeting of the Presidents and Secretaries of the various County, Town and District Societies, which are the component units that go to make up the State Society.

I therefore make a personal appeal to everyone of these gentlemen to be present, even at some sacrifice, and also urge all their members and non-members among their friends to come

to the meeting and help to put the Medical Society of Virginia on a plane that will compare favorably with any other similar organization. The interchange of views and experiences such a meeting will bring about will be mutually beneficial to all the local societies, and, indirectly of great benefit to the State Society.

J. A. WHITE, M. D.

President, Med. Society of Va.

Simultaneous Dislocation of Both Hip Joints in the Same Patient

Is the subject for report of a case in the practice of Dr. E. M. Magruder, of Charlottesville, and is detailed in another column of the *Semi-Monthly*. While we personally do not recall ever having seen a case of uncomplicated hip-joint dislocation either in private practice or in the clinics, we were never before impressed with its rareness—possibly because of the prominence given it in text-books and college lectures—until attention was specifically drawn to its discussion by the article under mention.

All authors apparently agree that dislocation of the hip, even on one side, is an uncommon lesion, and Cotton says: "The Catalogue of the Boston City Hospital (an institution showing a very large array of unselected accident cases) shows, in the last twenty-eight years, 62 cases of hip luxation to 869 cases of *fracture* of the femoral neck: the possible error, owing to uncorrected provisional diagnoses and to enthusiasm for 'operable' cases, would, if corrected, show an even smaller proportion of actual luxations." He seems to make no note of double hip-joint dislocation, although his book is one of the standard works on "Dislocations and Joint-Fractures."

Stimson, in his work on "Fractures and Dislocations," says statistics show that "the percentages of dislocation of the hip, compared with all dislocations, vary from 1.4 to 2 per cent." Further on he states: "Simultaneous dislocation of both hips has been reported in about thirty cases. Usually the dislocation is not the same on both sides, but if backward upon the ilium in one it is forward upon the obturator foramen or upon the pubis in the other."

Brewer dismisses the subject by remarking,

"Simultaneous dislocation of both hips has been recorded in a few instances."

Most authors call attention to the fact that the hip-joint is very strong, is of the ball-and-socket variety, with a deep socket in which the head of the bone is retained by the ligamentum teres and by atmospheric pressure, although in making full mention of single dislocation, the majority seem to make no reference to double dislocation of the hip-joint, so seldom is it seen.

The case reported by Dr. Magruder, while possibly not without precedence as to simultaneous dislocation of both hip-joints, is, nevertheless, undoubtedly rare in literature, and more especially so as both dislocations were backward—a point about which we can find nothing definite.

Birth Registrations Should Be More Accurate.

Dr. W. A. Plecker, State Registrar, has recently issued several pamphlets which should be of interest to all concerned in children's welfare. It is apparent that many physicians and midwives have failed to register all births coming under their jurisdiction, and this non-compliance with the law may entail irreparable harm upon the child in future years by his failure to obtain positions or money which registration might guarantee. Likewise, it may at the present time prevent the mother from receiving literature which is sent out by the State and which, in many instances, may prove of incalculable benefit in the rearing of her children. Finally, it reflects upon the State, as a decrease in the number of births reported makes a relatively greater ratio of deaths for the State.

It may be of interest to note that New Zealand, with a population not quite half that of Virginia, leads the world in what she has accomplished in saving the lives of her infants. She has reduced an infant death rate of 88 per 1,000 twenty years ago to 51 per 1,000. Chile, heading the list on the other side, has an infant death rate at this time of 286 per 1,000. It is in a measure "up to us" as to the side we will join. Bad registration may in many cases be due to failure on the part of local registrars to hold physicians and midwives up to the requirements of the law, but this would seem to be a case in which compul-

sion should not be necessary to enforce the law.

The Alexandria County (Va.) Medical Society,

At its meeting on August 7, elected the following officers for the ensuing year: President, Dr. R. N. Sutton, Clarendon; vice-president, Dr. R. J. Yates, Del Ray; secretary, Dr. W. C. Welburn, Ballston, and treasurer, Dr. J. H. Walton, Cherrydale.

The Wise County (Va.) Medical Society

Held its regular meeting September 27, at Wise, Va., Dr. N. F. Hix, of that place, presiding, and Dr. T. M. Cherry, of Norton, at the secretary's desk. The subject for general discussion was "Shock; Causes and Treatment." Several interesting papers were read by members of the Society and Dr. Samuel R. Holroyd, of Athens, W. Va., also addressed the society.

The Richmond Academy of Medicine and Surgery

Resumed its regular meetings September 26, at 8.30 p. m., at the Westmoreland Club. In accordance with the resolution passed at the last meeting before the summer adjournment, the Programme Committee prepared a most instructive and enjoyable evening.

There were three distinct attractions: A report by Dr. Stuart McGuire, "Impressions of England During the Great War," and a report by Dr. Robert C. Bryan, "The Military Surgery of France." These were followed by a buffet supper and smoker.

The reports by both Drs. McGuire and Bryan proved of unusual interest because they gave first hand an intimate insight into conditions now prevailing in war-torn Europe, including some of the horrors as they saw them, as well as a number of personal experiences which added to the interest of the talks.

An Addition to St. Elizabeth's Hospital.

On account of the rather crowded condition of St. Elizabeth's Hospital, Richmond, Va., it was found necessary to build an addition. This has been placed in the shape of an "L", the addition running at a right angle from the back part of the main building. It is five stories high, including the basement, which is largely above ground.

All of the floors, except the first or basement, have rooms for patients. The basement is divided into spaces for filing specimens and records of cases, and for storage purposes. On the top floor, one room is used as a studio for Miss Lorraine, the artist to the institution. The patients' rooms are protected from the noise of Grace Street, and are consequently very quiet.

There are eighteen beds in this addition, divided between single rooms and two-bed rooms. There were thirty-one beds in the original building, but one single room has been taken for other purposes which makes the total capacity of the hospital forty-eight beds.

The construction of the addition, like that of the original building, is fire-proof and consists of brick and tile reinforced with concrete. There is no wood on which there is any strain whatever. The wood floors are laid in strips that are embedded in concrete.

The top floor of the original building has been somewhat remodeled, adding, outside of the operating pavilion, a small operating room for minor operations, examinations, and treatment of septic cases. The laboratory has been enlarged, giving more room for tissue work and frozen sections.

St. Elizabeth's is a private hospital for Dr. Horsley's patients, whose practice is limited to surgery and gynecology, and no change will be made in the policy of the hospital on account of the addition.

Parke, Davis and Company,

In commemoration of their fiftieth anniversary on the 26th of this month, have issued an attractive "Jubilee Souvenir," which gives a history of the firm from its early struggles to its magnificent proportions of today. It is simply an illustration of how a great oak from an acorn may grow. We wish them continued prosperity.

The Yellow Fever Commission

Of the Rockefeller Foundation, returned September 25, from a two months' study of sanitary conditions along the west coast of South America, and left on the first available steamer for the east coast of South America. Surgeon-General William C. Gorgas is chairman of the commission. Among the countries visited on the first trip were Chile, Peru, Bo-

livia, Ecuador and Panama, and it is understood that much interesting data had been collected.

Enrollment at Medical Schools Large.

Both of the medical schools in Virginia opened this year with good enrollments. To October the first, exactly 400 students had matriculated in the three departments at the Medical College of Virginia. There were thirty freshmen in the medical department; fifty-one in the dentistry and forty-eight in the pharmacy freshmen classes. Of the 1,031 students enrolled at the University of Virginia on October 3, the opening day, 106 were in the department of medicine. Announcement was made at the opening exercises that a gift of \$250,000 had been made to the University.

Married—

Dr. Robert Preston and Miss Alice Burwell Reed, both of this city, October 3.

Dr. George Everett Nance, Roxbury, Va., and Miss Jessie Leonora Sexton, of Richlands, Va., October 3.

Dr. Robert Edward Garrett, Catonsville, Md., and Miss Ellen Bird Peed, of King and Queen County, Va., September 30.

Dr. George Franklin Hughston, Spartanburg, S. C., and Miss Mary Hancock McCauley, Bluefield, W. Va., September 26. Dr. Hughston was appointed one of the internes at Virginia Hospital, this city, upon his graduation from the Medical College of Virginia the past session.

Dr. Walter Joseph Otis,

Of McLean Hospital, Waverley, Mass., is spending the month of October in New York. Dr. Otis was a graduate of the Medical College of Virginia in 1915, later serving as an interne at Memorial Hospital, this city.

American Hospital Association.

At the annual meeting of this Association in Philadelphia, in September, Dr. Robt. J. Wilson, New York City, was elected president; Dr. Wm. H. Walsh, Philadelphia, secretary, and, Mr. Asa Bacon, Chicago, treasurer.

Dr. R. G. Wiatt,

Who has been connected with Stuart Circle Hospital, this city, for the past two years, has

resigned to begin the practice of his profession with Dr. M. L. Anderson, of this city. Drs. Charles Phillips and B. E. Rhudy, both recent graduates of the Medical College of Virginia, are now internes at Stuart Circle Hospital.

Dr. H. C. Grant,

Crozet, Va., went to New York City the last of September, to spend six months in the study of diseases of children, in which branch he is specializing.

Dr. E. C. Runyon,

Of this city, has returned to Columbus, Miss., where she has been spending the winters for several years.

Dr. Harry S. Lewis,

For the past few years superintendent of the Central Dispensary and Emergency Hospital, Washington, D. C., resigned October 1, to enter private practice.

New Dean at Jefferson Medical College.

Dr. Ross V. Patterson, the newly appointed dean of Jefferson Medical College, entered upon his duties at the beginning of the present session.

Dr. J. H. Mapp

Has been chosen a member of the new board of health of Buena Vista, Va.

Dr. R. E. Parker,

Chuckatuck, Va., was a visitor at Mountain Lake, Va., the latter part of September.

Dr. and Mrs. B. C. Willis,

Formerly of this city, but now of Rocky Mount, N. C., visited at Mrs. Willis's old home in Harrisonburg, Va., the latter part of September.

Typhoid Under Control in Winchester.

The typhoid fever situation in Winchester, Va., is apparently under control. Although there are about forty cases in that city and some in Frederick County, there had been no new cases reported during the first week in October and only one death since the outbreak of the disease. The source of the outbreak of the disease seems to have been traced to Harrisburg, Pa., from which place cream was recently

shipped to Winchester. Harrisburg is passing through the most serious outbreak of typhoid fever in its history, according to official reports, as there have been about 500 cases of this fever in that city and Dauphin County since August.

Dr. Harry B. Hinchman

Has been elected chief interne at Virginia Hospital, this city, to succeed Dr. Frederick P. Fletcher, who resigned that he might become associated with Dr. Manfred Call, of this city, in the practice of medicine.

Dr. Julian M. Robinson

Has been elected vice-president of the new golf club which has just been organized in Danville, Va.

The American Association of Obstetricians and Gynecologists,

At its meeting in Indianapolis, last month, elected Dr. John W. Keefe, Providence, R. I., president, and re-elected Dr. E. Gustav Zinke, Cincinnati, secretary.

Dr. Hunter Spencer

Has returned to his home in Staunton, Va., after a visit to this city.

Dr. J. Walter Witten,

North Tazewell, Va., was elected grand vice-chancellor of the Grand Lodge of Knights of Pythias of Virginia, at its meeting in Petersburg, this month.

The American Roentgen Ray Society,

Meeting in Chicago, September 28-30, elected Drs. Lewis G. Cole and Wm. H. Stewart, both of New York City, president and secretary, respectively.

Dr. and Mrs. Paul E. Redd,

Of Highland Park, this city, recently took a motor trip to Emporia, Va., to visit relatives.

Dr. George W. Schenck,

Of the 1915 class Medical College of Virginia, has entered upon his duties as house surgeon at the Woman's Hospital, New York City, which appointment he won by competitive examination by the board of medical examiners of the Hospital. Dr. Schenck is a son of Dr. P. S. Schenck, health commissioner of Norfolk, Va.

Dr. Benjamin F. Brugh,

Who was appointed interne at Jefferson Hospital, Roanoke, Va., upon his graduation at the Medical College of Virginia in 1915, is now located at Summerlee, West Virginia.

Dr. J. Chalmers DaCosta

Has been appointed chief consulting surgeon to the Philadelphia General Hospital to succeed Dr. J. William White, deceased.

Nurses Graduate.

The training school for nurses of St. Luke's Hospital, this city, held its graduating exercises October 3, at which time nine nurses received diplomas. Dr. Douglas S. Freeman, of this city, made the address. While the dance which followed the exercises was going on, a chimney of the hospital caught fire and caused considerable commotion for a time, but little damage. The excitement was principally on the outside of the building, however, due to the hospital call to the fire department. In fact, many of the patients did not know the cause of the excitement.

The School of Nursing of the Memorial Hospital, also of this city, had its exercises October 12, at which time thirteen nurses were graduated. Dr. Stuart McGuire, dean of the Medical College of Virginia, presented the diplomas; Mr. Eppa Hunton, Jr., the pins, and Mr. L. Z. Morris, the Thomas L. Moore prizes. A reception and dance at the Richmond Hotel followed.

Dr. J. B. Mears,

Who has for sometime been on the U. S. S. Franklin, at Norfolk, Va., has been transferred to the Fourth Regiment U. S. Marines, Santiago, D. R.

Dr. and Mrs. Douglas Vander Hoof,

Richmond, Va., took a motor trip in the Virginia mountains in September.

Dr. William H. Craig

Has returned to his home in South Richmond, after a visit to Pittsburgh, Pa.

Dr. George A. Hankins,

One of the physicians at the Eastern State Hospital, Williamsburg, Va., was struck over the head and knocked unconscious on Septem-

ber 24 by one of the inmates of the Hospital, while he was attending another patient, and some time elapsed before he was found by the asylum attendants. Though his condition was serious, he was improving according to our latest information.

Dr. James P. Roy

Has qualified as one of the jail commissioners of this city.

Dr. D. D. Talley, Jr.,

Has returned to his home in this city, after a recent visit to Chicago.

The Medical Society of the State of Pennsylvania,

Which held its annual meeting in Scranton, in September, elected Dr. Chas. A. E. Codman, Philadelphia, president; Dr. Samuel G. Dixon, Harrisburg, president-elect, and Dr. Cyrus Lee Stevens, Athens, secretary (re-elected.)

Dr. and Mrs. R. L. Raiford,

Sedley, Va., took an automobile trip last month, which included visits in Richmond, the Valley of Virginia, Washington, Baltimore, Philadelphia and Atlantic City.

Dr. and Mrs. J. N. Upshur,

Of this city, spent sometime in September at Atlantic City, New Jersey.

Dr. and Mrs. W. H. Atkinson,

Washington, D. C., were recent visitors in Harrisonburg, Va.

Dr. H. Graham Stoneham,

Waverly, Va., accompanied Dr. Meade S. Brent, of Petersburg, Va., on a recent visit to his former home near Heathsville, Va.

Dr. William Lett Harris,

Norfolk, Va., announces that after October 1, 1916, his practice will be limited to the treatment of diseases of children.

Poliomyelitis in New York.

From June 1 to September 22, 1916, inclusive, there were reported in New York City 8,861 cases with 2,226 deaths. About seventy-five per cent. of the cases were reported in children one year and over but under six years of age.

Dr. N. T. Ennett,

School physician of this city, has recovered from his recent sickness and resumed his work. Dr. B. E. Summers, assistant school physician, was in charge of the work during Dr. Ennett's illness.

Dr. W. B. Pettit,

Of New Canton, Va., recently spent some time at his old home, Palmyra, Va.

Dr. and Mrs. Montie L. Rea,

Of Charlottesville, Va., visited friends in Lynchburg, in September.

Dr. and Mrs. Thomas D. Jones,

Of South Richmond, have returned home after a visit to Louisa, Va.

Dr. John W. Turman

Has returned to his home in this city after spending sometime in Carroll and Loudoun Counties.

Dr. C. Mason Smith,

Of Fredericksburg, Va., has been re-appointed school physician to the State Normal School for Women in that city.

Dr. Andrew J. Osborne,

Of Lawrenceville, Va., accompanied by his sister, motored to Richmond, early this month.

Dr. A. C. Sinton, U. S. Navy,

Of the 1914 class Medical College of Virginia, has been ordered to Washington, for duty.

Dr. J. W. Walters

Returned to his home in Lynchburg, Va., in September, after a visit to New York City.

Dr. Perkins Glover,

Of Arvonnia, Va., spent several days in Richmond, the latter part of September.

The Daily Inspection of Public Schools

Has been undertaken in Rocky Mount, N. C., this session, with a view to bringing the schools up to the greatest possible efficiency from the standpoint of health.

Do You Know That

It is dangerous to put anything into the mouth except food and drink?

Sanitary instruction is even more important than sanitary legislation?

The U. S. Public Health Service issues free bulletins on tuberculosis?

The continuous liberal use of alcoholic beverages lowers efficiency and menaces longevity?

Moderate exercise in the open air prolongs life?

"Month breathing" makes children stupid? Fish cannot live in foul water nor man in foul air?

Smallpox is wholly preventable?

Obituary Record.

Dr. Isaac Robinson Godwin,

An honored and beloved physician of Botetourt County, Va., died at his home in Fincastle, October 1, aged seventy-nine years. After an academic education received at Washington and Lee University, he studied medicine at the Medical College of Virginia, from which he graduated in 1860. At the close of the war between the states, Dr. Godwin, who had served as an assistant surgeon in the Confederacy, located in Fincastle, his native home, for the practice of his profession. He joined the Medical Society of Virginia in 1873 and was one of its vice-presidents in 1877. His widow and three children survive him.

Dr. Robert Williams Crawford,

Of Wilmington, N. C., a surgeon of the Atlantic Coast Line Railway, died September 21 at his former home in Strasburg, Va. He was a graduate of Washington and Lee University and received his medical diploma from the University of Maryland, Baltimore, in 1906. He was thirty-seven years of age and unmarried.

Dr. Lawrence Y. King,

Of Florence, S. C., dropped dead in the station in this city, early in the morning of September 30, just as he was preparing to take a conveyance to a local hospital for treatment. He was about fifty years of age and a well-known physician in his section. He graduated from the Louisville Medical College in 1891. His widow and several children survive him.

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Original Communications.

ON THE RELIEF OF DYSMENORRHEA AND STERILITY BY THE INTRA-UTERINE STEM.*

By HUBERT A. ROYSTER, A. B., M. D., F. A. C. S.,
Raleigh, N. C.

Nine years ago I presented to this Association some remarks upon "Clinical Types of Dysmenorrhea." I divided the types into three: 1, The anteflexion type, in which the pain comes on a few hours to a day before the flow and is relieved as soon as the flow is freely established; 2, The tubal type, which exists usually with some form of salpingitis and in which the pain appears about a week before the flow and continues on throughout with no relief; and, 3, The uterine and ovarian type, associated with retroversion and diseased ovaries and characterized by pain beginning with the flow, continuing through it, and occasionally afterward, ending with headache.

Those types afforded me a good working basis at that time and have done so ever since. I did not then refer to treatment but only to varieties and their etiology and pathology. A more extended experience has caused me to be deeply interested in the first type and to be encouraged in efforts for its relief. This type is seen chiefly in the anteflexed uterus, which may or may not be associated with stenosis and infantile womb. It is seen in young single women or in sterile married women. In fact, anteflexion is pathological only when it produces symptoms and the symptoms are pain and sterility. I am aware that in many quarters it is now denied that the old theory of the obstructive causation of menstrual pain can be longer maintained but I am satisfied that in

the majority of these cases the pain and sterility are due to bending of the axis, stenosis of the canal or poor development of the uterus. It seems abundantly proved that a large percentage are cured by using means to straighten, keep open and develop this organ. Of course, it is essential that accurate diagnosis and classification of the type be made. Everything in the management of dysmenorrhea centers around this one idea. For instance, it would not be proper to treat the type of case associated with uterine and ovarian conditions on the same basis as an anteflexion case.

At the present time I wish to relate, as briefly as possible, my experience with intra-uterine stems in anteflexion dysmenorrhea. This class constitutes by far the largest number which we are called upon to treat. They are either young girls clamoring for relief from excruciating pain or barren married women craving children. As a rule every known form of treatment has been tried before the patients are referred to the surgeon—and this is right. But if no improvement is manifested in three or four months, no further time should be wasted. Having established the probable diagnosis from the history and symptoms, I select a day immediately following a menstrual period and examine the patient under ether, the only satisfactory way. If the uterus is anteflexed and no complications are found, the operation of dilatation (and in some instances curettage) is performed and a stem inserted. All this is done in the hospital operating room under the strictest surgical technique. The patient remains in bed about a week and may leave the hospital shortly afterward. During her stay much may be done to correct improper modes of living and unhygienic habits.

In every case I now insist that the stem shall remain in place over three menstrual peri-

*Read before the Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., February, 1916.

ods, or even longer, if necessary. The first succeeding period is generally as painful as before, but the second should be less painful and the third almost or quite free from pain. If, however, the pain persists, the stem can be safely left for a longer time, until a painless period shall have occurred. Two months is the shortest time on our record and six months the longest. An exception is a patient who has just reported that the stem remained for nearly three years without harm. Most of us have been accustomed to dilate the canal, put in the stem and let it stay for one or two weeks, the time that the patient is confined to her bed or room. The more I have had to do with these cases, the more I am convinced that the stem must be retained for a longer time; otherwise, the treatment must often be repeated. Also, it was formerly thought and taught that to allow the stems to remain as long as two or three months was dangerous; that a peritonitis might be set up or mechanical injury might result. My experience has not confirmed this fear. In the discussion of my paper nine years ago Dr. Southgate Leigh, of Norfolk, Va., said that he had experimented with the view of determining how long it is safe to leave the stems in; that he had never found any trouble from leaving them in two and even three months. I was interested in this suggestion and have profited by it.

We have, therefore, confidently adopted the plan of keeping the stem in the uterus until the patient has passed three menstrual periods, the last of which is painless or nearly so. These patients must be kept under close observation by the surgeon or by the attending physician in order that the program may be definitely carried through. Regulation of habits and attention to "nerves" must accompany the other treatment.

If the pain recurs some months after the stem is out, it may again be introduced, perhaps without an anesthetic, after dilating the canal gradually with bougies. Leaving it in for another three months' period may bring the desired result.

I think I have used all the well known pessaries. In my hands the Wiley drain has been most often employed and the most successful. It is mechanically more perfect. It has a distinctly bulbous tip, so that, after passing the internal os, it does not come out as readily.

It is somewhat straighter than most of the stems and in most cases I heat it in boiling water to bend it perfectly straight. In all surgical deformities we wish to over-correct the condition. If we put in a stem the shape of the normal uterine canal, which is slightly anteflexed, we do not overcome the difficulty; but, if we put in a straight instrument and make the canal conform to it, we get better results. The one valid objection to the Wiley drain is that its large flange at times exerts undue pressure on the posterior vaginal wall. In one case the flange became almost entirely embedded in the vaginal mucous membrane, but with no serious consequences.

We have replies from 59 cases treated during the past five years according to the plan outlined. Forty-eight of these have reported as being permanently relieved of their pain. In ten of the 48 the procedure had to be repeated. Of the eleven cases not relieved, five were improved and six showed no improvement. Cure of the sterility resulted in sixteen women who had been married without issue over periods varying from two to sixteen years at the time treatment was instituted. Of course these are included in the forty-eight reported as relieved, for the occurrence of pregnancy invariably cures this type of dysmenorrhea. The physiological method is the best and it should be advised whenever possible.

It is to be noted, however, that the pain and the sterility are not always dependent on the same conditions. Other factors besides the anteflexion may operate in the production of sterility,—the condition of the uterine mucous membrane, the direction of the cervix, the secretions of the vagina and the position of the uterus. It may, therefore, be less difficult to relieve dysmenorrhea than to cure sterility.

The records presented here would allow us to conclude that by the plan suggested nearly nine-tenths of the cases are relieved of pain and about one-third may be cured of sterility.

TREATMENT OF THE VOMITING OF PREGNANCY BY THE DUODENAL TUBE.*

By B. H. GRAY, M. D., Richmond, Va.

It is well known that from thirty to fifty per cent. of women suffer from nausea and vomiting to a greater or less degree in the early

*Read before the Richmond Academy of Medicine and Surgery, April, 1916.

months of pregnancy. In some it may continue throughout gestation. So common it is that morning sickness has long been enumerated as one of the early subjective signs of pregnancy.

In many instances the nausea and vomiting has no harmful effect, save for the discomfort and indisposition for food in certain parts of the day, while in others the health and metabolism are markedly disturbed and the patient passes into the state of a profound toxæmia with various clinical manifestations depending upon whether it be acute or chronic.

The border-line between the physiologic and the pathologic in the pregnant woman is a narrow one. In no condition is the line less sharply defined than in the vomiting of pregnancy. It is difficult to tell when the vomiting passes from the so-called normal into the pathologic.

The first application of the newer analytical methods to a study of the urine in pernicious vomiting was made by Stone. As a result of his investigations, evidence suggested that the injury to the liver cells found in this condition resulted in defective nitrogenous metabolism, so that higher nitrogenous compounds are eliminated in place of a part of urea.

Williams in 1906 reviewed the subject and, from his investigations, selected the ammonia nitrogen ratio as a means of diagnosis in pernicious vomiting, and on the basis of results derived from the determination of this constituent has divided vomiting of pregnancy into three classes: (1) reflex; (2) neurotic; (3) toxæmic. Only in the latter type is marked urinary change found. Here the characteristic feature observed in the urine is a marked decrease in the urea nitrogen and a large increase in the nitrogen excreted as ammonia. The ammonia nitrogen is excreted in proportion to the severity of the condition, and might be used as a clinical index in the management of pernicious vomiting. More recently Williams has modified his views somewhat.

Ewing and Wolf obtained results agreeing in part with both Stone and Williams, the chief features which they found in the urinary nitrogen being low urea, high amido or undetermined nitrogen, and usually high ammonia nitrogen.

According to Underhill and Rand, the influence of inanition in pernicious vomiting of pregnancy would account for the urinary

changes. Starvation, as is well known, leads to marked changes in the nitrogen constituents of the urine. Furthermore, when the ability to consume food is re-established the urinary findings are adjusted.

Some writers upon the subject lay considerable stress upon the importance of a study of the nitrogen in toxæmia. There are so many sources of error to be considered, that from a clinical standpoint it is of little practical value. The complicated laboratory technique makes it impracticable for the general practitioner. As yet we are dependent upon the simpler methods of urinalysis and the clinical manifestations as a guide to the intensity of toxæmia and the treatment to be instituted.

The greatest advance made in the toxæmia of pregnancy has been in the pathology. The primary organ involved is the liver, the kidney changes being secondary.

According to the investigations of Stone, Ewing, Williams and others, the liver in these cases undergoes marked degenerative changes. The entire central portion of the lobule may undergo complete necrosis while the periphery shows signs of fatty degeneration and only a few cells may remain normal.

The renal lesions in the later stages of the disease are degenerative in character, consisting of degeneration and sloughing of the epithelium of the tubules of the cortex.

Ewing has noted that patients who pass through an acute stage of vomiting in early pregnancy, not infrequently develop albuminuria and pre-eclamptic symptoms in the later months.

In some cases an acute nephritis develops after partial recovery from a period of persistent vomiting. These observations would indicate that pernicious vomiting is a cause of nephritis developing in pregnancy.

Theories of Etiology. The etiology of pernicious vomiting is yet obscure, no satisfactory explanation having been given to account for the symptom-complex or the pathological findings.

The presence of unknown toxins circulating in the system elaborated within the organism of the pregnant woman from abnormal or defective metabolism is supposed to be the underlying cause. It is apparent that the toxins may originate from several sources.

Clinically the course of the disease is inti-

mately bound up in pregnancy. Gestation, therefore, is the principal etiological factor. The cessation, or diminution of symptoms, or recovery, after death of the foetus or the emptying of the uterus is commonly observed. This outcome, however, is not always the case, as there are some which terminate fatally after these occurrences.

Veit holds that the foetal metabolic products, finding their way into the maternal circulation, may cause cytolytic changes. The foetal elements give rise to poisons, syncytio-toxins, which develop in the maternal sera. From this theory has developed the treatment of toxæmia by the injection of sera from healthy pregnant women which contain the neutralizing antibody wanting in the toxic cases.

Hepatic Theory. The degenerative changes found in the liver are based upon numerous autopsy reports. It has long been held that the function of the liver is greatly disturbed in pregnancy. The liver of pregnancy as well as the kidney of pregnancy is becoming recognized.

Schickel found at post-mortem on pregnant mice the liver to show various forms of necrosis, fatty degeneration and fat deposits in the liver cells.

Litzenburg reports the results of his study of the liver function in normal pregnancy in two hundred cases, using the urobilinogen test. He finds inefficiency of the liver in twenty five per cent. of the cases.

Unbalanced internal secretions are also considered factors in pernicious vomiting. The influence of the thyroid on general metabolism is generally recognized. That it has its influence upon gestation is shown clinically by the careful administration in future pregnancies after disasters in former ones.

Intestinal intoxication as a causative factor in pernicious vomiting has many advocates.

The toxæmia incident to intestinal stasis has been the source of a voluminous literature in recent years. Draining the canal by medical and surgical means has been the treatment. Stasis as a cause of pernicious vomiting has recently been emphasized by Moulden. Undoubtedly, from a practical point of view, intestinal stasis is a great factor in toxæmia for when intestinal elimination is improved the pernicious vomiting improves. The problem is how to get elimination. Colon irrigations can be employed to

relieve the lower bowel and supply fluids to the dehydrated tissues. This, however, does not relieve the smaller bowel where the greater absorption of products of decomposition is going on.

Changes in function and structure of the liver occur early in the disease. Once altered in structure and crippled in function, there is good reason to believe that the liver as well as the intestine contributes to a vicious circle of influences causing the disorder. In this connection, it fails to detoxicate the products of decomposition resulting from intestinal stasis.

There are many familiar examples of toxins generated in the intestine, which poison the system.

Treatment. Whatever may eventually prove to be the exact etiological factor in vomiting of pregnancy, it is generally believed that the symptoms and pathological changes are caused by toxins circulating in the system, and with this there is associated some fault in the elimination of the products of defective metabolism. A toxæmia should be looked upon as the underlying cause of all cases of vomiting in pregnancy, and treated as such. There would be fewer cases of therapeutic abortion if early eliminative treatment was instituted; likewise, pre-eclampsia and eclampsia would be less frequent if pregnant women were carefully watched and their eliminative organs drained.

In the mild cases medication and general hygienic measures to favor elimination usually suffice. In the cases of pernicious vomiting, unfortunately the revolt of the stomach and constant vomiting makes it difficult or impossible to apply any medication to the intestine to favor elimination and cleanse the intestine of the toxins there.

High colon irrigations will relieve the larger bowel, but vomiting continues unless the small intestine is also relieved of its products.

When Einhorn introduced the duodenal tube, he at that time mentioned pernicious vomiting of pregnancy as one of the indications for duodenal feeding. The efficiency of the duodenal tube in diagnosis and treatment of various pathological conditions of the gastrointestinal canal is now generally recognized. McDonald, in 1913, in a paper on the treatment of toxæmia of pregnancy by the duodenal enema, stated that he had used this method in twelve cases, all of which recovered.

The writer has been so favorably impressed with the efficiency of the tube in the treatment of pernicious vomiting that he now uses it in all cases which have any marked degree of vomiting. The results so far have been most satisfactory, and surpass any treatment previously used.

Technique. There is no difficulty encountered in using the tube. The Einhorn or any of the modifications will answer. I have been using a modification of the Jutte tube, which is about the size of a 13 French catheter. The tube is graduated to show the distance it passes into the canal, the first mark being 56 cm. (the distance from mouth to pylorus), a second, 70 cm., and a third, 80 cm. The stomach should be empty. The tube is introduced in much the same manner as the stomach tube. The patient is requested to swallow and breathe deeply as the tube is gently pushed forward. When the first mark is reached (56 cm.), the patient is turned on the right side in the semi-prone position; then six to eight ounces of a solution of sodium sulphate hypertonic to the blood is injected with a glass syringe. The effect of the alkaline solution is to relax the pylorus. After waiting for some fifteen minutes to an hour, the tube is pushed to the second mark, the syringe during the interval being used frequently to aspirate. When no fluid, which has been introduced, is aspirated, it is supposed to have passed into the intestine, or if bile-stained fluid is aspirated it is supposed to have passed into the duodenum. A litre of solution of sodium sulphate containing four to six drachms of the granular sodium sulphate salt is then slowly injected with the syringe, aspirating from time to time to see if the fluid is passing on. By placing a stethoscope over the abdomen active peristalsis can be heard. It usually takes about thirty or forty minutes to complete the injection. The procedure causes the patient no discomfort unless the fluid is injected too rapidly. I have not failed in any of the cases treated to get the fluid into the intestine. Within two or three hours copious watery stools, which contain exceedingly offensive intestinal contents, are passed. The tube can be left in place and duodenal feeding instituted.

I have found it unnecessary to use the duodenal feeding, as the patients have been able to begin taking liquids within a few hours after the treatment, nor has it been necessary

to repeat the use of the tube when the patients carried out the hygienic treatment advised. It is probable that the tube does not always pass into the duodenum in so short a time as I have indicated, but if the stomach is empty and the pylorus relaxed the fluid may follow the gastric canal to short-circuit the stomach, and pass into the duodenum. This has been proven by X-rays. The effect of the hypertonic solution is to drain the lymph and juices from the intestinal wall, carrying with them toxins and bacteria.

Almonth Wright has shown the effect of hypertonic salt solutions in draining toxins and bacteria from war wounds. If the solution is greater than serum, it will withdraw that also. General hygienic measures can be instituted after the vomiting ceases, such as laxatives, regulation of diet, drinking large quantities of water and keeping up elimination.

During the last two years I have treated five cases of pernicious vomiting by this method, and have used the tube in several cases of moderately intense vomiting with most satisfactory results. The writer does not believe that the treatment by the duodenal tube will cure all cases of pernicious vomiting of pregnancy. In some, the degenerative changes in the liver will have advanced so far that regeneration will not take place. The tube, however, adds a valuable addition to the therapy which, when used early, will relieve many cases that our previous methods have failed in.

Abnormal conditions of the pelvic organs must be looked for and corrected, such as retroverted and incarcerated uteri, ovarian and other pelvic tumors, as there are many cases of mild toxæmia into which the reflex element enters.

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VALUE OF ROUTINE EXAMINATIONS.*

By B. L. TALIAFERRO, M. D., Catawba Sanatorium, Virginia.

In bringing this subject to your attention I realize that I am telling you nothing new. We all know that at times we fail to make a correct and prompt diagnosis simply because we have not fully used the knowledge we possess. How often does it happen that the man who makes careful routine examinations in all

*Read before the Southwest Virginia Medical Society at Radford, June 28, 1916.

cases, discovers conditions that the first or second doctor consulted might just as easily have discovered had he been as painstaking.

Take for instance examination of the fæces. In a very short time one can become familiar with the ordinary intestinal parasites and their eggs. However, in case he does not care to learn to do this work the State Board of Health will furnish containers and make examinations free. All the doctor has to do is to fill in the blank, instruct the patient to put into the container a pea-sized particle of fecal matter and mail to the State Board of Health, Richmond, Va.

A physician recently went to a hospital to have his appendix removed. The routine examinations before operation included the fæces. Hookworm eggs were found. Oil of worm seed (*chenopodium*) was given and his symptoms disappeared. A case of the same disease found at the Sanatorium in the course of routine examinations, gained 20 pounds after treatment. Especially in the country and small towns and among the young should examination of the fæces be always made. Hookworms may be the indirect cause of many other diseases, as tuberculosis, by lowering the resistance. It should be discovered early and treated promptly.

In addition to the chemical tests the urine should be examined microscopically in every new patient. Just a few days ago I was called to see a patient who had had severe colicky pain in the left iliac region. A sample of urine was examined and found to contain a number of blood cells which proved the tentative diagnosis of ureteral colic. With a microscope, a good book on urinalysis and a little practice any man before me can learn to recognize the ordinary urinary findings. I believe the average man will find time to do this if he chooses to. In the long run he will save time and, in addition, he will get more pleasure and satisfaction from his work. Furthermore, he can demand and will receive better pay for services.

Cursory examinations and giving of a prescription does not pay. A case in point: One of the employees at the Sanatorium asked for medicine for a cold. He was told to come to the office for examination, but failed to come. He took several cold remedies but got no relief and finally presented himself after 10 days for examination. He appeared to have a sim-

ple acute rhinitis; but examination with head mirror and laryngeal mirror showed a polyp almost filling the postnasal space. This was removed by Dr. Stone in Roanoke in a few minutes, and his "cold" was cured.

Where there is cough and expectoration the sputum should always be examined for T. B. Here again the State Board will furnish container and examine free. You simply write for supplies, fill in blank and mail. Unless we inquire carefully the patient will often unintentionally fool us by saying there is no cough. On careful inquiry they will admit a slight hack and clearing of mucous in the morning. A patient was recently examined; the symptoms and physical signs indicated tuberculosis and the diagnosis was made. She said she had no cough. This was not true, however, as she coughed several times during the examination. A morning specimen of sputum was obtained and found loaded with T. B. We have not done our full duty if we have failed to examine the sputum of a patient suspected of T. B., or one in whom the cough persists several weeks. And remember, a negative sputum does not, by any means, rule out T. B. Make your diagnosis on symptoms and keep on examining the sputum. "Absence of proof is not proof of absence."

In many diseases the blood count—especially the total white blood count—is helpful. This, of course, requires practice for reliable results, but fairly accurate work can be done by the average man if he is not in touch with a laboratory.

For malaria and typhoid the State Board of Health is prepared to make examinations free, and will be glad to send containers and directions for obtaining the blood.

The Wassermann blood examination will at once clear up the diagnosis in many obscure cases. A case in point: A young man diagnosed as incipient T. B., gave negative history of syphilis. In spite of rest in bed for several months, he continued to run slight evening fever. Later admitted he had had several years before suspicious sore on penis about which several physicians disagreed. Wassermann was positive and after giving a dose of salvarsan, fever dropped to normal and has not risen since. This was two years ago. He is the picture of health now.

It is to be hoped that the State will soon be

making this test free where the patient is unable to pay.

In many cases of tuberculosis, I believe we fail to make an early diagnosis simply because we take the wrong attitude toward this disease. We are not looking for it keenly enough—we rather try to prove that some other condition is present or else simply do not consider that we may be dealing with tuberculosis. When we consider that of all deaths between the ages of 20 and 40, one in every three is due to consumption, and that more than ten per cent. of all deaths are due to the tubercle bacillus, it behooves us to be on the alert. Because a man looks well and has a good weight he is often laughed at if he suggests that he has T. B. Don't forget that, if you cannot arrive at a diagnosis after taking a careful history, examining the sputum, going over the stripped chest and X-raying, you may make your diagnosis with old tuberculin injected under the skin in doses from $\frac{1}{4}$ to 10 m.gms. In the physical examination remember that latent rales can often be elicited by causing the patient to expire fully, cough and immediately take in a full breath.†

Let us admit that we have at times done those things we ought not to have done and left undone the things we should have done with the result that there is no health in some of our patients.

Let us all make use of the means at hand to make earlier diagnoses in all diseases.* *

THE EARLY DIAGNOSIS OF CARDIO-VASCULAR-RENAL CONDITIONS.*

By THOS. G. HARDY, M. D., Farmville, Va.

In discussing such a vastly important subject as the one chosen, it is not my intention to go into all the signs and symptoms of cardio-vascular-renal conditions, but I shall attempt to discuss a few of the earlier diagnostic points.

By the term chosen, I mean only those conditions which affect the heart, the blood vessels, and the kidneys. It is true that the dis-

ease of one organ is almost always more prominent in the diagnosis, but we should not lose sight of the effect which it has on its associate organs.

Why is it that nearly all cases of this disease that we see, have only a few years at best allotted for them to live? It is because their first subjective symptoms which send them to the physician, are symptoms of uremia, shortness of breath, angina pectoris, impaired vision, puffing of the ankles, or some other symptom of an advanced case of cardio-vascular-renal disease which has passed the early stage where greatest hope for relief could have been given, and their lives prolonged. We often have patients come to see us for an examination, or as often for a prescription to cure their kidney or heart disease, because they have been suffering with a pain in their back or precordial region. Unfortunately the healthy ones give us these symptoms and we find that their mental anguish over what might be the cause of their pain is far greater than the pain itself, and the poor sufferer of kidney and heart disease passes on till death is not far in the future before he is given an alarming symptom. Recently I have seen a patient die of cardio-vascular-renal disease only two years after diagnosis when there was every reason to believe that his condition had been progressing since an attack of scarlet fever ten years previous to the diagnosis. Another died two months after diagnosis, and so on, numbers of similar cases could be cited. So it seems that the only hope we have to get these sufferers near the beginning of their trouble is to accidentally find this condition while looking for others. Have we done our duty as we should until we have educated the public, through the medium of our patients, to know that cardio-vascular-renal conditions do not give any such symptoms as pain, or anything else, till the condition is very much advanced? I should certainly say that we have not.

Briefly, the earliest signs of cardio-vascular-renal disease are accentuated aortic second sound, heard at the base of the heart, slight increase in the blood pressure, casts and albumen in the urine with lowered specific gravity, and vascular changes in the retinae. All of these are by no means constant, and any one, when found to be constant and without other causes, should be sufficient evidence upon which

†J. A. M. A., March 11, 1916.—The Latent Rale in Tuberculosis.—Bray.

* *Write State Board of Health for supplies for free examination of sputum, blood, faeces, diphtheria, etc.

*Read before the Southside Virginia Medical Association, at Farmville, Va., September 12, 1916, as a part of the Symposium on Cardio-Vascular-Renal Conditions.

to make a diagnosis. Our routine physical examination should include methods for eliciting these signs, no matter what the complaint of the patient may be. In obtaining the history, we should inquire for history of lead or other chemical poisons, syphilis, malaria, and acute infectious diseases.

Bishop¹ thinks that arteriosclerosis is the beginning of a disturbed cell metabolism of protein, and it is a sensitization analogous to that of hay fever, asthma, etc. And in the future, the testing of one's sensitiveness to the different proteins may be the means of making a much earlier diagnosis than we can hope to make at the present time. He thinks that the earliest symptoms of arteriosclerosis are symptoms of disturbed metabolism which are often diagnosed as "biliousness," sick headache and intestinal indigestion or fermentation; also there is commonly pain in the front of the chest immediately after eating while the heart muscle is being flooded with the products of protein digestion.

The accentuation of the aortic second sound is a sign that is found only in conditions which affect the blood vessels, and should be considered a very important sign. After the age of forty and sometimes before, the aortic second sound is normally louder than the pulmonic second sound, but should be considered a sign of vascular tension only when it is accentuated.

A slight increase in blood pressure should be considered very important after it has been carefully read at different times to make sure that it is constant instead of a temporary condition. Arterial tension is increased within a month or two after the onset of a nephritis, and for some time before the onset of arteriosclerosis. Wide variations may occur in the reading of a perfectly normal blood pressure if one is not careful to use the same technic each time and under the same conditions. The pressure should be taken with a mercury instrument, or if the spring instrument be used, it should be frequently verified. The arm band should be at least five and one-half inches wide. It should be applied to the naked arm, with the bell of the stethoscope applied over the bifurcation of the brachial artery. With the arm muscles perfectly relaxed, the systolic and diastolic pressures read in the usual manner, the diastolic pressure being of greatest aid in the border-line cases. By a slight rise, I mean

from five to ten m.m. mercury, above the normal, considering the age of the patient. Cabot² thinks that one hundred and thirty-five m.m. mercury is the upper limit of normal, no matter what the age of the patient might be.

The urine in the early stages of this condition may or may not show albumen and casts, but usually is of low specific gravity and has a tendency to maintain low specific gravity even when the patient does not take the usual quantity of fluid. If we suspect some trouble of this nature and do not get positive findings in the urine, a twenty-four hour specimen should be obtained in two containers, one containing the urine passed from 8 a. m. to 8 p. m., and the other from 8 p. m. to 8 a. m., and the amount and specific gravity of each recorded. Normally, that passed in the morning after a night's rest without fluids is of higher specific gravity and smaller quantity than that passed during the day, but if the specific gravity and amount approach the same, renal involvement should be strongly suspected. In some cases of nephritis the amount of urine passed from 8 p. m. to 8 a. m. far exceeds the amount passed during the day and is of much lower specific gravity. After having examined the urine and found that it contains no albumen, do not tell the patient that his kidneys are sound, unless you have looked for the other signs, and found them negative.

There has been done recently a great deal of work on the urine and blood in trying to diagnose during life the extent of the pathological process in chronic nephritis, but so far this has all been far from perfect. Christian and his co-workers have recently done a great deal of work on the non-protein nitrogen content of the blood and urine and their rate of excretion following a given amount of protein intake, and they conclude that the knowledge obtained by these tests of the renal involvement is of no more value than by the phenol-sulphone-phthalein test of Rowntree and Geraghty. This latter test is so valuable for estimating the function of the kidneys, is so simple, and requires so little time, that it can easily be applied to all cases of cardio-vascular-renal disease. The test consists in the injection of 1 c.c. of phenol-sulphone-phthalein into the muscle; ten minutes are allowed for absorption, when the patient is made to drink

a glass full of water and empty the bladder; then, at the end of the first and second hours, the urine is collected separately, then rendered alkaline by the addition of sodium hydrate when it will appear red; then dilute up to 1000 c.c. and compare with any standard colorimeter. Cabot thinks that the knowledge gained by testing the rate of excretion for the first and second hours separately is hardly worth while, and certainly not if the patient has to be subjected to the trauma of two catheterizations when not able to empty the bladder. The injection is made by the physician and the urine is later collected and sent to the office by nurse or any responsible person, and the test made at leisure, which will take less time than the ordinary urinalysis.

One may go on for a year or more and find only one or two incipient cases of cardio-vascular-renal disease, but if we have to examine hundreds to find one, we are well rewarded for our efforts and the public has been better educated.

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THE EARLY TREATMENT OF CARDIO-VASCULAR-RENAL DISEASE.*

By C. B. CRUTE, M. D., Farmville, Va.

In presenting for your consideration the subject of the Early Treatment of Cardio-Vascular-Renal Disease, it is not the purpose of the writer to discuss the treatment of uremia, angina, etc., however frequently these and similar symptoms may have appeared in the role of the first recognized symptoms of a chronic nephritis. We are not supposed here to deal with the calcareous degeneration of the arteries that is physiologic to old age, nor the fibrosis of the arteries found in syphilis, chronic plumbism, and kidneys damaged to any great extent by acute infectious diseases.

The treatment herein suggested is that aimed at the disturbance of metabolism leading eventually to the thickening of the arteries and the increase of connective tissue in the heart and

kidneys instead of at the result, arteriosclerosis.

Recognition at this early stage may result in dietetic, hygienic and medical treatment that will arrest the disease entirely, while later on the best we may hope for is the continuation of life and strength in varying degrees. Bishop refers to this stage as being a question of pathologic physiology rather than one of pathologic anatomy.

In the treatment of cardio-vascular-renal conditions in the early stages, we must not content ourselves, however much the patient may encourage us to do so, with the treatment of symptoms. It is by no means of infrequent occurrence that our patients present themselves for treatment with self-made diagnoses, "sick-headache," so-called "biliousness," "intestinal indigestion," etc., *ad nauseam*, and sometimes even suggest to us the employment of the line of treatment that relieved them in their latest attack. They apparently entirely ignore the fact that the present attack is sufficient evidence that the cause of the condition had not been reached, and it is in just such cases, receiving from time to time symptomatic treatment, that in the course of a very few years terminate in a chronic nephritis, arteriosclerosis, etc.

There are also patients who have an intense dislike to being informed their present condition presents possibilities of serious trouble in the future, although we show them just how to obviate such a sequel; however, if properly dealt with, it is also just such patients in whom we find the best results, so assiduously do they follow instructions.

All contributors to literature on this subject apparently feel it their duty to refer to the "high tension" age in which we are living. This paper shall not be the exception that proves the rule, but we mention the matter in order that a practical manner of combating its influence may be suggested.

In the early stages of cardio-vascular-renal conditions, a slight hypertension may be our chief or only symptom recognized. The patient who is able to give up his business temporarily and reconstruct his life, slight damage having been felt, will not do so; the less successful one cannot afford to, and to insist upon such a procedure would in the majority of cases be worse than useless. However, by means of a careful study of the individual and

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a knowledge of his environment, we may succeed in removing many factors contributing to our patient's trouble. The amount of rest obtained should be as much as we can persuade the individual to take.

Sleep has long been recognized to lower blood-pressure, and the best means of accomplishing this is to order the patient to retire at a stated hour each night. Should the patient complain of insomnia in the early stages, do not prescribe drugs. A warm bath at 110° F. for ten minutes, or a neutral bath at 94° F. to 98° F. for twenty minutes will often relieve restlessness and insomnia; and if combined with the regular hour of retiring the desired result may be reasonably expected. It is only in the later stages that drugs may be judiciously prescribed. Patients who are susceptible to caffeine should not be allowed tea or coffee at the evening meal, nor should strychnine or quinine, if indicated, be administered later than 6 p. m.

To those patients not particularly susceptible to the effects of caffeine, tea and coffee may be allowed, but should be reduced to a minimum. Tobacco and alcohol should be prohibited.

Over-indulgence in athletic sports has contributed in no small measure to the production of high blood-pressure, but graded exercises in the open to fit the individual should be ordered, bearing in mind the best guide as to the amount of exercise is the condition of the circulation.

Regarding baths, the warm bath at night, referred to already, and the tepid (not cold) bath in the morning seem to meet all requirements: the Turkish and electric light baths are necessary in the later stages only.

The diet should be largely vegetable, meats (including chicken, which has been shown conclusively to contain the purin bodies) must be indulged in very sparingly. Fruits are to be allowed freely. If the patient tends to obesity, condiments should not be permitted, nor should butter and cream. The amount of fluids in these particular cases should be regulated. In those with no such tendency water may be allowed *ad libitum* but should not be taken with the meal. Skimmed milk and butter-milk may be drunk freely.

The medical treatment of this condition in the early stages should be resorted to only after the careful following of this regimen of diet

and hygiene has proved disappointing, and when found necessary a close and careful watch must be kept on the patient. Indigestion should be corrected, and the daily evacuation of the bowels must be effected.

When we meet with cardiac weakness, a digitalis preparation that is known to be active should be cautiously ordered. It is best to begin with small doses, and to increase same until the desired physiological result shall be obtained. It may be stated just here that digitalis will not increase an already existing high blood-pressure.

If the blood-pressure is found to be sufficiently high and constant to indicate the necessity of its being reduced earlier than might be expected from the regulation of diet and hygiene alone, nitroglycerine or sodium nitrate, beginning with small doses and increasing as the condition may demand, may be employed. Of these two most frequently prescribed drugs, the writer prefers the latter for the reason that its effect is more lasting. The objection that it upsets the stomach may be removed by prescribing it after meals and preferably in tablet form, beginning with a small dose and followed by a copious draught of water.

The best method of obtaining free diuresis is that of having the patient drink water freely, and should the employment of diuretic drugs become necessary, they should be used only so long as found absolutely essential.

In the management of cardio-vascular-renal conditions in their early stages the attitude of the physician toward the patient should be that of a teacher, similar to that employed in the treatment of pulmonary tuberculosis and many other conditions in their incipency. A conception of what the condition in the advanced stages may mean to the individual and assurance on the part of the physician regarding the salutary effect to be expected from intelligently outlined treatment faithfully followed will do much to secure the cooperation of the patient, and from this and this alone may we expect the best results.

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The Constitution of the United States doesn't mention health.

SUBDELTOID BURSITIS.

By THOS. B. LEONARD, M. D., Richmond, Va.

During the past ten years we have had considerable literature upon the subject of stiff and painful shoulder. It would seem in view of the accurate study of the subject by Codman and others that we had come to a perfect understanding of the subject. Yet, as late as January of this year, Montgomery¹ of Chicago denied *in toto* the findings of Codman,² Brickner³ and Wrede,⁴ and reported a cure by an operation which did not reach the supposed seat of the pathology.

Painter,⁵ who first noted the deposition of lime salts during the course of the disease, likewise is at variance with the writers mentioned. Baer and Painter, as quoted by Brickner,³ speak of this procedure as being practicable through a small incision (five centimeters) and both agree that the bursa is the size of a silver half-dollar.

Baer⁶ further stated that when the bursal cavity is filled with cheesy material, the process is tubercular. Cumston calls attention to the possibility of mistaking the tartar-like deposits for pus when it is more liquid than usual.

My own observation would lead me to look upon these conflicting views most charitably. Indeed, I was loath to believe with Codman that the shadows shown in my radiograms were deposits in the tendons attached to the greater tuberosity of the humerus, until it was actually demonstrated at operation. I recall the opinion of the roentgenologist as to the location of the deposits as being beneath the deltoid muscle some distance from the bone.

I am sure, too, that I would have believed the yellow synovia, followed by cheesy material, to be tubercular, had I not been forewarned. As a matter of fact, the nice dissections of Brickner and the admirably scientific manner in which he has fortified his position, has definitely wedded me to his conception of the disease.

We all know the futility of excision of the entire bursa, covering as it does the shoulder joint, from beneath the acromion process to a point below the surgical neck of the humerus. Its close connection to the capsule of the joint would make complete excision a most radical procedure.

The early statements of Baer as to the size of the bursa and the facility of its removal

were manifestly wrong, and it is surprising to find the latest text-books advising radical excision as the only curative treatment. They may be careless in the use of words and really mean the removal of the diseased part of the bursa, but even this is considered unnecessary by men who have had a large experience in the treatment of the condition. In three cases operated upon by me, I have been able to obtain complete relief from symptoms by opening both walls of the bursa, breaking up adhesions and removing any deposit of lime-bearing material that was present. This substance is found beneath the tendons attached to the greater tuberosity of the humerus, as I have already indicated, not infrequently involving the muscle fibres some distance from their insertion.

The operation as done by Codman² scarcely needs repeating here. Suffice it to say that after the bursal wall is opened between forceps, the posterior wall of this structure (provided it is not adherent to the anterior) is to be deepened directly over the center of the tendon of the supraspinatus muscle. The sheath of this tendon is now incised in like manner and if it is not easily retracted, the tendon itself is cut through the middle, when, the calcium salts will "well up" into the wound. It is necessary before closing the various layers separately to remove every particle of the tartar-like deposit that is present.

In cases having no deposit of lime cure is usually effected without resorting to operation by abduction of the affected joint after the method suggested by Brickner³ in the treatment of fracture of the lesser tuberosity of the humerus. A sling is applied to the patient's wrist and its other end to the head of the bed, which is placed in Fowler's position. After several days' abduction, calisthenics⁷ with light weights are very helpful in bringing relief.

Concerning prevalent fallacies in regard to subacromial bursitis mentioned in an article in the *American Journal of Medical Sciences*, of March, 1915, there was a shadow in the radiogram in only three of the eight cases coming under my observation. These three cases were operated upon and all showed the deposition of lime salts beneath the tendon of the supraspinatus. Two of the three patients had lime beneath the infraspinatus in addition, while

a third had at least two gall-stone spoonfuls of the material in the fibres of the supraspinatus muscle.

All of the patients were debilitated, overwrought women, in none of whom could there be found a focus of infection.

It is interesting to note in two patients, one showing lime deposits and another in whom no shadow was obtained, a history of having had during a period of two years before the onset of the bursitis, a severe palmar abscess which required operation.

I have been unable to detect any swelling of the deltoid in any of these patients, but the point of tenderness just below the margin of the acromion process has been elicited in every one.

As to removing the bursa, this has not been considered seriously by me nor has it been necessary, since all of those applying for treatment have obtained relief by other means. Indeed, I doubt seriously whether the complete removal of the subacromial bursa could be accomplished without serious injury to the joint capsule, as the two structures are so closely associated as to constitute a continuous layer.

Finally, I would suggest that in obscure affections in the neighborhood of the shoulder joint, bursitis should be considered as the possible cause of the disability. While I do not believe that it is a common ailment, I am convinced from the few cases that I have seen, it is more frequently the cause of stiff and painful shoulder than is generally supposed.

Therefore, I think the profession should disabuse its mind of the erroneous idea that it is a clinical curiosity and bear it in mind in all pathological conditions involving the shoulder.

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INFANTILE PARALYSIS.

By H. C. GRANT, M. D., Crozet, Va.

As to the causes of this disease Flexner has shown that it is due to the specific organism which can be obtained from the poliomyelitis virus. There are various theories as to the means of transmission but the most probable are that the disease is transmitted from the discharge of the mouth, nose, and faecal discharges of the patient by flies or fleas; also by eating raw fruit or milk which has been exposed to flies, etc.

The initial symptoms are fever varying from 100 to 104, with or without vomiting and convulsions. The paralysis follows in from 24 hours to 7 days. There are many cases which have no paralysis following and these are often not diagnosed and are disseminators of the germs.

As to treatment, the best results have been obtained by withdrawing by means of lumbar puncture 25 or 60 c.c. of the spinal fluid and substituting for it the serum obtained from a convalescent case. This can be injected without withdrawing the needle. The earlier this treatment is used the better. The after-treatment of these cases extends over months and possibly years. It consists of electricity, massage, and proper exercises; also light supports of aluminum are used to prevent toe drop.

The muscles are first tested for the action of degeneration and in the most hopeful cases the negative reaction is greatest. A positive reaction with no response to negative current is less so.

Electrical currents, both interrupted and continuous, are used on the diseased muscles, followed by massage by a competent masseur. This should be done daily. Then follow exercises, passive at first, and later the child will assist in these movements. These movements should be given before a large mirror so that the child will see and learn them.

One peculiarity about this disease is the rarity of it affecting more than one member of each household and this is probably due to the strict quarantine and care which is used after the first case develops. Another striking

feature of this trouble is the healthy and well-nourished condition of the parts of the body not affected. The affected limbs are frequently smaller from disuse.

Monkeys are the only animals to whom the disease has as yet been communicated and could a larger and more common animal be found which will be inoculable the serum treatment will be solved. There is no doubt but that antibodies are formed in the blood of these convalescing patients as in diphtheria, and it will be only a matter of time before we will have an antitoxin for poliomyelitis as in diphtheria.

A disease similar to poliomyelitis is said to exist in cattle, so they may be the final furnishers of the antitoxin.

THE COMPANY SURGEON ASSISTANT TO CLAIM ADJUSTER.*

By J. WALTER WITTEN, M. D., North Tazewell, Va.

I realize that on occasions like this papers are mostly paper, and for this reason, I will briefly give you my reasons for the subject, and at the same time explain that it has no intention in any way to cast a reflection on the Claim Department or its method of adjusting claims. This is simply an idea of my own that I have on more than one occasion seen work in a practical way, and if those present have not used it, I hope that in a measure it will put them thinking about the good they may do for both the patient and the Railway Company. When we stop to think of the money expended by the Claim Departments of various railroads each year, the amount is astounding. This Company's annual expenditure alone for last year under the present-day laws and working conditions was \$249,184.60, and a great part of this was for minor injuries, the history of most of these injuries showing that they resulted from negligence. To "spread the gospel" and perfect the "Safety First" movement is for the purpose of saving life and preventing employees as well as patrons from being maimed, besides improving efficiency. Much imposition is practiced on the Company by people who do this because they think the Company is rich and can afford to give them something for an injury for which

it or its employees, is not directly responsible, but which was incurred through their own negligence, knowing that the Company had rather give them something, even though they are not deserving, than to enter into a suit. It is right here that the Company Surgeon can be of value to all parties concerned, and can adjust in an equitable way the claim of most minor injuries; and I may state that it is my belief that here is the biggest leak in the Claim Department. The old rule will work here as in anything else, "if we take care of the little things, the large ones will come easy," far better than any adjuster that the Company can send out from the office. It is reasonable to suppose if the patient lives in the vicinity, the doctor is not only acquainted with his or her social, financial, domestic, and other status they may have in the community, whether they are dependent, or otherwise; in fact, he knows whether they are honest, and to what extent they can assume far better than any man not experienced in the art of medicine, and this includes as its biggest specialty—Human Nature. Knowing these facts, the doctor is in better position to know what their loss will be in dollars and cents, and when the party injured is confronted by one that he knows has indisputable evidence from every angle, there isn't usually any bluffing. The doctor can then, in all fairness to the patient and the Company, adjust the claim with more satisfaction than anyone else, saving the Company the trouble of a suit, and the injured from the hands of some unscrupulous lawyer who simply uses him as a means to secure as his fee most of the money damages. All this the doctor can explain to the injured. If the doctor is the right sort, and enjoys the confidence of the neighborhood in which he practices, the injured will take more notice of the advice that he may give, than he will from the man sent out from the office on this special mission. He will know that the doctor has nothing to gain by the transaction, while he will be thoroughly convinced that the adjuster was sent there by the Company, not to deal fairly with him, but to take every unfair advantage of him possible, thinking the Company pays him for no other reason than to do so.

I recall several cases that I have helped the Adjuster settle with satisfaction to all parties concerned, but will refer to only one: Mrs.

*Read before the Association of Surgeons of the Norfolk and Western Railway, at Old Point, Va., June 7-8, 1916.

S. J. P., aged 43 years, was injured at Hartwell, W. Va., April 1916, by getting off the train while it was in motion, after having been delayed by stopping to tell some one good bye and to get her baggage. She fell to the ground, cutting a small place in her raincoat and skirt, and bruising her left knee and left shoulder, neither enough to cause a discoloration. Her trouble was not serious enough to cause her to send for a physician. I saw her the following day as she had remained at the home of her son at Hartwell for the night, though she left the next day about 2 P. M. She then related her experience to the conductor, who was the same one that she went over with the preceding day,—and told him that she was very badly hurt. Finding out where she lived, he immediately wired me to meet the train and give her any attention she might need, which I did. While refusing at first, after some insistence on my part, she accompanied me to the office where I had her remove the clothing necessary for an examination of the parts claimed to be injured. The greatest damage I saw, was to the skirt and raincoat. Now, this woman, as a great many of these cases do, lived on the farm of a wealthy and influential farmer who is very bitter against any corporation, and especially the Railway Company; he immediately advised her to sue the Company for \$2,000, telling her that she had an excellent case, and that he would lend her any assistance he could, and for her to remain in bed. Fortunately I had already seen this woman and she knew it, and when the Claim Agent came, I made it my business to accompany him and to confront her with the evidence that she knew would be undisputed. The result was that we settled this \$2,000 claim for \$50, saving the Company a suit, notwithstanding the fact that the husband had already engaged a lawyer to bring suit.

Now, this case has on countless occasions been the experience of you older men, and doubtless you would have done the same thing for the Company, believing, as I do, that the Company is abused, and is due as much consideration as the injured when it comes to the matter of money making things right with the injured. Knowing what this woman's standing was in the community, also something of her veracity, the value of her time and duties, and having some idea as to what a fair com-

pensation would be, I believe it is in just such cases that the doctor can be of great assistance, especially if he will make it convenient to accompany the Adjuster when he comes to make an investigation, and if possible satisfy these minor injury cases. Some may claim that he will injure his private work by such a procedure, but my experience has been the opposite, and I believe that I have made lasting friends of these very cases, for, after due reflection, and after their injuries have healed, they have realized that I knew, and gave them good advice.

I trust this paper will at least be a suggestion and that you who do not now think so, will agree it is just as professional and ethical for a Company Surgeon to see that his Company receives a square deal, as it is to see that the patient receives proper attention.

Clinical Reports.

DETACHED PLACENTA.

By WM. MEREDITH, M. D., Gouldin, Va.

My excuse for reporting this case is that it was different from anything I had ever seen before, and judging from the limited amount of literature I have been able to find, it seems to be a very rare accident.

Mary C., colored, age 40, married, mother of six living children, the youngest being 4 or 5 years of age, and all of them appearing to be healthy. The mother has lost six, including this one, most of them still-births. There are no symptoms of syphilis from appearance or history.

The patient was about at full term, was feeling as well as usual when she retired the night before, with foetal movements strong up to that time. She got up as usual early Saturday morning, July 1, and started about her housework, but, becoming faint and sick, returned to bed. A few minutes later she had to get up to evacuate her bowels and bladder. A little later her husband, who was in another room, heard her fall and, going in, found her in a faint lying across a small chair some ten feet from the vessel she had used. He put her on the bed and she soon regained consciousness.

I saw her at 8.30 A. M., found her nauseated and complaining of a cramping pain over the entire abdomen, but no labor pain. Pulse 80

and fairly good. Uterus seemed to be in a state of tonic contraction. On vaginal examination the cervix was found about $\frac{3}{4}$ inch long with old laceration extending nearly to internal os, which was tightly closed. There were no movements or other signs of life in foetus, which was so high that it was impossible to determine positively the presenting part, but thought it was the breech. I gave $\frac{1}{4}$ grain morphine sulphate hypodermically and left, directing to be called when necessary.

Was called again at 10.30 P. M., and found her condition practically same as at first visit, except there had passed about six or eight ounces of blood, which had been passing slowly since soon after my previous visit. Cramping pain was still severe, so I gave another hypodermic of morphine and atropine.

July 2—2 P. M.—Condition same as before except there had been no more blood. Repeated hypodermic.

July 3—10 A. M.—Her general condition same as before; labor pains had commenced and the os was beginning to dilate. The dilatation proceeded slowly, and at 5 P. M. was nearly completed. During pains the presenting part would rather retract than advance, and the bag of water would bulge in front of the presenting part, but would not come through the os. At this stage I decided to rupture the waters, after which the presenting part engaged and slowly descended and I was able to positively identify the breech. After a very tedious second stage, lasting two and one-half hours, the child was delivered without any special assistance. The placenta, which was very dark, together with a quart or more of very dark clotted blood, was immediately expelled. The cuticle was beginning to slip off of the foetus, indicating that it had been dead for some time.

I think from the facts related, the fainting before labor set in, the recession of the presenting part, the slowness of labor, the simultaneous delivery of foetus and placenta and the condition of the foetus showing that it had been dead since symptoms set in, indicate that this was a case of detached placenta.

A book on "Exercise and Health" may be had free for the asking from the U. S. Public Health Service.

CHOLECYSTITIS AND APPENDICITIS.*

By J. THOMAS KELLEY, M. D., Washington, D. C.

CHOLECYSTITIS.

Mrs. F., white, age 28 years, married and no children. In May, 1915, patient had an attack of appendicitis and was operated upon. The appendix was very slightly inflamed, the temperature not having been above 100 degrees. At the same operation the round ligaments were shortened for a retroverted uterus and some small ovarian cysts were punctured.

The patient made an uninterrupted recovery and remained well until January, 1916, when she had an attack of biliary colic. Dr. Mallan attended her during this attack and thinks she had no fever; subsequently, she had two other attacks of biliary colic.

April 12, Dr. Mallan asked me to see her in consultation. At this time she had suffered three days with severe pains in the epigastrium, a typical biliary attack. She described a feeling as though something had turned over in the abdomen and she was free from pain. Her temperature at this time was 100 degrees. Examination showed a well nourished woman of about 28 years of age; the abdomen was somewhat distended, with great tenderness over the gall bladder; there was no jaundice. She entered the hospital next day, pain continuing until the time of operation on April 14.

The gall bladder was found very much distended and the walls were very thick. A scoop put into the gall bladder failed to bring out any stones after several attempts. It was then packed with gauze, and on pulling it out a perfect cast of the gall bladder came with it. The gall bladder was removed and a rubber drainage tube was stitched in the cystic duct. The drainage was very free for two weeks, the tube having been removed on the tenth day. The wound has now about closed up.

In and attached to the cast were five or six mulberry-shaped calculi. The cast was grayish yellow in color, very much resembling a diphtheritic membrane. The calculi were of yellowish color and not faceted.

At the time of the first operation the gall bladder was carefully examined and no evidence of disease found. The attack evidently began as an acute cholecystitis, the gall stones having formed since January. The cystic duct

*Read before the Medical and Surgical Society of the District of Columbia, May 4, 1916.

was very much thickened and occluded, not by a calculus, but by inflammatory thickening. There had been no bile in the gall bladder probably since the attack in January.

This is the best example I have seen of gall stones following immediately after an acute attack of cholecystitis. The calculi in this case were not in the duct, but attached to the cast and consequently were not the cause of the pain. Except for the appendicitis and the gall stone attack this patient had never had any illness. She never complained of indigestion and she had never been constipated. There is a possibility that the appendicitis may have been the cause of the cholecystitis.

APPENDICITIS.

Mr. A., 19 years old, a picture of health. Weight 190 pounds. Taken sick at his work on Tuesday morning, May 2, with pain over the whole abdomen. He went home and Dr. Rossiter was called. The doctor found him with pain over the abdomen, but no rise of temperature.

Yesterday, May 3, at 10 a. m., he found the pain localized over McBurney's point. Temperature 100 degrees; pulse 80 degrees. I saw him at 3 p. m., when his temperature was 99 degrees; pulse 74; decided tenderness over McBurney's Point, but no pain, the patient expressing himself as being very hungry.

He went to the hospital and was operated upon this morning at 10 o'clock, his temperature and pulse at this time being normal. The appendix was gangrenous, but not perforated. About half the organ hung over the pelvic brim. There was a small quantity of protective lymph, a very weak attempt to cover in the gangrenous appendix.

The interest in this case is the constant amelioration of all symptoms with a gangrenous appendix. The next step in this appendix would have been perforation and a pouring into the abdominal cavity of a quantity of micro-organisms with subsequent peritonitis.

1312 Fifteenth Street, N. W.

Procrastination in sanitary reform is the thief of health.

Not everybody can achieve greatness but everybody can be clean.

If you sow a hygienic habit you reap health—reap health and you attain longevity.

Proceedings of Societies, Etc.

ROANOKE ACADEMY OF MEDICINE.

At the first meeting, session 1916-1917, of the Roanoke Academy of Medicine, held Oct. 2, 1916, the following officers were elected for the ensuing year: President, Dr. Ralph W. Brown; vice-presidents, Drs. H. B. Stone and W. B. Foster; secretary, Dr. E. P. Tompkins; treasurer, Dr. Geo. S. Hurt.

The Roanoke Society is an incorporated body. Some inquiry has been made from time to time as to the "why" of this. It is explained that it is for the protection of the officers who otherwise might be made the defendants in damage suits by anyone with a fancied grievance against the body. Other organizations might do well to consider the matter from this viewpoint.

At a regular meeting held Oct. 16, 1916, Dr. Brown, the President, in the chair, there were twenty-one fellows present.

The Society listened with great interest to a most timely and instructive address on Poliomyelitis by Dr. W. B. Foster. The speaker held the floor, and the close attention of his audience for some twenty-five or thirty minutes, and his talk was replete with interest.

At the conclusion of this, the secretary read a letter from Secretary of the State Society, calling attention to the matter of a delegate to be sent to the Norfolk meeting. Dr. J. W. Preston was elected to fill this office.

Dr. Preston related progress made in the prosecution of irregulars in the city of Roanoke, expressing his appreciation of the faithful work toward this end performed by the Commonwealth's Attorney, Mr. Everett Perkins. The entire Society concurred in this sentiment of gratification.

E. P. TOMPKINS, M. D.,

Secretary.

THE LYNCHBURG AND CAMPBELL COUNTY MEDICAL SOCIETY,

Met October 16, with a large attendance. Dr. Thos. E. Rucker read a paper on the Etiology of Cancer, which was discussed by Dr. Bernard H. Kyle, and Dr. F. O. Plunkett read a paper on the Treatment of Cancer, which was discussed by Drs. W. M. Brunet and P. M. Strother.

Miss Porterfield, of the local Y. W. C. A., outlined before the Society her work for the ensuing year, asking the co-operation of the physicians in helping her select fit subjects for gymnasium work. She stressed the importance of the correct posture of children during the early years of childhood.

On November 4, Dr. Joseph Colt Bloodgood, of Baltimore, will address this Society on Cancer, in the Y. M. C. A. auditorium, at 5 P. M., and the public at 8 P. M. at the same place. This Society will be glad for all physicians from the surrounding counties to meet with us at that time.

BERNARD H. KYLE, M. D.,
Secretary.

MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Reported by LEWIS C. ECKER, M. D.

At a meeting of this Society held March 2, 1916, under the heading of

Pathological Specimens,

Dr. Selby exhibited X-ray photos of lung abscesses and said that these conditions are sometimes diagnosed as tuberculosis or empyema. Photos illustrative of two cases were shown, one following a tonsillectomy and the other a laparotomy. Treatment consists in opening and draining the abscess which should be localized for the surgeon with the X-ray. *Dr. Selby* remarked that abscess formation and empyema, localized after an attack of pneumonia, are often mistaken for tuberculosis, and diagnosis should be guarded.

Impetigo Bullosa.

Dr. Hazen reported the case of a patient, female, aged 30, treated with mercurial ointment, after which there was a marked mercurial nephritis in three days from the one application of the drug.

Dr. Hagner, in discussion, cited a case in which, by mistake, the bladder was irrigated with 1-1000 bichloride solution. This resulted in a marked mercurial poisoning within a few days. Albuminuria ensued, and salivation became so extensive that the patient almost lost his upper teeth.

Syphilitic Fever.

Dr. Parker, in speaking of this condition, said that, as a rule, syphilis is non-febrile, and very seldom, if fever should be present, does

it ever exceed 101° F. The cases of Prentiss and Morgan were referred to as notable. The speaker reported two cases, which were as follows:

1. Man, aged 45, was received from another hospital with a temperature of 102° F. Admitted having syphilis. Was very ill. Mercury mixed treatment was given with resultant relief. Salvarsan cleared the case.

2. Woman, married, aged 53, came to the hospital June 22, 1913. Had persistent occipital pains and was running a temperature. Blood test showed a ++ Wassermann. Mixed mercurial treatment with salvarsan reduced her temperature in four days from 103° to 98.6° F. She was discharged, apparently cured.

Dr. Fowler, discussing the paper, referred to the case of *Dr. Hardin* in which there was a "running" temperature for two weeks, glandular enlargements, etc. Salvarsan gave prompt results.

Dr. Hagner said he had no data on syphilitic fever, but that in many cases there is evidence of fever before the secondary stage. Three Garfield Hospital cases resembled typhoid fever. He had also noted fever late in the secondary stage.

Dr. Hazen remarked that for one year he had examined patients in wards with the thermometer. Only two or three out of 100 gave any rise in temperature, and these were due to abscesses. In thirty syphilitic cases the temperature remained normal and constant.

Dr. Parker, in concluding, said that while a student under *Dr. Osler*, two negro boys were under observation. "Sphinx major" gave the intermittent type, while "sphinx minor" gave the remittent type with oscillations. He considers syphilitic fever as a possibility for mistaken typhoid. It is not very frequent, but diagnosis should be guarded. Blood tests should be made, long bones examined, scars looked for, and obscure and unexplained fever should be given close study. Salvarsan is specific.

AMERICAN PROCTOLOGIC SOCIETY.

Reported by COLLIER F. MARTIN, M. D., Philadelphia.

(Continued from page 301.)

Prolapsus Ani in Adults.

By T. CHITTENDEN HILL, M. D., Boston, Mass.

The theory is advanced that all cases of proidentia recti are the result of neglect or im-

proper treatment of what was in the beginning a simple form of mucous membrane prolapse. Correction of the condition early may prevent serious infirmity later in life.

He describes at length an operation modified after that of the late Mr. Goodsall, of London, England. In this operation he employs the multiple suture. He advises removing the excess of tissue distal to the ligature.

The operation is performed under local anesthesia and is advised for patients of all ages. It is particularly suitable for use in prolapse of the aged.

The author claims that the operation is painless, short and easily performed. There is absence of hemorrhage and the end results are satisfactory.

Photography For Record and Teaching.

By COLLIER F. MARTIN, M. D., Philadelphia, Pa.

The author draws attention to the fact that students may be better interested in a lecture if their attention is fastened by an appropriate picture or illustration. After experimenting with photographs or drawings, passed among his class, and also with charts hung on the wall, he found that he could better interest the students with lantern slides thrown upon a screen. The darkness of the room tends to lessen the distraction and to encourage concentration. By having photographs of actual cases, as well as of the different steps in an operation, it was easy to interest the class and to explain far better than could be done even in a clinical lecture.

The equipment is briefly described and suggestions are given as to proper rendering of color values by the use of light-filters.

Attention is called to the necessity of proper exposure and lighting to give negatives with sufficient detail to properly show pathologic conditions. Such negatives only are useful for illustrations, record or lantern slides.

Many case histories are incomplete without a photograph to clarify the description.

Hints are given for copying, making line drawings, diagrams and classifications to produce lantern slides suitable for teaching.

It is suggested that every hospital have a department devoted to photography. This could easily be operated in conjunction with the X-ray department.

Some Important Pathological Conditions About the Rectal Outlet: Lantern Slide Demonstrations.

By GRANVILLE S. HANES, M. D., F. A. C. S.,
Louisville, Ky.

Tubercular ulcerations do not occur as frequently in the mucosa of the rectum and sigmoid as is generally believed. Amebic and various types of bacterial ulceration produce dysenteric symptoms that often lead to emaciation and exhaustion. Active tubercular ulceration is always accompanied by a decided increase in the temperature and pulse rate. These are not characteristics in other types of ulceration. In tubercular ulceration there is a history of constant and progressive symptoms while in amebic there is usually a history of improvement and relapses. Tubercular ulceration involving the rectum and sigmoid seldom yields to treatment. Amebic ulceration in this climate can be cured by one method or another.

Bacterial types of ulceration are usually very difficult to treat. Within the last two years I have found cauterization with the high-tension electric spark to be a most valuable means of treatment.

Tubercular abscesses often occur about the rectum when patients otherwise show no evidence of tuberculosis. The abscesses and subsequent fistulae are characteristic in that there is a great tendency to undermining of the skin. The external openings are, therefore, large with a livid appearance of the surrounding cutaneous structures. They point to impending trouble which may be precipitated months or years hence. This being true it is of great importance that we direct the habits, hygiene, etc., of individuals thus afflicted.

Fistulae of long standing with one or more very small external openings with a history of an extensive abscess are very difficult to cure. From external evidences they appear to be very simple. Usually the finger, when introduced well into the rectum will be able to detect by careful palpation the hard indurated sinuses which often extend surprisingly high up the rectum.

Internal fistulous openings rarely, if ever, perforate the rectal wall unless there is some pathology primarily in the rectal mucosa whereby its resistance is impaired. The internal openings of the fistulae are usually in the anal canal. The anal tissues are most always diseased be-

fore the abscess is formed; therefore, it is reasonable to suppose that the infection passes out through the diseased anal structures and is responsible for the abscess.

There are occasional fistulous tracts that extend up by the rectum to considerable heights and are very tortuous. It is difficult to follow these sinuses to their terminations when operating. When the wound heals and a small opening remains we may feel fairly certain that some part of the original fistula was not reached. It is then advisable to inject bismuth paste which will often effect a cure.

Pruritus ani is undoubtedly a local infection. The focus of the disease is below the pectinate line and at the anal margin. It has been my practice to remove the diseased tissues at the margin of the anus and from the emulsion of these diseased structures bacteria are cultivated and an autogenous vaccine administered to the patient. The operation with autogenous vaccine obtained in this manner gives decidedly the best results.

Anatomical and Bacteriological Findings of the Anorectal Region—Preliminary Report.

By J. RAWSON PENNINGTON, M. D., Chicago, Ill.

This preliminary report is submitted in lieu of my paper on "Indications for Making a Rectal Examination."

Today the question of "focal infection" is uppermost in the minds of the medical profession. Much consideration has been given to practically every point of the body from which focal infections may emanate except that of the anorectal region.

Experimental investigations show that not only crypts of Morgagni, but what appears to be diverticuli are found also in this region. The Medical Research Laboratory, of Chicago, to which specimens were submitted for examination, reports that these diverticuli are lined with stratified squamous epithelium; also, that streptococci, staphylococci, colon bacilli, and other bacteria were found in their tunics and sacs.

We have observed that local and constitutional diseases may be produced by injecting the various bacteria obtained from these diverticuli into animals.

I am investigating the value of these diverticuli as points of focal infection and their role as causative factors in hemorrhoids, fistula,

constipation, arthritis, endocarditis and other acute and chronic, and local and constitutional infections.

Some Observations on Hernia in Relation to Intestinal Stasis.

By WILLIAM M. BEACH, M. D., Pittsburgh, Pa.

After reviewing the theories of Keith relative to nodal zones situated at different levels in the intestinal musculature, the author says that:

1. We have tried to define intestinal stasis to be a physiologic-anatomic disturbance of peristalsis by an inhibiting influence through nodal zones of the myenterium, located in the esophago-gastric junction, the duodeno-jejunal area, ileocaecal region and the rectum. This, demonstrated in the laboratory, must be verified clinically.

2. Anatomic distortions, as kinks, adhesions, ptoses, etc., lead to stasis by disturbing the ganglia controlling peristalsis.

3. Hernia is a frequent manifestation of visceral displacement concomitant with stasis.

4. Long truss wearing with great pressure tends to rectal disease.

Intestinal Symptoms Due to Achylia Gastrica.

By ALOIS B. GRAHAM, A. M., M. D., F. A. C. S., Indianapolis, Ind.

In 5,758 patients presenting gastro-intestinal symptoms, and in every one of whom repeated gastric analyses were made, a diagnosis of achylia gastrica was made in 378. This is about 6.5 per cent., or a ratio of 1 to 5; 100 were males and 278 females. The youngest was 17 years, the oldest, 73 years. Sixty per cent. were between the ages of 40 and 60 years. In 90 per cent. the subjective symptoms were chiefly intestinal in character. The bowels were reported regular in 38; constipated in 112; loose (diarrhoea) in 142; irregular in 86. Diarrhoea was the most frequent symptom and was present in 37.5 per cent. of the cases.

Descriptions of three groups of cases: The stools, which were at times quite characteristic, were described. Rectal symptoms rarely reported. Internal hemorrhoids found in every case. Rectal examination of no value, except that of exclusion, in determining the cause of the intestinal symptoms. In cases where constipation was chief symptom, there was not anything of special interest.

There was no return of the gastric secretion

in any of the cases. The course of achylia gastrica is a protracted one. Under proper therapy the prognosis, as to fairly good health, is excellent.

Diet alone in the severe cases of diarrhoea was not successful. Astringents and intestinal irrigations were unsuccessful. Hydrochloric acid and pepsin in sufficient dosage is rational therapy and the only one which gave anything like satisfactory results. In some cases diet and hydrochloric acid failed. In these cases a nervous element was present and the administration of bromides in suitable dosage produced most excellent results.

Patients are comfortable as long as they continue treatment. If discontinued, even for a brief period, there is a recurrence of the diarrhoea. These patients should be correctly informed as to the prognosis, namely, that as long as there is evidence of an absence of the gastric secretion, just so long must they adhere to a rigid diet and take hydrochloric acid and pepsin.

Observation on Fissure in Ano.

By ROLLIN H. BARNES, M. D., St. Louis, Mo.

The author considers fissure as an ulcer and believes that traumatic causes are not true etiological factors in the production of this trouble but that it is necessary the tissues become inflamed and hence friable and easily torn in order that fissure be formed. He believes catarrhal inflammatory conditions are frequently the result of an excessive carbohydrate diet and sometimes an excessive fat diet.

In the treatment of fissure he recommends palliative treatment by correcting the diet with reference to the excesses of carbohydrates and fats and placing the patient on a proteid diet for a time. When operation is necessary, he believes the object should be drainage rather than paralyzing the muscular fibers. He also advocates the use of a small enema before defecation in order to avoid irritation from the stool. It is very important to keep the wound clean by hot sitz baths and the hot enema, in order that any foreign substance may not remain in the wound.

Malignant Transformation of Benign Growths.

By FRANK C. YEOMANS, A. B., M. D., F. A. C. S.,
New York, N. Y.

The benign tumors of the colon and rectum considered were of the polypoid type,—solitary polyp, multiple polyposis, multiple adenomata and villous tumor. All originate from the intestinal mucosa, are of the same histologic structure but differ in number, size, form, and the relative amounts of glandular and fibrous tissue present.

The writer cites the theories of origin of multiple adenomata as advanced by Meyer, Liebert and Schwab, G. Hauser, and H. C. Ross's views on the formation of benign growths. Yeomans thinks these tumors inflammatory in character and notes the frequent history of colitis or dysentery in these cases, intestinal parasites as causal in others, and the positive evidence of the role of irritation as furnished by therapy,—colonic lavage, or colostomy and irrigation benefiting some patients and curing others. He reports a case of multiple adenomata in a man, aged 30, colostomized in 1913, with marked benefit. Many tumors have disappeared, the remainder have retrogressed and the patient is working regularly. There is no evidence of malignant change.

That a benign growth becomes malignant is beyond cavil but its cause involves the same enigma as the cause of cancer itself. The writer cites the work on neoplasms of Waldeyer, Adami, Cathcart and others, as well as modern research on the transplantation of tumors and the parasitic theory of their origin. He concludes: "All that can be stated positively is that cancer begins as a small local process; that it excites no reaction in the blood whereby a diagnosis can be made; that the individual cancer cell is the parasite of cancer, and whatever eventually explains the origin of cancer will also explain the transformation of a benign into a malignant growth."

Yeomans reports the transformation of a simple adenoma into an adenocarcinoma in a man, aged 76, who had rectal bleeding of 8 years duration, progressive constipation and a tumor that in recent years could not be reduced within the rectum. The tumor, $3\frac{1}{2}$ by 2 inches, was attached just within the anal verge. It was removed under local anesthesia and both clinically and histologically was adenocarcinoma.

Villous tumor or adenoma tends to recur in malignant form so should be extirpated early, thoroughly and radically.

Multiple adenomata are the most important

and serious type of benign growth of the intestine. Their usual site is the lower colon and rectum. Clinically, they are malignant from diarrhœa, hæmorrhage, etc., and if neglected over 40 per cent. become actually malignant. Improper local treatment, as snaring, curettage and cauterization is followed by malignant recurrence in a large proportion of cases.

The curative, operative procedure indicated is enterotomy, either in the colon above the growths, or in the terminal ileum when the entire colon is affected. If the tumors disappear, the enterotomy may be closed. If they persist, after prolonged irrigation and the patient's general condition warrants it, partial or total colectomy is indicated with implantation of the ileum low down into the sigmoid, the operation being performed either in one or preferably in two stages.

The Treatment of Hemorrhoids by a New Method.

By E. H. TERRELL, M. D., Richmond, Va.

The author presents a simple, safe and efficient method of curing selected cases of hemorrhoids by the injection of quinine and urea solution. During the past two years 127 patients have been treated by this method with only one recognized failure. Injection of quinine and urea in solutions of from 5 per cent. to 20 per cent. strength produces starvation and atrophy of the hemorrhoids. The series reported includes only uncomplicated internal hemorrhoids. The results of the treatment of 127 patients justify the conclusion that the method is simple, safe and effective in properly selected cases.

Etiology of Vaccine Treatment of Pruritus Ani.

By LOUIS J. HIRSCHMAN, M. D., Detroit, Mich.

Hirschman presented a preliminary report of his work on the bacteriology of pruritus ani as based on the original work of Murray at Syracuse. The work of H. C. Ward, bacteriologist, in conjunction with Hirschman's work shows that the streptococcus *faecalis* was present in the twenty-five cases, but the vaccine treatment in these cases, especially that of the autogenous vaccines, has resulted in important or systematic cure in but four cases, while the treatment of the surgical lesions present, or by dietary, or hygienic measures, has resulted in relief or cure of all the remaining cases.

Further Observation on Pruritus Ani and its Etiology and Treatment.

By DWIGHT H. MURRAY, M. D., Syracuse, N. Y.

(A sixth report based on results of original research.)

This author read the sixth annual report of his original research work on pruritus ani and vulvæ, adding reports of 25 cases to the former series of cases, making 123, the bacteriology of which shows 95 per cent. of the cases a streptococcic infection as the etiology for these troublesome conditions. He stated that his claim that the streptococcus *faecalis* is the etiology of pruritus ani, is now confirmed by many leading physicians, throughout the United States, who have been investigating the subject.

He finds from the experience of this past year that far better results are obtained by the use of autogenous vaccines with more than 1,000 million dead germs to 1 c.c.

He states that not one of the cases of pruritus ani and vulvæ, pruritus scroti in the 123 cases have had diabetes and, as a result of this, he questions very strongly whether diabetes is ever the cause of these conditions unless as a complication, and under such condition there would be a general pruritic condition of the skin.

Last year, in his fifth report, he described cases of pruritus ani that did not show improvement under the administration of the autogenous streptococcic vaccine. These cases were later found to have a staphylococcic infection as a complication and when an autogenous staphylococcus vaccine was administered with the autogenous streptococcic vaccine, improvement resulted. He has found proof of this same condition during the past year and believes that these cases show a characteristic whitish appearance of the skin in spots, particularly around deep skin fissures.

He also found further proof of one of the conclusions in a former paper, i. e., where there is a rectal pathology with pruritus ani, plus a skin infection, that an operation for relief of these conditions will cure the rectal pathology, but will not cure the pruritus ani. If the streptococcic skin infection does not exist the operation will be very sure to cure pruritus ani.

During the six years that Dr. Murray has been doing this work he has never had as prompt and satisfactory results from treatment as during the past year. In his report

of the present condition of patients treated during the past five years, he shows that practically all of the patients have retained a part of the benefit originally received and a large majority of them consider themselves cured. Time will give the proof of this.

While some of the cases still have a little itching from time to time, they state that it is very easily controlled by simple methods.

Dr. Murray is more firmly convinced than ever that operations for the cure of pruritus ani, such as Ball's operation and modifications of it, are absolutely contradicted and should never be performed.

(To be continued.)

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

The History and Theory of Vitalism. By HANS DRIESCH. Authorized translation by O. K. OGDEN. Macmillan & Co., New York. Price, \$1.75.

The first question the author asks of himself is whether in considering the subject of Vitalism the processes of life are to be looked upon as a result of purposive constellation of factors known to the sciences of the inorganic or as a result of an autonomy peculiar to the processes themselves. The next problem is to determine whether those processes in the organism are purposive by virtue of a given structure or else is there a special kind of teleology in the realm of organic life. In order to answer these questions the author compares historically the ancient and modern views on Vitalism and gradually leads the reader to a proper understanding of the logical development or progress made in this particular field of philosophy. He commences with Aristotle, considers the views of a large array of subsequent philosophers, such as Harvey, Stahl, Buffon, Haller, Kant, Muller, Liebig, Schopenhauer. The author criticises the Materialistic Darwinian tendency and then takes up the modern Vitalism, the Neovitalism.

The book is highly interesting and the translation is excellent.

ALFRED GORDON, M. D.

Editorial.

Southern Medical Association.

The tenth annual meeting of this Association will be held in Atlanta, Ga., November 13, 14, 15 and 16, with Dr. Robert Wilson, Jr., of Charleston, S. C., presiding. The membership has grown from 600 in 1911 to more than 5,500 at this time. As there was a registration of more than 900 in Richmond in 1914, and of 1,200 in Dallas last year, with an increased membership and a more central meeting place to the territory in which it has its members, it is estimated that there will be more than 2,000 physicians in attendance this year. All scientific sessions and exhibits will be held under one roof in the great Auditorium-Armory, which is accessible to all hotels.

A prominent feature of the Atlanta meeting will be the clinics which will be held every morning from eight to ten by the visiting clinicians from the sixteen Southern States. There will be a public meeting on the first evening with addresses by prominent health workers. Among the entertainments will be a reception at the Capital City Club on Tuesday evening and a "Georgia Barbecue" at the Druid Hills Country Club on Wednesday. This club has fine golf links, and those who wish to golf will have the privilege of the links that evening. This will be a chance to practice for the golf tournament which will be held on Friday. Physicians are expected to bring their wives and daughters as special entertainment is being provided for them.

The secretary, Dr. Seale Harris, of Birmingham, Ala., will gladly furnish information upon request.

Burns as a Cause of Death.

With the advent of the winter months, the Virginia Vital Statistics Bureau calls attention to the care which should be taken to prevent and lower the number of deaths from burns. In this State during 1915, there were 270 deaths which resulted from burns alone. These were principally among women and children, owing to the loose and more inflammable nature of their clothing and to the fact that they have to do more with the open fires and cook stoves from which, without proper care, and largely through carelessness, their clothing may catch fire.

Quoting from the *Virginia Health Bulletin*, Dr. Charles F. Pabst, coroner's physician of Brooklyn, recommends a safety measure, especially for pageants, carnivals, receptions where flimsy draperies are used, scenery and properties in theatrical productions, amateur Christmas displays and even for the popular cowboy and Indian suits with their flimsy fringes. Make a clear solution by dissolving one pound of ammonium phosphate in one gallon of cold water. In this the fabric to be fire-proofed is soaked for five minutes. It is then taken out and dried, after which the garment may be worn with safety. These articles remain fireproof until washed or drenched with rain, after which the process has to be repeated. The solution keeps indefinitely, is non-poisonous and does not harm the fabric. The ammonium phosphate retails at about twenty-five cents a pound.

Dr. John M. Ropp,

Shenandoah, Va., is now able to attend to his work after meeting with an accident on the first of the month. While he and Mrs. Ropp were returning from Bear Lithia Springs, his automobile struck a ditch and turned turtle. Mrs. Ropp was thrown clear of the machine and not seriously hurt, but the Doctor, who was pinned under the machine, was unconscious when taken out. He suffered from fracture of the superior maxillary and malar bones and five ribs.

The South Piedmont (Va.) Medical Society

Will hold its semi-annual meeting in South Boston, November 21, 1916. The subject for general discussion will be "Gastric Ulcer" and an interesting program is planned. Dr. W. L. Williams, Brookneal, is president, and Dr. George A. Stover, South Boston, secretary.

Dr. Freed Elected to Hospital Position.

At a meeting of the State Hospital Board held at the Epileptic Colony near Lynchburg, this month. Dr. John W. Freed, of Staunton, was elected physician in charge of the male department of the Western State Hospital, *vice* Dr. Henry T. Miller, resigned. Dr. Freed held this position several years ago, before he resigned to enter private practice in Staunton.

Dr. Robert C. Bryan,

Of this city, has been appointed to the medical corps here, under direction of the United States Government. Dr. Bryan, during his re-

cent service in France, secured information regarding medical work along the battle front and in field hospitals and camps, which should be of value in the work of the medical corps here.

Dr. Junius F. Lynch,

Norfolk, Va., was a visitor in Richmond, about the middle of this month.

Dr. and Mrs. W. W. McChesney,

Of Abingdon, Va., who took a motor trip to Richmond, early this month, stopped on their return in Roanoke to visit Dr. and Mrs. W. H. Saunders.

The Medical and Surgical Society of the District of Columbia,

At a recent meeting, elected the following officers for the 1916-1917 sessions: President, Dr. Edgar P. Copeland; vice-president, Dr. H. H. Kerr; secretary, Dr. Llewellyn Eliot; assistant secretary, Dr. John Allan Talbott; executive council, Drs. John Dunlop, H. P. Parker, L. Eliot, L. H. Reichelderfer and H. G. Fuller.

Married—

Dr. Alfred Power Jones, until recently connected with the Woman's Hospital in Baltimore, but now of Roanoke, Va., and Miss Elizabeth Lacy, of Washington, D. C., October 17.

Dr. Fred Hamlin, Staunton, Va., and Miss Ruth E. O'Brien, Durham, N. C., October 17.

The Association of Seaboard Air Line Railway Surgeons

Will hold its annual meeting in Jacksonville, Fla., October 31 and November 1 and 2, Dr. Robert S. Harris, of that city, presiding. Dr. J. W. Palmer, Ailey, Ga., is secretary and Dr. Jos. M. Burke, Petersburg, Va., chief surgeon.

Dr. J. Allison Hodges,

Of this city, who, by invitation, made an address before the Life Insurance Presidents, at St. Louis, last month, has been invited to read the same paper next year before the Medical Directors of the American Life Convention, which meets at Excelsior Springs, Mo., the first of March.

Pulaski Hospital to be Enlarged.

A four days' campaign was inaugurated in Pulaski, Va., October 18, to raise \$20,000 to advance and endow Pulaski Hospital, which was established little more than a year ago.

Series of Popular Lectures.

A series of popular lectures open to the public is being given weekly under the auspices of the faculty of the Medical College of Virginia. The first two of these lectures were by Dr. R. C. Bryan, on "No Man's Land" and Dr. R. L. Simpson, on "A Journey Through A Tooth to Death." Dr. Charles R. Robins will speak on November 1, on "The Protection of Marriage" and Dr. W. H. Higgins, on November 8, on "The Causes of Backwardness in School Children."

Dr. John F. Thaxton,

Of Tye River, Va., who was operated on at University Hospital early this month, is improving rapidly and expects to return home soon. Dr. Paul Davis, of Roanoke, has been attending his practice during his absence.

Dr. S. H. Burton,

Parnassus, Va., is now in Weston, W. Va., working with his brother, Dr. G. M. Burton until January 1, 1917, when he expects to go to New York City to take up eye, ear, nose and throat work.

Westbrook Sanatorium Enlarged.

Drs. James K. Hall, P. V. Anderson and E. M. Gayle, of Westbrook Sanatorium, this city, announce the opening on November 1, of two new brick buildings—one for men and another for women. The plant now consists of nine separate buildings in the midst of grounds which embrace eighty-five acres.

Dr. Samuel Saunders,

Who, since leaving Virginia, has been doing field investigation work for the U. S. Public Health Service in and around Rome, Ga., has been transferred to Toledo, Ill., for duty in studies of rural sanitation.

Dr. E. C. Levy,

Chief Health Officer of this city, is attending the American Public Health Association, which is being held in Cincinnati, October 24-27.

The Mississippi Valley Medical Association,

At its annual meeting held in Indianapolis, early this month, selected Toledo, O., for its next place of meeting, and elected the following officers: President, Dr. Channing W. Barrett, Chicago; vice-presidents, Drs. F. M. Pottinger, Monrovia, Cal., and Frank Wynn, Indianapolis; secretary, Dr. Henry Enos Tuley, Louisville, Ky., and treasurer, Dr. S. C. Stan-

ton, Chicago, both of the latter being re-elected.

Tuberculosis Week.

December 3-10 has been designated by the National Association for the Study and Prevention of Tuberculosis as tuberculosis week. On December 6, Medical Examination day, as last year, physicians are urged to make without charge, examinations of such patients as apply to them for this purpose. December 8, from 2 to 3 P. M., has been designated as Tuberculosis hour in the schools of Virginia, at which time children will be told how to prevent and fight tuberculosis.

Clinical Lectures on Diseases of Skin.

The governors of the New York Skin and Cancer Hospital, Second Avenue, corner 19th Street, that city, announce that Dr. L. Duncan Bulkley, assisted by the attending staff, will give the eighteenth series of clinical lectures on diseases of the skin in the out-patient hall of the Hospital, on Wednesday afternoons, beginning November 1, 1916, at 4:15 o'clock. The lectures will be free to the medical profession on the presentation of their professional cards.

Dr. B. B. Bagby,

Of West Point, Va., has recently been visiting in Wilson, N. C. He has been slowly improving since undergoing an operation in this city last July.

Dr. and Mrs. Harry Carter,

Of Emporia, Va., were called to Hopewell, Va., early this month by the death of Dr. Carter's father.

Dr. and Mrs. Henry E. Davis,

Of Switzer, W. Va., early this month visited Fredericksburg and Richmond, Va.

Dr. and Mrs. J. C. Dunford

Have returned to their home in Portsmouth, Va., after a visit to this city.

Dr. and Mrs. Benjamin Gray

Have returned to their home in this city after an extended stay at Fisher's Island, N. Y.

Surgeon F. C. Smith,

Of the U. S. Public Health Service, was relieved of duty at Ft. Stanton, N. M., September 28, with instructions to proceed to Cape Charles Quarantine Station, this State.

Medical Insurance and Health Conservation

Is the name of the new, national publication into which the *Texas Medical News* was

merged on its twenty-fifth anniversary. The price of this journal will be \$2 a year. Dr. M. M. Smith, with headquarters at Dallas, will continue as managing editor and will be assisted by a large staff of prominent men who will have charge of the separate departments of the magazine. This is a new field in medical journalism and we wish the editors much success.

Schedule of Doctors' Fees Printed in Danville.

It is reported that the Danville, Va., Academy of Medicine has had published in a local newspaper, a schedule of fees that members of the Academy are expected to charge for professional services. It is stated that this was not done because there had been an advance in the fees, but "for the benefit of the public at large." It may be that this plan could be adopted with profit by other local Societies in this State.

The National Committee for the Prevention of Blindness

Will hold its second annual meeting November 24, in the Academy of Medicine, New York City. President William Fellowes Morgan will preside. The principal address will be by Surgeon John McMullen, of the U. S. Public Health Service, who has gained great prominence by his work in fighting trachoma in the Appalachian Mountains. Further information may be obtained by addressing the above-named Committee at 130 East Twenty-second Street, New York City.

Army Medical Corps Examination.

The Surgeon General of the Army announces that preliminary examination for appointment of first lieutenants in the Army Medical Corps will be held early in January, 1917, at points to be hereafter designated. There are at present 228 vacancies in the medical corps of the Army. In order to perfect all necessary arrangements for the examination, applications should be forwarded without delay to the Surgeon General of the Army.

Full information concerning this examination can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C.

Dr. H. S. Stern

Has duly qualified before the city clerk as medical inspector of the Richmond Health De-

partment. He succeeded Dr. B. E. Summers, who entered private practice in this city.

Dr. W. W. Whittington,

Of Snow Hill, N. C., was recently in this city, having brought a patient to a local hospital.

Dr. and Mrs. P. E. Tucker,

Of Buckingham, Va., were visitors in Richmond, early this month.

Dr. E. L. Flanagan,

Who has been doing public health work in Emporia, is now at Eastville, Va.

Dr. Chevalier Jackson,

Of Pittsburgh, Pa., has been elected professor of bronchoscopy, esophagoscopy and direct laryngoscopy at the New York Post-Graduate Medical School and Hospital. He will enter upon his duties in November.

Women Gain More Recognition Abroad.

It is reported that the University of Edinburgh has decided to admit women to its medical school, although there was decided opposition to this proposition when it came up several years ago.

Medical Society of Virginia.

As we go to press, the Society is meeting in Norfolk. Indications were that this would be a large meeting and one at which matters of much importance would be discussed. A full notice of the meeting will appear in our next issue.

Lowered Death Rate in United States.

In the preliminary report for 1915, recently issued by the Bureau of the Census, there was shown the lowest death rate in the history of this country, or 13.5 per 1,000. This rate is based on an estimated population in the registration area of 67,337,000, which is 67.1 per cent. of the total estimated population of the United States. The most favorable year prior to 1915 was 1914, in which year there was a rate of 13.6 per 1,000. Both of these figures are markedly lower than the average rate for the five-year period 1901-1905, which was 16.2.

Care of Teeth Needed.

A recent investigation made by the U. S. Public Health Service in connection with studies of rural school children showed that 49.3 per cent. had defective teeth, 21.1 per cent. had two or more missing teeth, and only 16.9 per cent. had had dental attention. Over 14 per

cent. never used a tooth brush, 58.2 per cent. used one occasionally and only 27.4 per cent. used one daily. Defective teeth reduce physical efficiency and are responsible for many diseases. Children are not primarily responsible for the neglected state of their teeth. School teachers can and are doing much in inculcating habits of personal cleanliness on the rural school child but this will fail of the highest accomplishment unless parents who have been negligent of their duties in this respect, cooperate heartily and continuously with them.

Limited Number of Physicians Required—For steamers plying between here and England and the Mediterranean. If interested, communicate with Furness, Withy & Company, Newport News, Va. (*Adv.*)

Obituary Record.

Dr. Charles William Penn Brock,

For many years one of the most prominent and beloved doctors of this community, died at his home in Richmond, October 19, after having been in failing health for several years. He was born in the Valley of Virginia 80 years ago last June, but had spent all of his professional life in this city since his graduation from the Medical College of Virginia in 1859. Throughout the war between the states, Dr. Brock served in the Confederate army, first as a private and later as a surgeon. In this latter capacity, he was chief surgeon on the staff of Major-General James L. Kemper. He was made surgeon of the police department in this city in 1865, and chief surgeon of the Chesapeake and Ohio Railway in 1882, both of which positions he held until he was forced to retire from practice on account of his health. Dr. Brock was also an active worker in Masonic circles, having been a Master Mason and a Knight Templar. His widow and several children, one of them, Dr. Charles B. Brock, of this city, survive him.

Dr. Fenton Devany Drewry,

Aged thirty-nine years, died at a Norfolk hospital, October 18, after an illness of two weeks following an operation for appendicitis. He graduated from the Medical College of Virginia in 1898 and was a prominent physician

of the Southside, having practiced his profession at Virgilina, Va., for a number of years. His widow survives him.

Dr. Arthur LeRoy Hunt,

A well-known anesthetist of Washington, D. C., died in that city, of infantile paralysis, October 7, aged 37 years. He graduated from George Washington Medical School in 1905. He was corresponding secretary of the Medical Society of the District of Columbia and medical inspector of the health department of the District. It is believed that he probably contracted the disease while engaged in his work in connection with the last named position.

Dr. Matthews Woods,

A prominent specialist in the treatment of epilepsy and author of several books on this subject, died in Philadelphia, October 13, following an operation. He was sixty-three years of age, and graduated in medicine from the University of Pennsylvania in 1873.

Resolutions on Death of Dr. O. C. Wright.

At a meeting of the Sussex Medical Society, held at Nebbett's Mill, Va., October 12, 1916, the following resolutions were adopted:

WHEREAS, It has pleased Almighty God, in His infinite wisdom, to remove from our midst our beloved and honored friend and fellow-laborer, Dr. O. C. Wright; therefore, be it

Resolved, (1) That we, the members of the Sussex Medical Society, are sorely grieved and feel that we have sustained a great loss in his death;

(2) That, although we very greatly miss his presence and services, we bow in humility to the will of our Father who knows our every need;

(3) That our sympathy goes out to the sorrowing family, and we pray that our Father may comfort each one of them;

(4) That a copy of these resolutions be sent to the bereaved family, to the *Virginia Medical Semi-Monthly*, and be recorded in the minutes of this Society.

J. F. SLADE,
WM. D. PRINCE,
JOEL CRAWFORD,
C. P. NEBLETT,

Committee.

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Original Communications.

HOW TO MAKE OUR STATE MEDICAL SOCIETY MORE EFFICIENT.*

By JOSEPH A. WHITE, A. M., M. D., Richmond, Va.

I must crave your indulgence for making a radical departure from the accustomed routine of presidential custom. I was preparing an address along the usual lines, when I attended the A. M. A. meeting in Detroit, and, incidentally, a special gathering of the Presidents and Secretaries of the various State Medical Societies. The revelations of that meeting were sufficient to make me change my subject to one that should be of material interest to every one of you, if you have the good of this Society at heart, and that is, "How to Make Our State Medical Society More Efficient." I hope to offer some suggestions that may help us to this end, suggestions gathered from the experience of other similar organizations. I will not take up much time, as I want what I have to say accentuated and strengthened by a heart to heart talk from a gentleman who has had experience along this line, and who has made good.

There is something wrong about our State Medical organization, as shown by the lack of interest on the part of its members, with the exception of a few who take a perfunctory interest only. It has not the life, energy and push such a society should have.

Its annual meeting is looked upon as a sort of outing for the members who attend a social jollification, with some medical papers on the side,—and the more of them we can get the better. Quantity, not quality, has been the apparent effort of our program, and many of the papers are rushed on the list at the last

moment. This year, six weeks before this meeting, we had ten titles presented, and the Secretary was worried. I wrote him that I would rather have ten good papers than 40 mediocre ones,—but in saying this, I knew nothing about the papers presented. I took it for granted, however, that a man who sent in his title two months or more before the meeting was making some effort to present a creditable production, and not a hurried-up jumble, pitched together at the last moment. In these days when the science of medicine has really become a science, when diagnosis and treatment are based on known facts, the result of most careful laboratory and clinical investigation, a representative body of medical men, like this Society is supposed to be, should expect the papers brought before them at their annual meeting to be of value to them by the instruction and information they present.

They should look for results in other ways, as for example, "exhibits." If the members know that when they attend the annual meeting, they will take away not only the memory of a good time with their friends, but the recollection of two or three days well spent in acquiring information that will tide them over many a rough place in the next year's work, they will take that interest that all Virginia doctors should feel in their State Society.

The State Society, however, is no longer what it was in the days when Dr. Landon B. Edwards was its inspiration, its guide, philosopher and friend. He knew every doctor in the State, was in constant communication with them either personally or by correspondence, and he was a most important factor in the upbuilding and cohesiveness of the Society.

There were few or no county societies,—the larger communities like Richmond, Norfolk, Lynchburg, Roanoke, etc., had their local soci-

*Address of the President, delivered before the Medical Society of Virginia, at its forty-seventh annual meeting at Norfolk, October 24-27, 1916.

eties which were independent, and had no connection whatever with the State Society.

Now the State Society is an aggregation of the County Societies. It would have no existence without the County Societies. Membership in it is dependent on membership in the County Societies.

The days when Dr. Turner rose to his feet and joyously presented a list of new members as long as his arm have gone, and Dr. Turner is deprived of his annual pleasure.

The Treasurer's occupation is also theoretically at an end, as far as *collecting* dues is concerned, and, sad to state, is almost practically at an end in the *reception* of dues from the County Societies, because many of these fail to collect and transmit.

Hence the treasury is depleted, and the Society cannot continue in business without funds. We have nominally on the roll 1866 members from the county and city societies already chartered, or organized, leaving a number of counties still to fall into line. Of these members only 505 had paid up on the first day of August.

Now, is not this a sad state of affairs? Cannot those members who do take an interest in this Society, go to work, and appeal to the pride of the lukewarm members, not to let their State organization become moribund for the sake of a paltry two dollars?

The State Society is dependent on the County Societies, and is what the County Societies make it. Therefore, we must interest the County Societies. If possible we should have someone to visit the County Societies to infuse new life into them, to establish medical educational reading clubs, to talk to the members, and to advise with them about other ways to make their meetings interesting. If you will refer to our by-laws, you will see that our councillors are supposed to do this very thing, but do they do it?

When one County Society is too small, district organizations of several counties can be formed to great advantage. When doctors meet together often, come into personal contact, rub shoulders with one another, they begin to appreciate each other, and that old-time jealousy and suspicion so rampant in the medical profession disappears. Nothing like getting close to rub off the rough edges, and kindly friction makes things smooth for everyone.

With the advent of good roads (God save the mark in Virginia), increased railroad facilities, and automobiles, doctors everywhere can easily get together, interchange ideas and experiences, and be helpful to each other as well as to the community in which they live. No class of men in the world do as much for the poor or for charity as the doctors, no class lives more amicably with their neighbors, and yet it has been proverbial they do not get along with each other. Gentlemen, this is because they don't know each other, and the establishment of county and district medical societies gives them the opportunity of proving this apparent blot on the profession is a libel. The educational feature of such intercourse would be of enormous value, and each meeting would more and more impress this fact on the members.

A County Society is more important to the doctor in his community than a city medical society, because it is the only way the profession can be brought together and become of mutual benefit to each other. In the city, the doctors meet in various ways, besides the medical societies, as at their clubs, in the hospitals, etc.

Again, it is equally important to their community. A well organized County Society can demonstrate its value and the value of its members to the community by educating the public in matters of hygiene, general sanitation and the medical needs of the people at large. The association with each other helps to develop what is best in each man, enlarges his professional horizon, and contributes to his mental advancement. With a little effort, the country physicians can have the same advantages that the city doctor is supposed to have, if they will meet once a month and exchange their experiences, and no city doctor ever has such varied experiences as the country doctor, who has to be more self-reliant and more resourceful than the city doctor, because he cannot send around the corner, or use the telephone and get skilled assistance in a few moments.

Independent of the exchange of experiences, the county society can have regular pre-arranged papers, or a discussion of a topic of special interest, local or otherwise, with exhibition of specimens, and wind up with a little social gathering in the shape of lunch or sup-

per, which is always another inducement to get together.

Without casting any reflections on other County Societies, I would call your attention to the Augusta County Society, which might be taken as a good example of what a County Society should be. It has 65 members, and each meeting brings together about half that number, but not always the same men. They have a nice library for the benefit of the members, and once a year they employ some one to deliver lectures to them, usually twenty lectures in ten days, one morning and evening, on some practical subject that will benefit all the members. Instead of going away to get up-to-date information on live medical topics, they have it brought to them. Still, this County Society is having financial troubles with the State Society, because the conflict of authority in collections results in delinquency.

If the physicians of every county would emulate this example of working together to build up their County Society, or their district organization, it would go a long way towards increasing the efficiency of the State Society, as this Association is absolutely dependent on the success of the County Societies. Hence the importance of every doctor in the State exerting himself if we would succeed.

Organization.—I am sure no one here doubts the value of effective organization and co-operation. It is needless to call your attention to the powerlessness of money and capital when arrayed against perfectly organized bodies in the labor world, such as the railroad organizations. If the medical profession would awaken to a realization of the power it could wield by close organization, not a single doctor in the country would fail to join his County Society, equivalent to local labor lodges. These County Societies are the foundation of the State Society, and from the State Societies is formed that big national organization, the American Medical Association.

Co-operation is the important factor in all kinds of work today,—co-operation between the American Medical Association and the State Societies; co-operation between the State Societies and County Societies; co-operation between the County Societies and the individual members. With such co-operation, what immense influence the medical profession could wield in legis-

lation! What is it the profession could not get in the way of passing laws to advance Medical Education and to safeguard the public health by State Legislatures, and by Congress, if they worked as a unit to this end in every county, city and state!

Is there any doubt of the influence each individual doctor has with his patients and especially the family physician and country doctor?

Suppose the word went forth from the American Medical Association to each State Society that it was for the advancement of the profession, and for the public health, that such and such legislation should be enacted.

Each State Society would notify the County Societies, and a meeting of the members of each of these would be held, and they would be instructed to see that their representatives in their respective legislatures, or in Congress, as the case might be, would support the proposed legislation. Do you doubt the result? It has never been tried, but if such perfect co-operation could be obtained among physicians, as does obtain in labor organizations, there would not be so much difficulty in getting legislation enacted about sanitary and health problems as we have had in Virginia and elsewhere.

If every legislator had it impressed upon him that if he could not give intelligent consideration to proposed legislation about medical matters, he would find all the doctors in his section opposing his return, he would sit up and take notice.

I must, however, say that our Virginia legislature has been much better than those of many other states, and has complied with the requests of our Health Boards and Health Commissions in passing needed laws. Unfortunately, these laws cannot be enforced for lack of funds, as there was not enough revenue to meet all the various demands, and, although the legislature did the best it could under the circumstances, our Health Department is crippled by an inefficient appropriation.

Suggestions.—At each annual meeting of the State Society, there should be a special session of the Presidents and Secretaries of the county and district organizations, to report on, and discuss, the progress and needs of their respective societies. Such a meeting would be mutually beneficial and ultimately redound to the advantage of the State Society.

At the annual meeting also there should be arranged, by a committee appointed for that purpose, medical exhibits of various kinds showing progress in medicine by Roentgen-ray pictures, photographs, etc., and by demonstrating clinical laboratory methods, such as making a blood count, a Wassermann examination, sputum, etc. Research work is not confined to hospitals and laboratories; every skilful physician is a research worker and every case a research problem. Hence the great educational value of such exhibits can hardly be estimated, and as co-operation in such work has resulted in the various movements for the prevention and stamping out disease in the past, we can assuredly look to it to help us in the future.

The clinics which are the usual form of exhibits at our meetings are absolutely valueless from an educational standpoint, and only serve to show the dexterity and proficiency of the operator.

To make the meeting still more attractive, symposiums on subjects of current interest and reports on advances in medicine, surgery and the specialties would be drawing cards for many who do not attend the meetings because they find nothing of special interest.

The *program* should be arranged by a special committee of the Council, so that authors could have some idea when they might be called on. It has often happened that papers were called for in such haphazard fashion that many were passed by solely because of an unbusinesslike way of arranging the program.

Moreover, authors should be compelled to conform to one of our by-laws by sending in the title of the paper with a short synopsis five weeks before the meeting. If the paper is worth presenting at all, it is worth this amount of trouble and the committee will then know how to place it.

I believe the number of papers should be limited, especially if the experiment of two sections, which is being tried out this year, fails. If the Society adopts this innovation permanently, we can handle about sixty papers; otherwise, thirty or thirty-five would be the limit, exclusive of the papers for the public on Tuesday night, and the papers for the symposium on the selected subject. If we accept too many, and have not the time to give the

authors, they become dissatisfied, and in this way we may lose good contributors.

Business.—Under the old by-laws the business of the Society was scattered about, part on Tuesday, part on Thursday and part whenever it could be gotten in.

As Tuesday night is a public session, no business should be brought up, as the public is not interested in it, and the reports of committees should by motion be referred to the council, to be brought in at the business session Thursday afternoon.

It would be well if all business of the Society could be condensed into one session either Thursday afternoon or Friday morning. Even the President's address should have no fixed time every year, but should be placed according to his subject matter. If on a topic of public interest, it should be given on Tuesday evening with the papers on Public Health and Sanitation, in which the public is interested. If on a subject of interest only to the Society it should be delivered at the opening of the business session.

Moreover, I see no reason why the old hackneyed address of welcome and response should not be left out of our program. It takes up time to get off the same old platitudes, that might be much better given to scientific work.

The social features of the annual session are a nice diversion from the routine of scientific discussion and listening to papers, and if they could be so managed as not to interfere with the scientific program, there would be no objection to them. But, as they do seriously interfere with the real business of the session, I would recommend that hereafter we decline to accept any entertainment at the expense of the local profession, as it is a very serious tax upon the doctors in the locality where we may meet, and many of them can ill afford the expense. Nearly all of our medical associations have abolished this kind of entertainment and have none at all except such as are met by subscription of the members present.

Council.—Routine business should be attended to by the council, and their conclusions reported to the Society at the business session. As the office of councillor is so important, no one should accept it who is not willing to make the required sacrifices to attend to its duties, and if he does not attend the annual session

he should be automatically dropped from the roll and some one appointed in his place.

I would also suggest that we stop publishing transactions. They cost a lot of money and are distributed to as many men who do not pay for them as to those who do.

Instead, I am a strong advocate of either publishing our own journal or making some existing journal the official organ of the Medical Society of Virginia, and have our proceedings published therein just as the American Medical Association does in their *A. M. A. Journal*, the Southern Medical in its journal, and as other organizations do.

We can do this more economically and have money enough left, if members pay up, to establish a medical defense fund. Quite a number of the State Medical organizations have both a journal and a medical defense fund,—among them, Indiana, Ohio, Pennsylvania, Tennessee and others.

And this brings us again to the condition of our finances. If the dues were collected we would have all the money needed. But we cannot have two ways of doing this. We must either make it obligatory on the local and county societies to collect the \$2.00 from each of their members, giving the proper receipt therefor, and forward it to the Treasurer of the State Society, who will have nothing to do with sending bills to any members, except those who do not belong to any County Society. If he does, he is going over the heads of the local Treasurers who strongly object to this.

If this plan does not find favor, then the Treasurer of the State Society should be authorized to send out bills and collect dues from all the members, and the local Treasurers have nothing to do with it. We can't have both methods, as between the two the dues go uncollected and the Society loses both ways.

This point once settled, it may be necessary to drop all delinquents who thus lose membership in both State and County Societies. I trust no such action will be required,—when members are once awakened to the importance of keeping in good standing by paying their dues.

Lastly, I believe the Society would be benefited by being to a great extent a delegated body, its active working membership being the accredited representatives of the town and

county societies. This delegated plan, however, has to be worked out on a basis that would give each County Society its proper proportion of representation, and would make each County Society more interested in the State Society.

In conclusion, I wish again to apologize for the kind of address I have brought before you, my only excuse being the interest I have in our State Society, and the desire to awaken an equal interest in those of you who had grown somewhat lukewarm.

200 East Franklin Street.

THE ETIOLOGY AND PATHOLOGY OF NEPHRITIS.*

By E. G. HOPKINS, M. D., Richmond, Va.

Of the numerous classifications of the non-suppurative inflammations of the kidney, only the simplest sub-division into acute parenchymatous nephritis, chronic parenchymatous nephritis and chronic interstitial nephritis has been universally accepted. These three types were for a long time considered to be stages in the development of a single clinical entity rather than as distinct diseases. It is now, however, generally recognized that there are at least two types of contracted kidney, one of which is secondary to parenchymatous nephritis and the other primarily due to arteriosclerosis of the renal vessels. Parenchymatous nephritis has also been differentiated into two distinct types, one in which the most characteristic change is the extensive epithelial degeneration and the other in which the glomeruli are primarily and most markedly affected. Both these types have been sub-divided into acute and chronic varieties and both types, if of long enough duration, eventually lead to a secondary contraction of the kidney. Glomerular nephritis is much more frequent and important clinically than the tubular nephritis. The differences between the acute and chronic glomerular nephritis probably do not represent stages in the development of the disease but depend on variations in the intensity and duration of the action of the same cause. This cause is now universally conceded to be some form of septic infection.

The cause of acute glomerular nephritis is

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usually infection with streptococci. Anatomically, the kidneys are swollen, smooth, red and edematous. The cortex is congested and shows small punctate hemorrhages. Histologically, there is a hemorrhagic exudate in the capsular space surrounding the glomeruli which contains numerous leucocytes. The connective tissue is edematous. The blood vessels are congested, the tubules contain blood, leucocytes and casts and the tubular epithelium shows more or less degeneration. Besides this type of acute glomerular nephritis which gives rise to all the systemic manifestations of renal disease, there is a milder type in which all of the glomeruli are not involved,—the focal nephritis of Baehr. These cases occur chiefly in connection with mild streptococcus endocarditis, but have also been found in other infections and even in colon bacillus sepsis. When only a few glomeruli are involved there is no systemic disturbance referable to the renal lesion, the diagnosis resting on the urinary changes alone.

Chronic glomerular nephritis or large variegated kidney has the same general cause as acute glomerular nephritis, that is, streptococcus infection. It usually follows a bad cold, tonsillitis, acute rheumatic fever or recurrent focal nephritis. The kidneys are firmer than in the acute type. The variegated appearance is due to alternations of yellowish patches with dark red areas corresponding to fatty changes and hemorrhagic extravasations. Early in the disease the histological changes resemble the acute type with the exception that many glomeruli show hyaline necrosis, the connective tissue is more hyperplastic and the tubular epithelium shows marked degeneration. Later the hyperplasia of the interstitial tissue becomes more marked and if the patient lives long enough the stage of contraction is reached. In this stage the glomeruli have become more fibrous, the connective tissue has occluded many tubules with the formation of cysts and there is marked atrophy and degeneration of the epithelium. The hemorrhagic extravasations and the character of the glomerular lesions differentiate this stage of secondary contraction from the arterio-sclerotic kidney.

Tubular nephritis is less common clinically than the foregoing types. It is usually toxic in origin and the lesions are not so definitely

inflammatory in character as in glomerular nephritis. For this reason the term nephrosis has been substituted for nephritis in this class of cases by Volhard and Fahr, but without general acceptance.

Acute tubular nephritis is comparatively rare clinically; but is seen in cases of bichloride poisoning and during the course of certain infectious diseases, notably yellow fever and cholera. It is also seen in cases of toxemia of pregnancy. Anatomically, these kidneys are larger and softer than normal and somewhat lighter in color.

Histologically, the changes are confined to the epithelium of the tubules. In the case of the kidney of pregnancy the tubules chiefly affected are the convoluted tubules of the cortex: in cases of mercury poisoning the ascending loops of Henle. The epithelial cells are swollen and distorted and filled with fine lipid granules. There is frequently extensive patchy necrosis. The glomeruli are affected very slightly and the interstitial tissue not at all.

Chronic tubular nephritis or large white kidney has no etiological relationship to acute tubular nephritis as is the case between acute and chronic glomerular nephritis; but is dependent on distinct causes. Since Traube first described amyloid degeneration of the kidney a distinction between this condition and the large white kidney of parenchymatous nephritis has been more or less generally accepted, although the difficulty of differentiating between them has often been acutely recognized. Recently Ophuls has shown that such a distinction is not valid, as all the cases of large white kidney found in his series of over 1,000 autopsies showed more or less amyloid deposit in the kidney and also in the spleen. These were all associated with the usual causes of amyloid degeneration. It is probable that the etiology of chronic tubular nephritis is a general intoxication incident to the diseases which cause amyloid degeneration. These are chronic suppurations, tuberculosis, syphilis and the cachexias of malignant tumors. The kidneys are larger and heavier than normal, of doughy consistency, and the color is pale grey, with occasional venous radiations and small hemorrhagic dots. Histologically, the most characteristic feature, to quote Ophuls, is the extensive epithelial degeneration and the development of doubly refractive lipid drop-

lets. The diseased tubules are usually full of casts. Amyloid was found in all cases, although in some the amount of amyloid in the glomeruli was not very large. From the very beginning these cases show inflammatory lesions in and about the glomeruli. Connective tissue proliferation sets in early and may eventually lead to considerable shrinkage. This is the stage of secondary contraction or small, white kidney. Clinically, these cases are characterized by much albumen, many casts, marked edema, and the absence of both hypertension and cardiac hypertrophy.

Of all the diseases classed as nephritis, the arterio-sclerotic kidney is by far most frequent. It is always associated with more or less general arterio-sclerosis; and its etiology must be considered with the etiology of this general disease. The condition seems to be more common in America than in any other country. Fisk, of the Life Extension Institute, reports evidence of arterial degeneration with renal lesions in 50 per cent. of the workers in the Ford Motor Co. with an average age of 32 years, and in 40 per cent. of commercial workers in New York City, with an average age of 29 years. These figures give some idea of the prevalence of the condition in its incipency among the young and supposedly healthy people in this country. The immediate toxic agent responsible for the changes in the kidneys and blood vessels is unknown. Antischkow suggests an increase in epinephrin and cholesterol in the blood as possible factors on the ground that he is able to produce hyperplasia, degeneration and cellular infiltration of the blood vessel walls in rabbits by feeding epinephrin and cholesterol to them. It is interesting to note in this connection that a strenuous life and over-eating, which are the two most potent predisposing causes of arterio-sclerosis are also the very factors which would produce an excess of epinephrin in the blood on the one hand and hypercholestrinemia on the other. The excessive nervous strain, hard work and worry which accompany modern conditions of life certainly react on the organism in some way—most probably through the internal secretions, to render it susceptible to the development of arterial degeneration. This is probably due to the constant overstimulation of certain ductless glands, especially the suprarenals. The excessive secre-

tion of these glands may be directly toxic; but its chief effect is probably exerted through a perversion of the metabolic processes. Over-eating is probably the next most important factor. By over-eating the blood vessels are kept full, the tension is raised and many substances are ingested in excess which may act as poisons, and toxic substances are formed during metabolism which act as irritants to the blood vessels and kidneys. Of the infectious diseases which bear an etiologic relationship to arterio-sclerosis, syphilis and tuberculosis are most prominent. Lead is the one definite poison known to cause it. Tobacco and alcohol are generally regarded as causes, but there is much difference of opinion in regard to this point. Cabot, for instance, does not think that alcohol *per se* can cause interstitial nephritis. Very frequently the disease appears to run in families and many striking instances of hereditary arterio-sclerotic kidney have been reported. The kidneys in this condition are more or less shrunken but as a rule the contraction is not so great as in the secondary contracted kidneys. The color is red, the surface nodular, the capsule adherent and the consistence is leathery. When cut open, small retention cysts containing yellowish serous or urinous fluid are usually found.

The histological changes begin with thickening of the walls of the arterioles and an increase of the fibrous tissue. As the process extends to Bowman's capsule, the glomerulus collapses and becomes surrounded by a thick mass of fibrous tissue. The distribution of the process varies greatly. Sometimes small foci are regularly scattered throughout the whole kidney. In other cases there are a few larger foci surrounded by healthy tissue. The tubules in the affected areas are atrophied. Some are narrow and collapsed, others cystic. Comparatively few casts are found in the tubules, and the urinary findings are slight.

In conclusion, I would like to emphasize this practical point. With the exception of the hereditary factor, the chief causes of nephritis may be largely obviated by properly directed attention to personal hygiene.

Glomerular nephritis caused by streptococcus infection may be largely prevented by the measures directed to the maintenance of a high standard of health, thus increasing the resistance of the individual to the infection

and by the immediate recognition and eradication of foci of infection in the teeth, tonsils, nose, etc., should these occur. Chronic tubular nephritis may be prevented by the prompt and adequate treatment of syphilis, tuberculosis and suppurative processes. Arterio-sclerotic nephritis, except in those cases where it is apparently hereditary, may be prevented by the formation of good habits in regard to working, sleeping, playing and eating, and by the elimination of constant nervous or physical strain of whatever cause.

In view of the disproportionate prevalence of nephritis and arterio-sclerosis in America as compared with other countries, it is vitally important that our schools and colleges should teach the subject of personal hygiene more thoroughly and practically than at present.

SYMPTOMS AND DIAGNOSIS OF NEPHRITIS.

By W. H. RIBBLE, JR., M. D., Wytheville, Va.

In discussing this subject we will take the classification of Delafield as a starting point, but will keep as far as possible from the trodden paths of literature in hope that we may arouse a discussion which will bring out something new.

As you no doubt know, this classification is as follows:

- I. Congestion—Acute and Chronic.
- II. Degeneration—Acute and Chronic.
- III. Inflammation—
 - Acute exudative,
 - Acute productive (diffuse) with exudation,
 - Chronic productive (diffuse) without exudation,
 - Chronic productive and tuberculosis.

This classification admits that many of the conditions diagnosed as nephritis are not true inflammations, and, therefore, not nephritis. In the light of present-day knowledge, we are learning to associate infection with the term inflammation and to distinguish between an inflammation of this nature and a congestion following physical or chemical irritation. In effect they are quite similar, but the symptoms,

diagnosis, and especially the treatment are quite different, and therefore should not be looked upon as one condition.

With this idea in mind—that the kidney is subject to the same laws which govern congestion, inflammation and degeneration in other tissues and organs of the body,—let us look for a moment at its general make-up and function. Its function is to filter the blood and take from it the ashes of combustion—those salts and other toxic substances which, if allowed to accumulate, poison and interfere with the functions of any or every organ of the body.

This filtering process is carried on from a net-work of small capillaries surrounding a small capsule (the Malpighian capsule) and delicate tubes, lined with epithelial cells, the kidney as a whole being enclosed in a practically undilatable capsule.

Picture then, the effects of congestion in this organ. The effect of simple, mild congestion, or hyperemia is to increase functioning. If in a spot on the hand there is an increased growth of the epithelium which produces a wart; if in the salivary gland it makes the mouth water; if in the kidney it makes more water, and with increase of water there is an increased growth of the epithelial cells which line the tubules above mentioned. Now, let the congestion become greater, and the organ will become tense, because its capsule limits its expansion; then its pressure in its capillaries and on the tubules, almost, or quite, obstructing some of them, allows them to be filled by excessive proliferation of their cell lining, forming epithelial casts in the lumen of the tubules.

Into less obstructed tubules is expressed, from the tense capillaries, more or less serum containing blood cells and albumen, in proportion to the severity of the condition.

If the obstruction to elimination is sufficient, we have toxic symptoms in proportion, varying from slight headache and indisposition to delirium, coma and spasms, the quantity of urine being diminished in proportion to the amount of congestive obstruction.

In more severe and very prolonged congestions there are changes in tissue. The epithelial linings of the tubules become thickened. Exudate into the stroma of the kidney organizes into connective tissue, which, like scar tis-

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sue, causes contraction and hardening. This condition is described as cirrhotic kidney, in which the urine is copious, light in color, low specific gravity, with little or no albumin; and there are few if any casts which, if present, are hyalin or granular.

Fatty degeneration and other degenerative changes may occur in various parts of the organ, producing fatty, hyalin, granular and epithelial casts, with more or less alteration of secretion and albumen.

Under the head of inflammation in Delafield's classification, Stedman describes those conditions which appear to be, more strictly speaking, true nephritis, the symptoms of which—like those of the congestive conditions—vary widely according to the cause, the intensity or virulence, and duration of the cause and the associated symptoms from other diseased organs. To attempt to describe symptoms of each stage of an inflammation extending over a period of anywhere from 10 days to 30 years, and to name each change as though it were a separate disease would appear confusing and bewildering to the practitioner at the bedside of the patient. We will, therefore, not enter into the subdivisions, but discuss the symptoms of inflammation under the two heads—acute and chronic.

Acute nephritis of a typical type is ushered in by chilliness, headache, pain in the back, dry skin and feverishness, just as any other acute inflammation or feverish condition. So these symptoms are not peculiar to nephritis.

When the inflammatory condition has existed long enough to interfere with elimination, we have developing stupor from the toxic effect on the brain and nerves. This toxemia may increase till spasm is produced. Interference with elimination soon causes puffing under the eyes, or probably first in the feet, extending possibly to the whole body and producing a peculiar pallor of the skin with pitting on pressure, and at times affecting the peritoneal, pleural and cardiac cavities. If this edema is sufficient to produce pressure on nerve terminals made tender by uremic poison, there is pain when touched, localized numbness, hot or cold areas, muscular twitchings and other manifestations of nerve and muscle poisoning. Edema, however, is also a symptom of cardiac insufficiency, hepatic obstruction to venous circulation, acetone in the tissues, etc., so it

cannot be said to be diagnostic, except when taken in connection with other symptoms. The symptoms most peculiar to nephritis are found in the excretion from the organ under discussion. The urine is diminished in quantity, or even suppressed; its specific gravity is higher at first, but may become very low as excretion is more interfered with by the inflammatory process. Its color is darker and shows a sediment on standing, in proportion to the amount of blood, urates and morphologic constituents. There is a diminution of urea and other solids, explaining the tendency to and, possibly, the amount of uremic coma. Albumen and blood cells are expressed with the urine by the tension in the kidneys. Blood, granular and epithelial casts, which may be seen under the microscope, show that many of the tubules have been occluded by hemorrhage, amyloid degeneration and cell proliferation, respectively. This obstruction explains part of the limited excretion.

The pulse is bounding and slow in the outset, becoming more rapid, and often softer, as the disease progresses, while the heart may become somewhat dilated by its efforts to force circulation through constricted blood vessels.

The nephritis complicating acute infectious fevers is usually of the type described under the head of congestions, but in scarlet fever we often have a true nephritis of the acute form. The albumen-urea of pregnancy also shows the milder congestive symptoms unless it be a case of chronic nephritis aggravated and made acute by the state of gestation.

The diagnosis of acute nephritis is easily made when we take the above described symptoms in connection with the casts, albumen, blood, etc., found in scanty, highly-colored urine.

Stone in the kidney produces quantities of pus in the urine and nephritis from colon bacillus infection is associated with cystitis of the same origin. The various symptoms of what is described as chronic nephritis depend upon the various conditions of the kidney produced by the acute disease, imprudent eating and drinking, senility, continuous exposure, and the effects upon the kidneys of disease and derangement of other organs of the body. The symptoms are mere modifications of those previously mentioned and so minutely described

in the books, that we will not take them up here except to mention briefly two or three illustrative cases.

Mr. S., a farmer, age about 43, plethoric and rather fleshy, a moderate drinker and good feeder, but, apparently in excellent health, was examined for life insurance. Albumen was found in his urine, and continued to appear for eleven years before there was much impairment of health. At the end of that time he began to complain of headache, vertigo, absent-mindedness, loss of energy, indigestion, etc. These symptoms grew gradually worse for a period of two years, when death was ushered in by dropsy and coma.

Mrs. B. was first seen about 14 years ago. She was a perfectly temperate, hard-working farmer's wife about 48 years of age, and was the mother of five children. She had been treated for kidney disease for about three years. She had severe headaches, backache, nervous tremors, insomnia, and had lost much flesh. There was edema half-way up to the knees. The urine was dark, specific gravity about normal, and showed about half albumen on settling after boiling; there were very few casts.

No treatment helped her except morphine to ease the pain. Her son learned to use a hypodermic syringe in order to save expense and control the amount used. After using this about six years her condition became so much improved that the morphine was discontinued and the old lady is living today and in good health. There is still some albumen with occasionally casts in the urine. About three times a year she will get half a dozen half-grain codein pills for headache, but there is no dropsy and she does her house work, getting along about as well as any woman of her age.

Mrs. G., the mother of four children, age 64, history negative except that her father died of softening of the brain at an advanced age. Until about 1903 she had had perfect health. At that time she began complaining of her feet being hot and tender and her eye-sight failing. In another year her walking was limited and painful, but her general health continued good until 1908, when she complained of oppressed breathing, with pain and a constricted feeling about the chest. She was in Richmond at the time and was sent from one specialist to another and her case was finally

diagnosed as an angina pectoris. She returned to her home in Wytheville in 1909, was dieted and treated with calomel and glycocholates and was practically relieved. At that time she had lost sight in one eye. In 1914 she was taken quite sick in Richmond again and was found to have a well developed chronic nephritis. She spent the summer of 1915 at her home in comparative comfort, but she showed progressive loss of memory, her eyesight grew gradually worse, and she showed decided nervousness and excitability but her appetite and digestion continued good. She lost no flesh and had no headache or edema. The urine was examined every three days, the specific gravity ranging from 1012 to 1022. Albumen was pronounced at times and absent at others; when pronounced it contained a very few epithelial and hyalin casts. She spent the winter north and, when she returned home, June 30th last, appeared to be in little better physical condition than when she left. The urinary findings were about the same as the previous summer, but she was almost totally blind. She sat up about half of the day and enjoyed company until September 1, when she had a spasm at 5 p. m. while sitting on the porch talking. She was put to bed and had two more spasms in the next two hours, continuing unconscious all night, but promptly improved and was able to be up in two weeks. Her appetite and digestion are good. She has lost no flesh, has no edema and no headache or pain of any kind except a feeling of suffocation at times. Her pulse is soft and intermittent and her nervous manifestations are growing steadily worse.

If this paper has not been sufficiently unorthodox to arouse comment, it has not attained its object.

MEDICAL TREATMENT OF NEPHRITIS.*

By PHILIP W. BOYD, JR., M. D., Winchester, Va.

The successful treatment of any disease depends upon our ability to determine the cause of that disease. Nephritis is more of a condition than a disease.

The causes of acute nephritis can usually be definitely determined, due to bacterial toxins, the renal reaction being a diffused inflamma-

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tory affair. By far the most frequent bacteria is the streptococcus.

The existence of acute and subacute nephritis (except, of course, the rare chemical nephritides) invariably points to a pre-occurring infection and generally a septic process. The importance of identifying the original source of sepsis is great, for upon its detection and removal depend, during the early stages at least, success in controlling the renal secondary.

The tendency of uncomplicated acute nephritis is to recover, provided infective factors be no longer present and active to work new damage to the kidneys. This is well shown in clinical experience, on the one hand, by the complete disappearance of the nephritis of scarlet fever in those cases that survive, and, on the other hand, by the marked tendency to chronicity that characterizes the nephritis associated with tonsillitis, pyorrhea, infected antrums, etc.

Whatever the origin of a case of acute nephritis, the patient should be put to bed, kept quiet and covered warmly. Diet should be simple, easy of digestion, and contain a minimum of proteids. Milk may be considered the typical food, being easily assimilated, while the amount of nitrogen contributed to the blood is less than by animal flesh. Weak animal broths may be permitted to break the monotony of a plain milk diet. To further relieve the congestion of the kidneys, saline purgatives must be given, the object being to get a watery stool as quickly as possible. At the same time, promote the action of the skin by maintaining warmth and administering diaphoretics and warm packs.

Diuretics are not indicated in the early stages of nephritis. It is important to maintain alkaline urine, which tends to dissolve exudations. By far the surest method is the administration by the rectum of sodium bicarbonate. This is administered high up in the bowel by the Murphy drip method.

The alarming and dangerous symptoms of acute uremia demand a separate consideration. The eliminative treatment, just described, having been tried and found wanting, elimination is demanded and the bowels and skin are the only emunctories left to operate on. If the patient cannot swallow, two drops of croton oil on the tongue, or elaterin, grain $\frac{1}{4}$ in solu-

tion, may be administered. Place patient in hot packs and administer 1-10 grain pilocarpine hypodermically and if perspiration does not set in within half an hour, it may be repeated.

Even though it seems contraindicated, morphia has been to me the most useful drug. Give it in sufficient doses to control the convulsions. Should the morphia fail to do this, blood-letting may be practised. I have seen it act most happily and believe it is too seldom done in this condition. Follow blood-letting with normal salt solution by intravenous injection or by hypodermatoclysis.

The same measures which have been detailed, except the general blood-letting, may be employed in the treatment of suppression of the urine or in cases of obstinate dropsy without uremic symptoms.

In chronic nephritis, the problem of cause is much more difficult. No doubt, in a certain proportion of cases a history of acute nephritis may be elicited, but the connection between the two is not always clear, because acute and subacute nephritis may occur without the development of symptoms other than the urinary signs during an infection, and failing to analyze the urine we may lose our opportunity to discover the original link. No doubt, we have all been guilty of such neglect and often the specimen brought for analysis is given the "elevation test",—that is putting the bottle upon the shelf instead of analyzing the specimen.

The therapeutic problem in chronic nephritis is largely a cardiac one, the fate of the patient hanging solely on the maintenance of cardiac strength and an adequate blood pressure. Therefore, regulation of fluid intake becomes important as a prophylactic measure when the heart is to be spared and also in all cases when edema makes its appearance, whether the dropsy be cardiac or renal in origin.

In patients in whom there is oliguria with large quantities of albumen, dropsy increasing rapidly, with uremia threatening, the principle of rest to the kidneys should be carried out to its fullest extent. To attempt to flush out the kidneys by giving large quantities of water would be bad practice. When these symptoms are present, give just fluid enough to quench

the patient's thirst and do not attempt to increase fluid intake.

The fact has long been recognized, clinically, that high blood pressure, cardiac hypertrophy and polyuria are rendered necessary in chronic nephritis, to compensate for destruction of renal secreting tissue. These conditions are then necessary evils that must be put up with, for, if death results from cerebral hemorrhage or heart failure, that is but an alternative to death from progressive uremia which would almost surely occur without these cardio-vascular secondaries.

Sustained high blood pressure in a person under forty should be viewed with concern, and direct our treatment rather to the kidneys than to the heart, as here uremia is most apt to occur. In older individuals many factors not present in youth enter into consideration and this is the truer the farther we leave middle life. Consequently, we need not attach so much significance to the high blood pressure during the period of sustained compensation. The entire personal hygiene, including diet, should be so regulated as to avoid all overstrain to heart and kidneys and no pains spared to enforce obedience in detail.

The diet should be of mixed composition and abundant enough to maintain the nutrition of the patient. It should be determined by the appetite of the patient and his ability to digest rather than by theories as to what is indicated by the disease. Moderation is necessary. Alcohol in any form should be restricted or withdrawn. My results from "salt free" diet have been disappointing. Unsalted food is so unwholesome that the patient will not take enough food to maintain nutrition if this diet has to be maintained any length of time.

It is rarely advisable to lower the blood pressure by drugs, for in chronic nephritis the vaso-dilators will invariably produce discomfort. Reserve the nitrites for emergency use,—to combat angina, cardiac asthma, severe high tension headaches, and other high pressure manifestations that might ensue in chronic nephritis. In dropsical conditions they do harm.

The appearance of dropsy in chronic vascular nephritis almost invariably signifies the advent of cardiac failure. Because the case is primarily a renal one, it does not follow that

the dropsy is of renal origin. It is usually cardiac, has the characteristics of cardiac edema, and cannot be successfully treated by sweats and diuretics, but requires cardiac supporting measures. Digitalis in the end is the staff upon which the chronic nephritic invalid must lean. The reason for this is, after we have enjoined the maximum hygienic and dietary control, we can do little else than wait until the heart begins to fail, and then we may prolong life for months or years by the judicious use of digitalis and its derivatives. The most successful of these, I believe, is the infusion, and it acts better when the blood pressure is high than it does with a failing pressure.

Up to the present date, the serum treatment of Bright's disease has not been extensively used. The sterilized serum and defibrinated blood of the goat have been used and even the extracts of the kidney of pigs. The results have not been encouraging.

A REVIEW OF ONE HUNDRED CASES OF NEPHRITIS.*

By ALEX. G. BROWN, JR., A. B., M. D., Richmond, Va.

Practitioners are daily called upon to deal with the problem of nephritis in one form or another of its manifestations. In its common types nephritis mixes in the clinical work of physicians to such an extent as to make its consideration from every angle of material importance.

By the term nephritis, it should be understood, is meant not only the true inflammatory pathology, but also the degenerative processes consonant with the chronic forms of renal disease, so often observed. It is of little value to the work-a-day physician to classify to the last possible pathological or etio-pathological point the inflammations of the kidney, for the speculative combinations of pathology that it is possible for kidney morbidity to assume at one stage or another of its progress, as well as the possible combinations of cause and effect as seemingly are related in the processes of nephritic diseases, are so complex and numerous as to make confusion worse confounded to the practitioner as he studies at the bedside and in the office, the nephritic cases passing under

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his daily observations. With an idea of considering nephritis in some of its elementary and simpler aspects, I have taken from my files a group of one hundred case records, in which the kidney was a pathologic problem, with the purpose of seeing whether or not some practical lessons may not be gathered from a study of them from the standpoint of the practitioner in connection with the history of the cases, possibly etiologic relation, the associated disease and chief symptoms commonly observed.

Before reviewing the ways of the pathologic kidney, let us recall what are the functions of the kidney normally and in what way are the functions disturbed in renal disease. And let us also recall thereafter, a word of the histologic structures producing its normal secretion as well as the changes of these structures predicated upon the changed kidney secretion or morbid urine. Normally, then, the kidneys secrete urine and this is composed of water, inorganic salts, urea, the purin bodies (uric acid, xanthin, and hypoxanthin) creatinin, hippuric acid, oxalic acid (calcium oxalate), conjugated sulphates, and conjugated glycerinates, several aromatic oxacids and nitrogenous acids, dissolved gases (nitrogen and carbon dioxide), urinary pigments, urochrome and urobilin. (Howell).

The body, then, eliminates from itself, after this manner, in the form of urine, through the kidneys, the end products of a part of its metabolism.

Metabolism is maintained by the daily introduction into the body and distribution therein of food stuff composed of varying amounts of carbohydrates, proteins and fats. The end results of this metabolism are: water, which leaves the body chiefly through the kidneys (as urine), the sweat glands, salivary glands and lungs in expired air; carbon dioxide, which leaves the body through the lungs chiefly, a small amount in sweat and urine; nitrogen bodies which, with the inorganic salts, leave the body through the kidneys mainly.

The *nitrogen bodies*, which the kidney cells are called upon to take from the renal blood, are *urea-nitrogen* which in man amounts to about 87.5 per cent. of the total nitrogen eliminated; ammonia nitrogen which represents about 4.3 per cent. of the total nitrogen; cre-

atinin nitrogen, arising from muscle cell metabolism, which amounts to 3.6 per cent. of the total nitrogen; purin nitrogen and unknown nitrogen making up the balance of total nitrogen eliminated. Of these nitrogenous excreta from the body, the *urea nitrogen* is the most important, forming as above stated, about 87.5 per cent. of the total amount eliminated. The daily output of urea is 20 to 40 grams in the average sized man. This urea is not found in the kidney, but is brought to the kidney by the blood, having originated from the protein metabolism in the liver and in other urea-forming tissues of the body. Likewise, the kidney structure receives and excretes from the body the other nitrogen bodies, forming a smaller percentage of total nitrogen. The kidney's cellular structure also eliminates the water and the inorganic salts from the body. These inorganic salts consist chiefly of chlorides, phosphates and sulphates. The cellular structure of the kidney possesses the power to take from the blood these salts which reach a certain concentration in the blood from the destructive metabolism of the protein particularly, as well as from ingested food containing them. The most important part of these is sodium chloride which in a normal average sized person amounts to 10 to 15 grams daily. The phosphates appear chiefly as acid phosphate of sodium, giving the acid reaction to urine, and are derived from the destructive metabolism of the phosphorus containing tissues and the phosphates of the food—chiefly the latter.

Now it is such a secretion that kidney structure is called upon to discharge. Kidneys are compound tubular glands. This glandular system of tubes receives a rich vascular network and these two structures are bound together by an interstitial or fibrous tissue. The Malpighian bodies, consisting of a tuft of blood vessels and the invaginated capsules of the uriniferous tubule, perform the duty of filtrating the fluid or water from the blood. This is done mechanically in part by the constructive caliber of the venous vessels (efferent), the arterial (afferent) vessels being larger than the venous. This filtration is further aided by the flattened epithelial-like cells in the pocket or head of the uriniferous tubules. Through this mechanism also come the salts of the urine.

In its course from Bowman's capsule to the

exit, the uriniferous tubule has epithelial cells lining its wall which seem from structural differences to possess distinctive functions in secreting the other ingredients of the urine. So the epithelial cells at the neck, proximal convoluted tubule, spiral tubule, descending loop of Henle, ascending loop of Henle, irregular tubule, arch collecting tubule, etc., appear to possess different structural characteristics, and, it may be, endowed with secretive function in the epithelial protoplasm whereby certain elements of the urinary solids are secreted. Then through the glomerulus and convoluted tubule the water and the salts of urine are taken from the blood. Through the epithelium of the other parts of the tubule the nitrogenous bodies of the urinary excretion come.

Based upon the foregoing physiologic and histologic relations various tests of kidney function have been in recent years promulgated. The success of this method of interpretation of the whole kidney function, it must be said, has not been completed. The organ possesses, as we have seen, such a variety of physiologic actions in the performance of urinary secretion that, to test by diet and by chemicals the varied functions of the glomerulo-tubular structure, is, at present, scientifically incomplete. Although certain well received tests are now in practice, all are open to question in endeavoring to secure one method for the complete interpretation of kidney function in disease. While it is true that, as yet a single test of renal function has not been found nor has any group of tests been secured which has been accepted as accurately expressing the capacity of the kidney under its various changing pathologic states, it is gratifying to know that decided advances have been made in kidney function interpretation and considerable accuracy in diagnosis and prognosis has been attained, to say nothing of the indications of treatment. For instance, Schlayer used the excretion of water and lactose as indicators of glomerular efficiency, and of sodium chloride and potassium iodide "as a measure of tubular function."

The lactose test is done by injecting in a vein a Pasteurized solution ("at 75° to 80° for four hours in each of three successive days") of 20 grams of milk-sugar dissolved in 20 c.c. of distilled water. At an hour and a half intervals the urine is collected and is repeatedly tested through this time until sugar reaction by

Nylander's test ceases to appear. In normal kidneys all sugar should be eliminated in 4 to 5 hours; in renal disease sugar remains in urine for 7, 9, 12 hours, or longer. In such delay, Schlayer reads disease of renal blood-vessels (glomerular).

The K. I. test consists in giving orally 0.5 grain and testing for K. I. every two hours by Sandow's test. Normally, in 30 to 55 hours all K. I. should pass through tubular structure; in disease it is delayed 60 hours. This means tubular disease according to this test. At once it is recognized that no such academic condition exists in nephritis, for the pathology arranges itself in no such orderly fashion but, on the contrary, is very mixed and complex.

Also, a renewed study of the urea has recently been made. To endeavor to estimate the kidney disease by means of a study of the urea concentration of the blood, the amount of urea eliminated in a given time and the total urea elimination in twenty-four hours—all this taken in connection with the weight of the individual,—is now receiving considerable attention under the head of what is called Ambard's coefficient. McLean has modified this rather difficult mathematical calculation and has improvised a mechanical ruler for its measurement. It is open to objections of decided nature when taken in connection with daily work. It may be now easily worked in the hospital and laboratory. After the patient is given 150 to 200 c.c. of water, in a half hour the bladder is emptied. Thirty-six minutes later 7 to 10 c.c. of blood is taken from an arm vein and put into a dry test tube containing a few milligrams of potassium oxalate or citrate. After 72 minutes, the bladder is again emptied and the urine carefully measured and used for analysis. The urease analysis is made of blood urea and the urine urea.

But, after all, Rowntree and Geraghty have produced the test which seems to ring true to the ideal of a test which will indicate the general functional capacity of the kidney and will throw a more reliable clinical light upon the disease under consideration. The phthalein test seems to give us a practical kidney test for interpreting the total kidney function or as an indicator of general kidney disease. This is easily done by giving the patient 300 to 400 c.c. of water twenty to thirty minutes before the injection is made. After emptying the

bladder by catheterization, 1 c.c. of the phenol-sulphonephthalein (.006) is injected into the lumbar muscles. The urine after one hour is collected; then again in two hours, and then tested. Normal kidneys should eliminate 50 to 65 per cent. during the first hour.

It has recently been shown that phthalein excretion steadily falls as the amount of non-protein nitrogen of the blood increases, and this has been used in interpreting the status and the progress of kidney disease. It must be admitted that urine showing albumin and casts is, after all, the most accepted method of determining nephritis although as diagnostic and prognostic indicators these pathologic factors in the urine are not to be relied upon. In fact, albuminuria alone may or may not denote renal disease, while its association in the urine with casts (cylindruria) set forth positive indications of actual kidney disease. But, latterly, the identity of casts, whether hyaline, granular, or waxy, as an indication of the type, stage and rate of progress of nephritis, is untrustworthy. The association of nocturia, edema, high blood pressure, hæmaturia, uremic signs, are clinical indicators of nephritis which serve as diagnostic and prognostic aids in nephritis.

Now, physiology presents in the urine certain end-products of metabolism which have been above referred to and it is a reasonable assumption the over use of this physiologic kidney function through long years of duration will do for these structures what like over-use of function does for other cellular structures of the body, namely the production of congestive and inflammatory (degenerative) states, ultimately producing deficiency of action. Thus, certain prolonged excess of food (protein) or alcohol ingestion may produce nephritis.

Likewise, as is observed clinically in many of the general infections, the kidney bears the burden of carrying off the toxins of bacterial infection within the body, and in doing so not only becomes the seat of bacterial implantation but also receives gross insult and injury in its vascular and glandular structures. In both instances, compensatory hyperplasia of interstitial tissue, or the infiltration of cellular life, makes for such change of the morphology of the organ as to seriously impair its function. Some clinicians go so far as to affirm that all

etiology of acute and subacute nephritis resolves itself into bacterial infection. The streptococcus is more commonly the cause than other organisms. As early as 1877 this relation was somewhat understood, but, latterly, it has been more widely established and more fixedly believed. While the toxin irritation may produce diffuse inflammatory effect throughout renal structure, bacterial lodgment may occur, effecting disseminated focal lesions like glomerular nephritis complicating endocarditis. Acute nephritis, excepting chemical nephritides like bichloride kidney, points to a septic focus or an acute general infection. In acute nephritis, clinical experience leads to the belief that, where the primary infection is removed early or before great damage is done, the possibility of a return to normal is favorable. For instance, in scarlet fever, in measles, where proper care is practiced, an acute nephritis will clear up. In imbedded tonsils, infected lymphatic glands, secondary to teeth infection, as recent experience has shown, there is a recovery of the kidney in a few months, following the removal by operation of the septic foci.

In chronic nephritis the difficulty is greater in drawing a relationship between cause and effect. But one may not be successfully contradicted who claims that the principle of etiology of nephritis, whether acute or chronic, is the same, varying only in degree and in duration. It is accepted that chronic nephritis occurs as a result of "the long continued insidious action of some ill-defined toxic substance." This toxic substance may be of bacterial origin or it may be of metabolic origin. A wide range of soluble toxins may affect the renal organ, some agents affecting preferably the vascular (glomerular nephritis), while some select the renal epithelium of the tubule (tubular nephritis); others may involve both the vascular and the tubular structure, producing glomerulo-tubular nephritis. For instance, scarlet fever, acute tonsillitis, diphtheria, acute dysentery, etc., usually produce glomerulo-nephritis while the general and acute infections (of typhoid, influenza, pneumonia, and the like), seem to set up a glomerulo-tubular (parenchymatous) nephritis.

The true arteriolar nephritis of degeneration sort which is characterized by secondary contracted kidney is dependent, it is thought al-

though not proven experimentally, to be due in the large number of cases to excesses of toxins that apply to the kidney for elimination. This is observed in chronic alcoholics, heavy meat eaters, and "high livers," and is associated usually with high blood pressure. A combination of these etiologic factors may produce confusion, and a mixed type results as, for instance, with patients with septic teeth and arteriosclerosis. Nephritis is set up no doubt also from the uriniferous side (Barker), as is seen in renal calculus, ureteral obstruction, prostatic and bladder diseases, etc., as no doubt also from tuberculosis, cancer, diabetes, syphilis, and gout.

Taken in connection with the foregoing, I wish briefly to call attention to one hundred cases of nephritis which have come under my care during the past two years. These were my private patients or were patients of fellow practitioners with whom they were seen in consultation. They were all white; from the better classes of society.

There were fifty patients over fifty years of age and forty-nine under fifty, the age of one was not secured. There were 54 males and 46 females.

In the urine examinations, one hundred showed albumin, and ninety showed albumin and casts. Those which showed albumin alone and no casts were, to my mind, clearly proven nephritics by associated clinical symptoms or functional tests. In many of the cases numerous examinations of urine were, of course, made. The one recorded was selected as typical; in some, conditions permitted only one examination. Finding it quite impossible in a brief summary to enter into any extensive classification, I have adhered to the old classification of acute and chronic parenchymatous and chronic interstitial nephritis. By the parenchymatous nephritis I mean glomerular and glomerulo-tubular nephritis and by the interstitial nephritis, secondary contracted kidney accompanying degenerative action in the vascular system and hyperplasia of connective tissue throughout the kidney structure. Of parenchymatous type there were 49, and of interstitial 48, leaving three unassigned. I have tried by close inquiry into the personal history of each case, and by more or less careful physical examination, to arrive at the most probable cause of the nephritis in each patient.

I recognize that this data is open to criticism, but it is offered with the purpose of drawing a lesson if possible from practical medicine. After going over all the cases, I have set the apparent causes down under three headings. Each division is incomplete, for there occur some apparent causes which on close discrimination may not be so assigned. The three chief causes of this group of one hundred nephritics I have divided into local infections (or conditions); general infections (or diseases); and metabolic or food stuff abuses (or intoxications). At once it will be observed that nephritis may arise from one or a combination or succession of these causes.

Of the hundred cases, nineteen were apparently caused alone by local infections or conditions; nine alone by general infections or diseases; twenty-three alone from food stuff abuses or intoxications; fourteen by a combination of local infections or conditions and general infections or diseases; seven by a combination of general infections and food stuff abuses or intoxications; nine by a combination of local infections or conditions, general infections or diseases, and food stuff abuses or intoxications; eleven by a combination of local infections or conditions and food stuff abuses or intoxications; the causes in eight cases were unassigned.

Of the total infections or conditions alone causing nephritis, I found or judged that the following causes obtained in nineteen:—diseased tonsils and teeth, six; endocarditis, three; pregnancy, five; stone in kidney, two; appendicitis, one; multiple furunculosis, one; gall tract infection, one.

Of the general infection or diseases alone, there were two with history of la grippe, three with chronic malaria; one with typhoid and rheumatic fever, one with whooping cough, one with gonococcus infection, and one with chronic tubercle bacillus infection. Of the food stuff abuses and alcohol intoxications alone as the cause of nephritis, there were assigned twenty-three cases of the hundred, twelve confessing excessive indulgence in food alone, and eleven giving a history of excessive food and alcohol indulgence. Fourteen showed combination of local infections or conditions and general infections or diseases as follows:—kidney stone and scarlet fever, one; septic teeth and rheumatic fever, one; tonsil-

litis (rheumatic fever) and chronic malaria, one; pharyngitis (bronchitis) and pneumonia, one; septic teeth and chronic malaria, one; recent pregnancy and malaria and typhoid, one; septic teeth and pleurisy (effusion), one; quinsy and pneumonia, two; appendicitis and malaria, one; acute pleurisy and la grippe, one; phlebitis (milk leg) and chronic malaria, one; septic tonsils (teeth) and bronchitis, two. Seven cases showed a combination of general infection or diseases and food excess or intoxications:—three chronic malaria and excessive food; one la grippe, pneumonia and chronic alcoholism; one tuberculosis of lung and chronic alcoholism; one la grippe and alcoholism; one "rheumatism," pneumonia and alcoholism.

Combination of local, general and food causes were found in nine, as follows:—septic teeth, rheumatic fever (arthritis) and excess food, one; diseased tonsils, bronchitis and excess food, one; tonsillitis, la grippe and alcohol, one; septic teeth, la grippe and excess food, two; phlebitis, diabetes and food excess, one; pleurisy, pyelitis, food and alcohol excess, one; stone kidney, typhoid and food excess, one; repeated tonsillitis, chronic malaria, food and alcohol excess, one. A combination of local infections or conditions and excess food and intoxication appeared in eleven:—in two, tonsillitis and alcohol excess; in one prostatitis and food abuse (alcohol); in one, kidney stone (colic) and food excess; in one, pregnancy and food excess; in one, septic teeth and alcohol and coca cola excess; in one, gall tract and prostate disease and alcohol excess; in two, septic teeth and food excess; in one, infected ears and alcohol; in one, erysipelas and alcohol.

Associated diseases observed were arteriosclerosis with blood-pressure ranging between 150 and 200 in twenty cases; with blood-pressure over 200 in nine. In fifteen of the cases the heart showed gross lesions of hypertrophy and dilatation; many other cardiac lesions were recorded; five enlarged livers; two pulmonary tuberculosis, and many other conditions.

Among the chief complaints expressed and symptoms suffered by these patients, dyspnea was most frequent, it being evident in twenty-four of the cases; weakness was felt as the chief symptom in fifteen; pains in back, limbs and chest in seventy-one; abdominal distention disturbed two; headache and poor vision were

chief complaints in three; dizziness in four; uremic convulsions in four; insomnia and headache in two; sick stomach in two; edema and dropsy in seven. Nose-bleed, arthritis, anginal pain, numbness in limbs, aphasia and tachycardia were other chief symptoms observed. In twelve cases, nephritis was diagnosed without producing any marked symptom referable thereto.

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SURGERY DURING AND FOR COMPLICATED PREGNANCY, LABOR AND MISCARRIAGE—THE FIRST 40 PATIENTS—STANDARDIZATION OF THE SURGEON.

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Of the first 220 women upon whom 171 required abdominal and 178 required vaginal operations for disease of the pelvic organs, there were performed upon 30 of these, 33 operations for the relief of various serious complicating lesions of pregnancy and labor or to save the patient's life through the relief of some symptom apparently brought about by the pregnancy. There are 10 additional cases recorded here which were operated upon since the above 220 cases were reported.

We have always looked upon surgery under obstetric circumstances as entailing more than the average responsibility and necessitating for its successful results, refined judgment through a most earnest consultation with the patient's regular attending physician, usually (in this community), a qualified obstetrician of superior judgment. In all cases in which the proper course to be pursued is not easily obvious, a consultation with a second or third experienced obstetrician or surgeon is asked for independent judgment.

In the cases herewith reported, the following conditions were observed and operations performed:

There were 2 cases of appendectomy through muscle splitting incisions for acute appendicitis complicating 5 months pregnancy and causing pernicious vomiting. The vomiting was relieved immediately, pregnancy was uninterrupted and there were no sequelae.—(No. 131997 and No. 142164).

Varicose veins of the vulva and thigh were removed in the case of a woman 5 months preg-

nant. There was no interruption of pregnancy and no sequelae.—(No. 101426).

There were 4 cases of pernicious vomiting for which we emptied the uterus. These had been treated variable lengths of time from 2 to 4 weeks by their attending obstetrician and for from 3 to 7 days in the hospital before emptying the uterus. Every case was desperate and accompanied by serious emaciation, acidosis and other signs of danger from starvation. There were two cases 6 weeks pregnant and two cases 8 weeks.—(No. 101587; No. 131993; No. 132073; No. 142211).

From this small number of cases we will of course not reach any conclusion, but we have been impressed with the frequent association of pernicious vomiting during pregnancy with some antedating pelvic pathology and with appendicitis. All but one of the cases of pernicious vomiting for which we had to evacuate the uterus, was complicated by laceration of the cervix with inflammation. One case also had displacement of the uterus and in two cases the vomiting was obviously due to disease of the appendix intensified by pregnancy. Observations from others along this line would be interesting.

On account of active tuberculosis of the lungs with 8 weeks pregnancy, the uterus was evacuated in one case upon the urgent command of an expert in tuberculosis.—(No. 132069).

A two weeks pregnancy was accidentally evacuated during the course of an operation for repair of the cervix, perineorrhaphy and removal of hemorrhoids. The patient was ignorant of the condition and it was only discovered during a preliminary dilatation and curettage performed routinely as a part of trachelorrhaphy.—(No. 121939).

For suppurative right pyelitis with 5 months pregnancy the uterus was evacuated and its contents removed after other remedies had been employed for a period of a month or more, in spite of which the patient was emaciated and septic from the effects of the suppuration. Her condition was immediately cured and convalescence was speedy. A second case of suppurative pyelitis, superimposed upon stones in the ureter with 4½ months pregnancy, suffered with desperate signs of sepsis and such profound emaciation and weakness that even nitrous oxide anesthesia was looked upon as a risk. We succeeded in causing expulsion of

the foetus, and incidentally two stones from the bladder, by the introduction of bougies into the uterus. Her convalescence was speedy, recovery complete, and she had subsequently been delivered of a healthy child after a normal pregnancy, and is well.—(No. 121962 and No. 111613).

Podalic version and rapid delivery of a full term child was performed in one case of violent hemorrhage caused by placenta prævia in which the bleeding had lasted two days. Under nitrous oxide anesthesia version was performed and the uterus emptied.—(No. 121910).

Cæsarean section (hysterotomy) was performed 3 times, once for furious eclampsia of 9 hours duration, convulsions occurring every 15 minutes, and in the interval the patient being in coma. This was a robust, healthy primipara. The operation required about 20 minutes and little anesthetic was necessary. The patient had no convulsions after the operation but died in typical coma. The second hysterotomy was for 5 months pregnancy in which intermittent bleeding from placenta prævia had been going on for two months. The third Cæsarean was for placenta prævia, occurring at term, in a robust, healthy 40 year old primipara. At operation there was discovered and removed in addition to the placenta prævia, a submucous fibroid at the placental attachment at the level of the internal os. The baby weighed 12½ lbs.

The fourth Cæsarean was for violent eclampsia of ten hours' duration, convulsions occurring every half hour and in the interval the patient being comatose. This was also a robust young primipara eight months pregnant. Scarcely any ether was required. The patient was comatose. The operation required only about twenty minutes. The patient had one convulsion afterward and died in coma.

The fifth hysterotomy was for violent bleeding three days, from placenta prævia with 4½ months' pregnancy. This result was perfect and the patient was home at the end of two weeks. (These five cases have been operated upon since the series of 220 women were recorded and are now reported for the first time).

Removal of ruptured tubal pregnancy was performed 4 times, 3 of the cases having been previously recorded, while the fourth is recent.—(No. 81128; No. 91139; No. 111414).

Sub-total hysterectomy was performed in one

case for the removal of an incarcerated, posteriorly displaced uterus complicated by fibroids, two months' pregnancy and double suppurating salpingitis with pelvic peritonitis.—(No. 132025).

Another case of incarcerated posteriorly displaced uterus with continuous bleeding with two and a half months' pregnancy, required evacuation and suspension of the uterus. This case is also of recent date and will be abstracted in the next group of case records reported.

One exploratory abdominal incision was made under the mistaken diagnosis of abdominal tumor. A normal pregnancy was discovered. This case went to term and had a normal labor without sequelae.—(No. 152314).

There was only one case of perineorrhaphy immediately following labor.—(No. 6771). We have sutured one badly lacerated cervix to control hemorrhage.

The uterus was emptied of a large clot and packed for one case of furious post-partum hemorrhage the tenth day following labor.—(No. 8841).

Dilatation and curettage for incomplete miscarriage was performed 11 times. Nine of these are reported in the abstracts of records already in print, and the other two will be recorded in the next group.

The abdominal operations for inflammatory lesions following miscarriage are reported with the "Inflammations," and "Pelvic Peritonitis," reprints of which are available.

One inflamed ovarian cyst complicated by pelvic peritonitis was removed during the puerperium.—(No. 91244).

Of this total number, (forty), three died; one case of placenta prævia in which podalic version was done and two cases of eclampsia for which Cæsarean section was performed. There was one slight wound infection. In all the other patients convalescence was speedy and uncomplicated and the cure complete. The stay in bed and the end results are indicated in the abstracts, copies of which can be had upon request.

We are impressed with the immediate cure and speedy convalescence following surgical operations performed at the proper time in proper cases, for the relief of complications of pregnancy, labor and the puerperium; though we repeat that refined judgment and the most rigid team work is necessary on the part of the

physician, surgeon and obstetrician from start to finish. For my part I am certain that the judgment of the doctors is responsible for the good results in the cases here reported.

501 East Grace Street.

Proceedings of Societies, Etc.

AMERICAN PROCTOLOGIC SOCIETY.

Reported by COLLIER F. MARTIN, M. D., Philadelphia.

(Continued from page 360.)

Ano-Rectal Injuries.

By S. G. GANT, M. D., LL. D., New York, N. Y.

The author stated that while the rectum is protected by the buttocks, and bony structures, it is frequently injured by external trauma, expulsion of hardened feces, and foreign bodies, swallowed or introduced through the anus, such wounds being contused, lacerated, incised or perforated.

Laceration of one or all of the rectal coats results from careless examinations, introduction of imperfect syringe nozzles, bougies, proctoscopes, or other instruments.

Perforating wounds are caused by bullets, knife thrusts, and pointed objects that have been swallowed, or introduced into the rectum, except when due to specific ulcers or cancer.

Recently many pneumatic rectal ruptures, the result of compressed air introduced through the anus, in a spirit of fun, have been reported.

The injection of carbolic acid into hemorrhoids is responsible for extensive ano-rectal injuries.

Symptoms: The chief manifestations of superficial ano-rectal injuries are bleeding, sphincteralgia, frequent micturition, and painful defecation, symptoms that are exaggerated, when wounds are extensive.

Infected wounds are characterized by a chill, temperature, throbbing pain, swelling, and a thick yellow discharge.

In extensive injuries of the upper rectum, hemorrhage is profuse. There is shock, the patient collapses, and soon exhibits symptoms of peritonitis when the peritoneum is involved.

Diagnosis: The diagnosis of ano-rectal injuries is easy, when the nature of the accident has been learned, the degree of hemorrhage, bruising and swelling have been noted, and the buttocks, anus, and rectum have been inspected, and digitally and proctoscopically examined.

Treatment: Minor injuries take care of themselves, while extensive injuries may require simple or complicated treatment.

Incised wounds are sutured under aseptic conditions.

Contused, lacerated and pneumatic injuries are drained at one or more points, following irrigation and the removal of ragged edges and necrotic tissue. Subsequently, they are treated by drainage and topical applications, as fistula wounds.

Injuries of the bladder and urethra are immediately closed, when feasible, but if not, the bladder is drained, and the wounds here and in the rectum are permitted to heal by granulation.

Small recto-vesical rents are sutured, but where the rectum or sigmoid is extensively injured, the bowel is resected, or an artificial anus is established.

Recto-vaginal tears are repaired by suturing the vaginal before the rectal side of the wound is closed.

Spasmodic Stricture of the Rectum.

By LOUIS J. KROUSE, M. D., F. A. C. S., Cincinnati, O.

Dr. Krouse says that spasmodic stricture of the rectum was often called phantom stricture on account of its imaginary existence. He makes the statement that in the early part of the last century it was more frequently diagnosed than later on. At the present time, the opinion regarding the existence of such an affection is equally divided between those who are firm believers and those who doubt its existence.

After quoting the statements of various authors well versed in rectal pathology, he expresses his own opinion in its existence and reports several cases. He also makes the statement and agrees with a few writers who believe that spasmodic stricture is often the forerunner of the more serious disease of benign stricture of the rectum. He reports several cases.

He claims that spasmodic stricture is not a disease but only a symptom of some other disease located in the rectum or in an adjoining organ. His conclusions are:

First—It is not a common affection.

Second—It is easily detected on digital examination.

Third—It often terminates in an annular fibrous stricture.

Fourth—It involves the lower Houston valve.

Fifth—A rectal ulcer is the most important etiological factor.

Sixth—Curing the ulcer in its early stage lessens the chances of the development of an annular fibrous stricture.

Syphilis, regarded as much a contagious disease as other exanthemata, is characterized by its chronicity and virulency. The only exception to its point of inoculation being confined to tissues covered by squamous epithelium, is within the rectum.

Its frequency in the rectum and anus is not realized and, in consequence, is not recognized by the profession. Its relationship to fistula and stricture is emphasized, and the importance of tuberculosis in these two conditions minimized. The successful treatment of fistula is proverbial. The possibility of stricture, resulting from secondaries later in life, is suggested.

Tuberculosis Cutis Ani.

By D. C. MCKENNEY, M. D., F. A. C. S., Buffalo, N. Y.

An interesting case of tuberculosis of the anal skin is reported. From the clinical study of the case, Dr. McKenney infers that the infection started from the anal canal rather than in the skin around the anal orifice. An active respiratory infection, associated with aphonia, seems strong evidence that the infection was carried in the feces to the anus. Two photographs of the local condition were presented.

(To be continued.)

Editorial.

The Medical Society of Virginia

Held its forty-seventh annual meeting at the Monticello Hotel, Norfolk, October 24-27, 1916, with a registered attendance of 487 members and 53 ladies. The opening session on Tuesday night, attended by the public and profession, was called to order by Dr. R. L. Williams, Chairman of the Local Committee of Arrangements. After invocation by Rev. F. C. Steinmetz, Hon. W. R. Mayo, Mayor of Norfolk.

welcomed the visitors on behalf of the city, and Dr. R. L. Payne, Jr., on behalf of the local profession. Dr. John Staige Davis, of the University of Virginia, responding for the State Society, made a pleasant acknowledgment of the cordial greetings. Dr. Williams then introduced Dr. Jos. A. White, President of the Society, who assumed the gavel for the rest of the evening. Calling attention to the fact that his address was of interest chiefly to members, and that he would consequently deliver it at another session, he stated that the presentation of reports by officers and committees would likewise be deferred, and that a program of more interest to the general public would be presented. Following this announcement, Dr. J. J. Lloyd gave an illustrated lecture in which he told of work the State is doing for the cure of consumptives at Catawba. Dr. McGuire Newton's paper on Infantile Paralysis, being opportune, also proved of much interest to the large audience. The off-hand talks of Drs. Stuart McGuire and Robert C. Bryan, in which they gave some of their recent experiences along with descriptions of conditions as they saw them in war-stricken Europe—the former in England and the latter in France—held undivided attention, and though the hour was late when they finished, everyone would have been glad to have heard more.

The regular order of business obtained at the first morning session on Wednesday, during which period the papers of the Symposium on Nephritis were read and discussed. Beginning with the afternoon session the Society was divided into two sections—Medical and Surgical—each being presided over by a vice-president, and the reading of papers on the program was thus expedited sufficiently for every author to be heard. The plan was satisfactory in many respects, though it had the drawback that a number of papers were of interest to both physicians and surgeons who were thus compelled to miss something that was transpiring in another hall. Dr. L. B. Wilson, invited guest, of Rochester, Minn., addressed a conjoint meeting, taking for his subject "Cancer of the Thyroid." Another general session was held on Thursday afternoon to hear addresses by the President, Dr. White, and by Mr. G. V. Sheridan, Executive Secretary of the Ohio State Medical Society, as also to act

on the annual report of the Executive Council. This report recommended a number of changes in the Constitution and By-Laws, and it was decided, after a lengthy discussion, that these recommendations should be printed, sent to each member during the interim, and come up for action at the meeting one year hence.

A matter of vital importance to the Society—that of finances—received no recommendation, although the Treasurer's report, which was audited and found correct, showed that only \$300 had been paid on the 1915 Transactions, issued about three months before, with but \$145.38 on hand with which to pay a balance of about \$700, in addition to other constantly arising expenses. Surely this condition of affairs needs a remedy. With the enlarged membership now claimed, such deficit—gradually increasing during the past few years—indicates something radically wrong. In time gone by, the Treasurer usually had a healthy balance on hand when he made his annual report, after all expenses had been paid: for example: In 1900, \$1,342.30; 1905, \$1,450.11; 1907, \$1,299.68; 1910, \$1,219.91; 1911, \$519.82; 1912, \$169.24. In 1914, with only \$224.89 cash in bank, there was reported a balance due on 1913 Transactions of \$689.53—making a deficit of \$464.64; in 1915, there was \$126.40 with which to pay a balance due on 1914 Transactions of \$611.09—making a deficit of \$484.69. This year, 1916, the deficit was slightly over \$550. This general state of affairs has nothing to do with the efficiency of the State Society Treasurer—past or present.

The following officers and committees were elected for the ensuing year: For President, Dr. Geo. A. Stover, South Boston; Vice-Presidents, Drs. C. S. Webb, Bowling Green; A. L. Tynes, Staunton, and W. B. Barham, Newsoms; Secretary, Dr. Paulus A. Irving, Farmville; Treasurer, Dr. M. W. Peyser, Richmond; Judiciary Committee, Dr. C. R. Grandy, Chairman, and Drs. L. T. Royster, Joel Crawford, E. F. Reese, H. T. Marshall, A. G. Brown and Virginius Harrison; Membership Committee, Dr. W. D. Turner, Chairman, and Legislative Committee, Dr. A. L. Gray, Chairman,—both same as last year; Necrological Committee, Dr. Charles M. Edwards, Chairman (*vice* Dr. J. W. Ayler, deceased); new member Medical Examining Board of Virginia, Dr. H. A. Burke (*vice* Dr. O. C. Wright, deceased); Del-

legates to the American Medical Association continue as last year, with Dr. C. V. Carrington appointed as alternate for Dr. R. C. Bryan. Special committees were elected as follows: Committee on Conservation of Vision, Dr. C. M. Miller, Chairman, and Drs. H. S. Hedges and B. R. Kennon; Committee on the After-care of Infants with Infantile Paralysis, Dr. McGuire Newton, Chairman, and Drs. L. T. Royster, J. T. Graham, T. C. Firebaugh, and Hugh Trout. Dr. J. A. White, retiring President, was made an Honorary Member.

Dr. S. T. A. Kent, Ingram, was elected Councilor for the 5th district; Dr. J. R. Garrett, Roanoke, 6th district, succeeding Dr. R. C. Rhodes, resigned; Dr. Hunter McGuire, Winchester, 7th district; Dr. P. C. Riley, Markham, 8th district, and Drs. A. L. Gray, Richmond, and Frank H. Hancock, Norfolk, for the State-at-large. No nominations having been made for Councilor in the 9th district, the presiding officer of the State Society named Dr. Isaac Peirce, of Tazewell, as successor to Dr. R. H. Woolling, whose term expired by limitation. At a meeting of the newly-constituted council just prior to adjournment of the Society, Dr. W. F. Drewry, of Petersburg, was elected chairman, succeeding Dr. H. S. MacLean, whose term as a member had expired.

Roanoke was named as the next place of meeting. The subject selected for general discussion was "Diseases of the Bladder," subdivided as follows: "Etiology and Pathology." Dr. Thos. V. Williamson; "Medical Treatment." Dr. John Staige Davis; "Surgical Treatment." Dr. R. C. Bryan.

During the stay of the Society in Norfolk, members and ladies accompanying them were handsomely entertained at a reception at the Country Club, by automobile rides, a trip around the harbor in the private yacht of Dr. R. L. Williams, Chairman of the Local Committee of Arrangements, and last but not least, a most enjoyable oyster roast at Cape Henry. Everyone liked the hospitality of Norfolk.

In this issue we publish the address of the President as well as the "Symposium on Nephritis," and we may add that the majority of other papers read at this meeting will appear in succeeding issues of the *Semi-Monthly*.

The Clinical Congress of Surgeons of North America,

At its seventh annual meeting in Philadel-

phia, late in October, elected Dr. John G. Clark, of that city, president. New York was chosen for the next place of meeting. A number of most interesting operations were performed in various hospitals. The Congress passed a resolution forbidding their members to engage in the practice of fee-splitting in any guise whatsoever.

The American College of Surgeons,

Which met in Philadelphia, the latter part of October in connection with the Clinical Congress, admitted 228 surgeons as members. Dr. George W. Crile, of Cleveland, O., was elected president, and Chicago was chosen as the permanent home of the organization.

Dr. and Mrs. M. D. Hoge, Jr.,

Of this city, left the latter part of October for a two weeks' visit in the North. While away, they will visit their daughter, who is a student at Vassar College.

Dr. Lockburn B. Scott,

Recently of Waskada, Manitoba, has opened a Hydropathic, Electro-therapeutic, and Massotherapeutic Institute, in the Merrimac Building, 338 Boush Street, Norfolk, Virginia.

Dr. F. C. McDowell,

Zebulon, N. C., was a recent visitor in Richmond, having brought a patient to a local hospital.

Drug Habit Holds Many.

A Federal revenue official, in an address before the American Medical Editors' Association recently, stated that more than a million persons in the United States are known drug users and as many more use drugs in secret.

Married—

Dr. Antonio A. Burke, of Norfolk, Va., and Miss Elizabeth Taylor, formerly of Suffolk, Va., October 21.

Dr. William Shirey Keister, of the State Board of Health, and Miss Sarah Elizabeth Spriggle, of Penns Station, Pa., November 2.

Dr. George Holman Bernard, recently of Kimball, W. Va., and Miss Bessie Josephine Humphreys, of this city, November 2. They will make their home in Pinnacle, N. C.

Cholera Epidemic in Japan.

Though papers are not allowed to publish

figures, it is estimated that there have been several thousand cases of cholera during the epidemic now in Japan. American physicians and missionaries in Korea are co-operating with Japanese authorities in stamping out the disease and their aid is thankfully accepted by the people.

Dr. B. M. Rosebro,

Of this city, went to Baltimore, the latter part of October, to make a special study of infantile paralysis.

Dr. Joseph Bear

Has returned to his home in this city, after a motor trip with friends to New York.

Dr. J. E. Warinner,

A prominent physician of Henrico County, Va., near this city, was hurt about the muscles of the back when his car was struck by another automobile recently. He was able, however, to continue with his professional duties the next day.

Board of Pharmacy of Virginia.

At the examination held in this city, October 17-18, for registered pharmacist, there were 33 applicants, three of whom were absent and the following 12 were successful and given the registered pharmacist certificate: J. B. Holland, Richmond; G. E. Baker, Richmond; T. L. Zirkle, Scottsville; L. F. Hoover, Baltimore, Md.; C. B. Harloe, Richmond; W. E. Manlove, Norfolk; E. S. Haney, Jr., Richmond; A. T. Organ, Chester; G. H. Hinton, Cumberland, Md.; W. I. Beamer, Roanoke; R. N. Moir, Roanoke, and D. W. Mullen, Norfolk.

The following of those applying for registered pharmacist were given the registered assistant certificate: J. T. Kardas, Baltimore, Md.; B. Y. Fretwell, Jr., Staunton; E. F. Holton, Danville; T. H. Garnett, Washington, D. C., and R. L. Jernigan, Washington, D. C.

There were four applicants for the examination as registered assistant pharmacist and of this number the following two were successful: J. O. Grymes, Orange, and J. M. Gaines, Alexandria.

The following applicants for registration by reciprocity were issued certificates as registered pharmacists: O. P. Winstead, Petersburg, Va., from Maryland; R. M. Jetton, Comer,

Ga., from Georgia; S. E. Anderson, Danville, Va., from Georgia; W. H. Bradfield, Remington Va., from District of Columbia.

The next examinations will be held by the Board in this city on the third Tuesday and Wednesday in January, 1917. Information about same may be obtained of the Secretary, Mr. E. L. Brandis, of this city.

Doctors Among Officers of Norfolk University of Virginia Alumni.

Dr. Burnley Lankford has been chosen president and Drs. Thomas V. Williamson and D. Lee Hirschler members of the executive committee of the Norfolk, Va., Alumni of the University of Virginia.

Dr. Norman Johnson,

Of Durham, N. C., has gone to Florida for a visit of some length.

Dr. and Mrs. R. P. Bell,

Of Staunton, Va., have been recent visitors in Charlottesville, Va.

Dr. and Mrs. T. N. Broaddus,

Of this city, were recent visitors at West Point, Va.

The Southern Sociological Congress

Had a two weeks' exhibit in Richmond in October, illustrating the combined efforts of fifty-three social service, child welfare, race betterment and health conservation organizations in this country. This exhibit, which was most interesting, was viewed by about 10,000 persons, while a large number received the message from this public welfare organization through lectures of staff members, which were given in many local schools, churches and shops. Among the local physicians assisting the officers in charge were Drs. H. Cowles Rucker, N. Thomas Ennett, Carrington Williams, Bronson E. Summers, Marshall L. Boyle Jr., and Philip D. Lipscomb. The exhibit was taken to Charlotte, N. C., upon the completion of its stay here.

Appointments at University of Virginia.

At the October meeting of the board of visitors of the University of Virginia, President Alderman announced among others, the appointment of Dr. M. R. Pratt as superintendent of the University Hospital and Dr. Wilmer Baker as instructor in anatomy.

P. A. Surgeon L. M. Schmidt,

U. S. Navy, has been detached from the Louisiana and sent to the Norfolk Hospital.

Dr. John L. Kable,

Of Staunton, Va., was a visitor in Richmond, the latter part of October.

Dr. and Mrs. S. E. Weymouth,

Of Callao, Va., recently returned from a visit to Baltimore, Md.

Dr. Virgil Jackson,

Of Washington, D. C., has returned home after a short stay in Front Royal, Va.

Dr. and Mrs. Elliott DeJarnette

Have returned to their home in Ashland, Va., after a visit to Roanoke, Va.

Federal Leprosarium Again Urged.

Dr. Frederick L. Hoffman, statistician of the Prudential Life Insurance Company, presented statistics as to the frequency of leprosy, in a talk before the American Public Health Association and suggested the establishment of a Federal leprosarium. He stated that a conservative estimate of the number of cases in this country would be 300 and, including insular possessions, the number subject to American control would not fall far short of 5,000. Indications are that the disease is on the increase and adequate provision for the care of lepers is made in only three or four states.

P. A. Surgeon T. W. Reed,

U. S. Navy, has been detached from the Norfolk Hospital and ordered to Asiatic Station *via* November transport.

Dr. George S. Barbee,

Zebulon, N. C., brought a patient to a hospital in this city, recently.

Dr. and Mrs. R. D. Glasser,

Of Norfolk, Va., were recent visitors in New York.

Dr. Frank Upshur,

Of this city, who, with a party of friends spent some time motoring in the New England states, returned home the latter part of October.

Medical Examiners N. C. Naval Militia.

Dr. R. Duval Jones, Newbern, has been com-

missioned Lieutenant-Commander, and Drs. Claude B. Williams, Elizabeth City, and Raymond Pollock, Newbern, Lieutenants, junior grade, of the Medical Examiners of the North Carolina Naval Militia.

P. A. Surgeon and Mrs. Micajah Boland,

Of Ginter Park, this city, have returned to their home after a motor trip to Washington, D. C.

Hospital for Tuberculous Soldiers.

We note from the *A. M. A. Journal* that a \$50,000 hospital for soldiers invalided home with tuberculosis is to be built by the London, Ont., Health Association. It is expected that the Dominion and provincial governments will each bear part of the cost.

Dr. Robert J. Wilkinson,

Of the C. & O. Hospital, Huntington, W. Va., was a recent visitor in this city.

Dr. M. Pierce Rucker

Has opened an office at 2020 Monument avenue, for the practice of obstetrics exclusively.

Dr. T. B. Leonard

Has returned to his home in this city after a visit to Chicago.

Australia Progressive.

As one evidence of progressiveness in Australia, may be cited the recent enactment of a most drastic law dealing with the control of venereal diseases, and penalty is exacted of patient or physician not conforming with same. As an aid toward educating the people, the government has also issued a pamphlet which tells among other things of how these diseases may be contracted and passed on to others and urges the importance of skilled treatment.

Dr. and Mrs. E. M. Magruder,

Charlottesville, Va., were in Richmond this week to attend the marriage of their brother.

Dr. and Mrs. Richard Gundry,

Of Catonsville, Md., took a motor trip through the Valley of Virginia in October.

Dr. Linwood H. Justis,

Who is connected with the Sheltering Arms Hospital, at Hansford, W. Va., was the recent guest of his brother in this city.

Virginia-Carolina Sanatorium.

Drs. J. A. Strickland, Zebulon, N. C., and C. E. Flowers, Columbia, N. C., expect to shortly open in Norfolk, Va., a sanatorium by the above name for the treatment of nervous and mental diseases.

The American Association for the Study and Prevention of Infant Mortality,

At its annual meeting in Milwaukee, in October, elected Dr. William C. Woodward, Washington, D. C., president, and Dr. Philip Van Ingen, New York City, president-elect.

Dr. and Mrs. Delmar F. Weaver,

Of Liberty Mills, Va., were visitors in Gordonsville, Va., late in October.

Dr. and Mrs. W. A. Newman

Have returned to their home in Manassas, Va., after a stay of several months in Texas.

Dr. Robert Wilson Selby,

Who has been in Ann Arbor, Mich., for several years, has been on an extended visit to his parents at their home in Northumberland County, Virginia.

Col. Jefferson R. Kean, M. C.,

Of the U. S. Army, a native of Lynchburg, Va., delivered a most interesting address on the subject of the Red Cross work at the Woman's Club of Richmond, early this month.

Combating Insects Affecting the Health of Man.

Continued advances in the work of combating the activities of insects affecting the health of man are reported by the Chief of the Bureau of Entomology of the U. S. Department of Agriculture in his annual report recently issued. In mosquito investigations in Louisiana a species of mosquito hitherto considered a non-carrier of malarial infection was proved to be a carrier. Studies have been made of malaria and measures are being evolved to meet plantation conditions.

The report directs attention to the demonstrations of the Bureau specialists that the breeding of flies in manure can be prevented by treating the substance with calcium cyanamid and acid phosphate, which at the same

time increases the fertilizing value of the manure.

Dr. Wm. Walter Hargrave,

An assistant surgeon in the U. S. Navy, stationed at Portsmouth, N. H., is on a visit to his father in West Point, Va.

Quarantine Raised.

Owing to the disappearance of infantile paralysis from cities and states where it was epidemic and a steady decrease in the number of scattered cases after the onset of cool weather, the State Board of Health of Virginia on November 1, lifted the quarantine against children under 12 years of age from New York, New Jersey and Pennsylvania. The total number of cases of infantile paralysis in this state from the beginning of the year to the last week in October was 218, of which several were of doubtful diagnosis.

The Southern Medical Association.

To meet in Atlanta, Ga., November 13-16, gives promise of being the largest medical meeting ever held in the South. The list of papers appear to cover practically every branch of medicine and surgery, so that, with the elaborate social program planned, there should be much of pleasure and interest for all who attend.

Wanted—Internes for the Norfolk Protestant Hospital for a service of one year to begin immediately: hospital offers detailed teaching rounds and teaching clinic, together with operating work during senior service: no salary is offered: only well-trained men from good schools are acceptable. Mail applications to Superintendent, Norfolk Protestant Hospital, Norfolk, Va.—(Adv.)

Physician Wanted—A good country field for an up-to-date physician. For particulars, apply to Dr. J. E. Rudasill, Marshall, Va.—(Adv.)

For Sale—A portable X-ray machine in good condition. Address all communications to Dr. R., care *Virginia Medical Semi-Monthly*—(Adv.)

For Rent or Sale—Prominent physician's office and residence, in prosperous town, where an able physician is needed. References. Answer Box 462, Covington, Va.—(Adv.)

Obituary Record.

Dr. Louis E. Gott,

Of Falls Church, Va., died October 29, 1916, at Georgetown University Hospital. Dr. Gott was born in the city of Washington in 1838, August 29, and was educated in the schools in Virginia and in Maryland, graduating in medicine from the University of Maryland about 1860. His father, Richard Gott, was a native of Maryland and for a while was a cadet at West Point and resigned because he thought military life would be distasteful, but in later life served as a captain in the subsistence department of the Confederate Army.

Soon after graduation, the Great War having broken out, Dr. Gott entered the Confederate Army as assistant surgeon under Gen. John B. Magruder and was on duty with the batteries in front of Yorktown. From this duty he was relieved by Dr. Todd, brother-in-law of President Lincoln, who was a Southern man and held true to his section. After various experiences Dr. Gott was assigned to duty with the Forty-ninth Virginia Regiment, then under the command of Col. "Extra Billy" Smith and forming a part of Gen. Mahone's brigade. With his regiment he was soon transferred to Early's Brigade and took part in the battles of Slaughter Mountain, Second Manassas, Antietam, Fredericksburg, Winchester and Gettysburg. After Gettysburg he was captured while attending the wounded of Early's division near that fatal field and was confined for six weeks as a prisoner of war in Fort Henry. After his release by exchange he was assigned as surgeon of the Twenty-first Georgia Regiment with which he remained to the end of the war, seeing service in numerous battles and engagements under Generals Pickett, Doles, Hoke, Rhodes and Early.

After the war Dr. Gott devoted his time to private practice as a country doctor in Virginia, near the city of Washington, and the value of his work, its hardships and self-sacrificing nature could be fittingly described only by a second "Ian Maclaren."

He was a member of the Fairfax County Medical Society, of the Medical Society of Northern Virginia and of the District of Co-

lumbia, and honorary member of the Medical Society of Virginia. He was a man of courage but of great modesty, of strong convictions but charitable and an unchanging friend.

"Perhaps it still is better that his busy life is done; He has seen old views and patients, disappearing one by one; He has seen that death is master, both of science and of art And the brave old country doctor and the dear old country doctor Is entitled to a furlough for his brain and for his heart."

GEORGE TULLY VAUGHAN, M. D.

Dr. Hugh R. Green,

A well known physician of Fauquier County, Virginia, died at his home at Delaplane, the latter part of October. He was about seventy-five years of age and a graduate from the University of Maryland Medical School in 1867. His wife and several children survive him.

Dr. Rufus M. Lemon,

Of Callaway, Va., a prominent physician in that section, died the latter part of October, aged sixty years. He received his medical diploma from the Kentucky School of Medicine in 1877. The burial was in Botetourt County, Virginia.

Dr. Louis McLane Tiffany,

Of Baltimore, Md., died of heart trouble, at his country home in Accomac County, Virginia, October 23, aged 72 years. He graduated from the University of Maryland in 1868 and also studied at Cambridge, England. He was emeritus professor of medicine at the University of Maryland, and was for fifteen years surgeon-in-chief of the Baltimore and Ohio railroad. He was also for some years consulting surgeon at Johns Hopkins.

Harry Bodow.

Friends of Dr. J. C. Bodow, of Hopewell, Va., will regret to learn of the death of his young brother, Harry, on September 4. Mr. Bodow, who had served in the English Army from the beginning of the war, was killed in action. He was twenty-three years old on the 11th day of last July, and, by singular coincidence, was wounded on that day.

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PLASTIC SURGERY OF THE FACE.*

By J. SHELTON HORSLEY, M. D., F. A. C. S.,
Richmond, Va.

Plastic surgery of the face may be divided into operations for congenital deformities, and operations for acquired deformities. The most common congenital deformity is hare-lip, while burns furnish a large proportion of the acquired

easy to repair, and is not included in this group. There are, however, three types of deformities in which hare-lip and complete cleft of the palate exist. In the first type the defect is a narrow cleft, without any protrusion. The cleft in the palate in the case here shown was repaired, and the lip was operated upon at another time. (Figure 1.) The cleft united nicely, but the lip did not heal satisfactorily



Fig. 1—Photograph of a baby six weeks old with a narrow hare-lip, and complete cleft of the palate. Photograph taken just before operation.



Fig. 2—Same baby as shown in Fig. 1, about 1 year and 8 months after operation.

deformities. The general principles of plastic operations apply to both of these groups, but the reconstruction after burns may be followed by contraction which does not have to be dealt with in congenital deformities.

Let me first show a few cases illustrating the common type of congenital deformity. Simple hare-lip without bony defect is ordinarily

at first. The child was in bad general condition, and most of the stitches broke down. The baby was then sent to the mountains where he lived, and a few months later, when he was in good condition, the operation for repair of the lip was entirely successful. (Figure 2.) It is just as important to have a baby in good physical condition as it is to do the operation properly. If he is not in good condition, the most careful operation will often fail.

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

The third illustration (figures 3 and 4) shows the worst type of single hare-lip, with a wide cleft in the palate, and a marked protrusion of that portion of the alveolar process which constitutes the premaxillary bone. It is always important to correct the bony defect before attempting to operate upon the lip, for the bony defect is really the foundation upon which the reconstructed lip must rest.

The next case represents a type of double

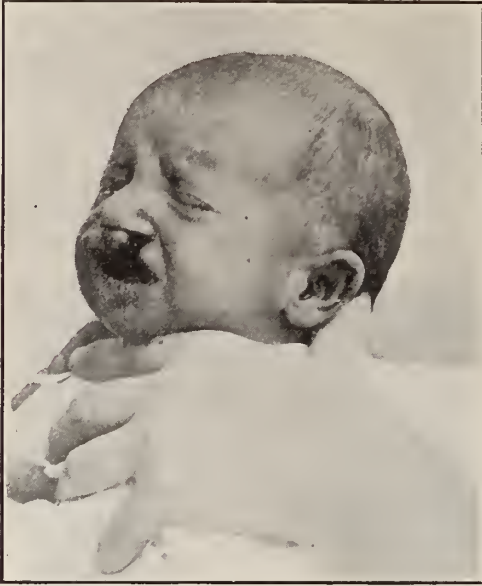


Fig. 3—Photograph of baby three weeks old, taken just before operation. There is a wide hare-lip with protrusion of the bone, and a complete cleft of the palate.

hare-lip with protruding premaxillary bone. In such instances it is usually necessary to take out a V-shaped section from the septum of the nose, and thoroughly mobilize the premaxillary bone, without destroying its nutrition. The bone is fitted into the defect of the alveolar border as a keystone in an arch. It is a great mistake to cut away any tissue unneces-

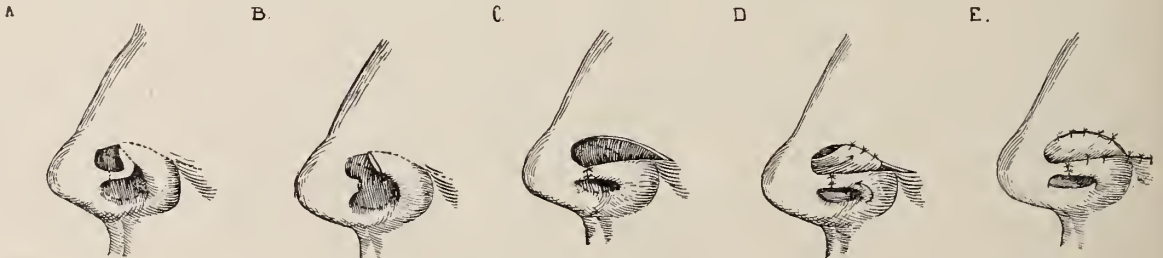


Fig. 6—These drawings show the technic of the operation in this case. The remaining portion of the ala was mobilized by an incision and brought down, and the gap left by the mobilizing incision was filled by a flap of mucosa taken from the septum, with its base toward the tip of the nose.

sarily, and if the premaxillary bone is excised, the deformity can never be satisfactorily corrected. The cleft palate may be repaired in such a manner as to fill the indications.



Fig. 4—Photograph of baby shown in Fig. 3, taken 2 years and 7 months after operation.

A baby with hare-lip and cleft palate should be operated upon within a few weeks after birth, and before dentition begins. The Lane



Fig. 5—Photograph of patient who had cancer of the nose for which paste was applied by some advertising cure. The left ala of the nose had been largely eaten away, a narrow strip of skin being left.

type of operation is usually satisfactory, though in some instances in clefts of the soft palate, the operation of Eastman is probably better. If the baby is well nourished, and the

operation is properly done, most, if not all, of the defect in the palate can be repaired at one operation. Sometimes, however, in spite of every care a white secretion begins to form around the stitches and along the margin of the wound, and then the work breaks down. I believe, however, with the newer methods, infection should be much less common.

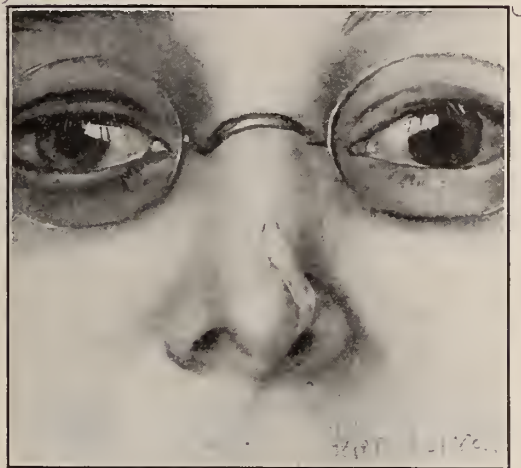
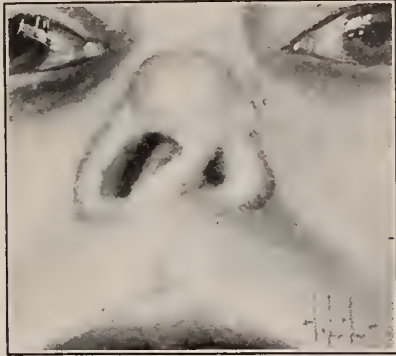


Fig. 7—Drawing showing condition of patient shown in Fig. 5 after operation. There is still a small hole which in the drawing is covered with adhesive, and which could be easily closed, but the patient objects to having anything done at present.

In repairing hare-lip, the most important feature is thoroughly to mobilize the lip by dissecting it free from its bony attachments. A reconstructed hare-lip which depends upon too great tension on the sutures in order to produce a proper appearance, will be drawn and deformed after union has taken place, even if the tension on the stitches does not cause breaking down.

Plastic operations for deformities of the face practically always communicate with some of the cavities of the face and, in a bac-

teriological sense, it is impossible to keep the wound sterile. Good healing, however, can be usually attained by ordinary surgical cleanliness, by careful toilet of the mouth, teeth, and nose, and, possibly, by the administration of large doses of hexamethylenamin every four hours for two or three days consecutively. It has been claimed that the formaldehyd prod-



Fig. 8—Photograph of a young girl, showing sunken nose resulting from a trauma.

ucts from hexamethylenamin are found in the secretions from the glands that supply the mouth, nose, and digestive apparatus, but this has not been fully substantiated. If no kidney lesion exists, there can be no objection to administering hexamethylenamin, though it should be given in large doses and over a short period of time as in this way it is less irritating to the kidneys than in small doses for a longer time.

Aside from ordinary surgical cleanliness, the



Fig. 9—Photograph of the patient shown in Fig. 8, three weeks after operation. A piece of cartilage was removed from the rib, whittled to the approximate shape of the defect, and inserted through a short transverse incision on a level with the inner canthus of the eye. The tissues over the defect were first loosened by a blunt dissection, and lifted up with a narrow elevator after the method of Beckman, of the Mayo Clinic. The incision was closed with sub-cuticular stitches of catgut, and left a scarcely perceptible scar. The incision is in the line ordinarily covered by the bridge of glasses.

most important principle in plastic operations on the face is to preserve the nutrition of the tissues that are to be approximated. This depends upon such shaping of the flaps as will contain the nutrient blood-vessels wherever possible, upon gentle handling and clean, sharp dissection. The importance of not tying sutures too tightly has been properly emphasized

so often by Ochsner as to become a principle of surgery—a principle which is exceedingly important in plastic work, but which, unfor-



Fig. 10—Photograph of a little girl, showing deformity resulting from a burn.

tunately, is not always followed. Sometimes it is impossible not to have some tension. When this is the case, it is much better to unite the edges of the wound carefully and put in one or



Fig. 11—Outline of the section to be removed and of flap from cheek to be used to cover defect in Fig. 10.

two sutures of stouter material to take up the tension. By the time they cut loose, the edges of the wound may be healed sufficiently to enable it to stand the tension.

Often failure in otherwise properly performed operations results from venous congestion. To have well nourished flaps, it is almost as important to drain away venous blood as it is to have an access of arterial blood.

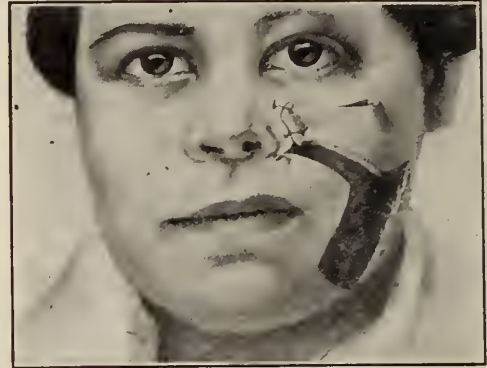


Fig. 12—Flap drawn up to cover defect.

When a flap has been cut, the nutrition of which is not entirely satisfactory, the arterial blood comes necessarily in a feeble current and under low pressure. If the tension on this flap compresses the veins too much, there will not be enough force in the arterial current to open the veins, and so failure or gangrene may result. It is important, then, in placing large flaps, especially if under tension, to provide against this contingency by a few short incisions in the flap which serve not only to drain away venous blood, but also to relieve strain on the sutures. The vessels run in subcuticular



Fig. 13—Operation completed.

tissue and as much of this tissue as possible should be included with a flap.

In the matter of dressings, it is best on all face cases to put on no dressing except a dusting powder. The secretions from the mouth,

nose, or eyes, will often keep such a dressing wet and make of it practically a septic poultice. If there is much oozing, a compress can be used for a few hours, but should then be removed. The wound is dusted with powdered boric acid and the dusting should be repeated every hour or two for the first day until a scab is formed which, with the boric acid powder incorporated, makes strong antiseptic sealing.

If there is a tendency to contraction, the whole skin should be used. The tendency to contraction after burns is well known. While such a wound can be healed by Thiersch grafts, a Thiersch graft does not prevent the contrac-



Fig. 14—Photograph of contraction at one portion of the lip, following burn.

tion which is often the chief cause of deformity. This is due to the fact that scar tissue takes the place of the true corium when only the epidermis is replaced, but when the whole skin is used as a flap the normal corium is provided with the graft.

While these general principles underlie all plastic operations for acquired deformities of the face and hands, each case is really a law unto itself and the results will depend not only upon following these principles, but also upon the ability and ingenuity of the operator in fitting things together and in devising ways and means to meet problems as they arise during the course of the operation. Operations upon the forehead and nose often require the filling in of a sunken space or cavity. In the

case of an opening into the frontal sinus this can be done by turning in a flap from the neighborhood of the defect after first opening the infundibulum, or communication between the frontal sinus and the nose, in order to be certain that the discharge can be carried off in this way. This is best done by running a probe through the frontal sinus into the nose, tying a string to the end of the probe, and pulling a strip of gauze through on the string. The gauze is sawed back and forth until the fragile bones are broken down and the opening is sufficiently large. This is safer and bet-



Fig. 15—Photograph of patient shown in Fig. 14, after operation. A "V"-shaped section of the lip was removed.

ter than using a metal instrument. When the bridge of the nose is sunken, cartilage can be transplanted as shown in figures 8 and 9.

Defects about the mouth, particularly contraction from burns, often present difficult problems. If the contraction is marked, skin flaps should be transferred, preferably from the neck, as the texture of the skin of the neck resembles that of the face. If this is impossible, a flap may be taken from the arm. Sometimes, if the deformity is limited to a small section of the lip, a V-shaped excision produces satisfactory results, as the lip is often redundant from being pulled down by the contraction of the scar. The result of this type is shown in the illustrations.

Burns about the lower part of the face which

fasten the chin to the chest, are not infrequently found in children. Their early correction is not only essential to the health of the

the discomfort and pain of the patient, but have a far-reaching effect upon the community. If those artistically inclined are distressed and



Fig. 16—Photograph of little girl, showing marked deformity after burn. The chin is fixed to the chest.



Fig. 17—Photograph of patient shown in Fig. 16, seven weeks after the last operation. A series of operations were done in this case, and flaps were "waltzed" around from the neck and shoulder.

patient, but also necessary in order that proper development of the rapidly growing bone and tissue may proceed along normal lines. (Figures 16 and 17.)

In conclusion, it may be said that successful plastic operations on the face not only relieve

grieved by a landscape that is marred with bare dirt, factories, and advertisements, what would be the relief of such individuals who daily had to gaze upon a contraction of a face from a burn or a double hare-lip, when these defects have been repaired!

INFANTILE PARALYSIS.*

By McGUIRE NEWTON, M. D., Richmond, Va.

The first description of infantile paralysis was published in 1774, but there was little mention of it until 1841, when an epidemic of eleven cases was reported in Louisiana.

Until 1861 no other epidemic was reported, but since then they have become more frequent and more extensive.

The first great epidemic occurred in Norway and Sweden in 1905, when there were 2,000 cases. Following this, and in all probability one of its results, was the New York epidemic

of 1907, when there were 2,500 cases. Since then it has been epidemic in some part of the United States almost every year. With the various descriptions of the disease, numerous theories as to its cause were advanced, conspicuous among which were heredity, teething, injury, exposure to cold, fright and all of the infectious diseases common to early life, such as diphtheria, scarlet fever, measles, whooping cough, etc.

In Osler's "Modern Medicine," published in 1910, we find the statement that "the accumulated work of the last half century has produced the opinion that an infective agent is responsible" for infantile paralysis.

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

Almost coincident with this was the announcement that Flexner, of the Rockefeller Institute for Medical Research, had succeeded in producing the disease in monkeys, and had transmitted it from one monkey to others, thus proving it to be infectious.

The first of these cases was produced by the use of an emulsion made from the spinal cord of an infant dying from infantile paralysis. This was injected into the cranial cavity of a monkey. After its death an emulsion was made from its spinal cord, and with this the disease was produced in others.

At that time efforts to recognize the agent in the emulsion that caused the disease were unsuccessful, and as it was so small as to pass through a close stone filter, inasmuch as the disease would follow inoculation with the filtered emulsion, it was classed as a filterable virus and as such it is known.

In 1913, Flexner reported that he had isolated the micro-organism, which he had secured in artificial culture, and that it is distinctly visible under the higher powers of the microscope, but owing to the difficulties attending its cultivation and identification, he made no effort to classify it definitely, and was content to have it known as a filterable virus.

In a recent issue of the *Journal of American Medical Association*, we have a preliminary note from Rosenow, of Rochester, Minn.; Towne, of Boston, and Wheeler, of New York, jointly, from which we learn that they "Have isolated a peculiar streptococcus from throats, tonsils, abscesses in tonsils and from the central nervous tissues in cases of polio-myelitis. Paralysis has been produced in animals of various species by intravenous and intracerebral injection of this organism. It is remarkably polymorphous and appears to grow large or small according to the medium in which it is grown, even after passage through a Berkefeld filter."

They state further that "It appears to us that the small filterable virus which has been generally accepted as the cause of poliomyelitis may be the form which this streptococcus tends to take under anaerobic conditions in the central nervous system, and in suitable culture mediums, while the larger and more typical streptococcal forms may be the identical organism grown larger under suitable conditions."

After establishing the fact that the disease

could be produced experimentally, efforts were made to determine if it would follow the entrance of the virus into the system by routes other than the intra-cranial inoculation, and it was found that it followed application of the virus to the mucous membrane of the nose and throat almost as readily, and that it could be produced by injection of the virus into any organ or tissue of the body, though less frequently.

Attention was now directed to the manner in which the virus leaves the body, and it was learned that the secretions of the nose and throat were capable of producing the disease in the same way as the emulsion of the spinal cord, thus very clearly proving that the virus both enters and leaves the body by means of the mucous membrane lining the nose and throat.

The virus was also found to exist in the dejecta from the intestinal tract,—the presumption being that its occurrence here was due to swallowing the secretions from the nose and throat.

Since then the disease has been the subject of earnest study, and while we are yet uncertain as to just how it is conveyed, and have not a specific treatment, a great deal has been learned, and it is my purpose to briefly review this knowledge.

Regarding the virus, we know that it occurs in the secretions of the nose and throat, and in the intestinal discharges of patients affected with the disease throughout the acute stage, and into convalescence, and that it has been found to exist on the mucous membrane of the nose and throat of otherwise healthy persons who have been in close association with the patients.

Consequently, we regard the patient as the principal source of contagion, and consider isolation as essential to the prevention of the spread of the disease.

As the virus is readily destroyed by weak solutions of antiseptics, the precautions usually taken in caring for infectious diseases should be sufficient to overcome the contagion due to direct contact, and the use of non-irritating antiseptic solutions for cleansing the nose and throat by means of a spray on the part of those in attendance on the patient and others accidentally exposed to the contagion should protect them from the development of

the disease, and at the same time minimize the danger from the healthy carrier.

It is conceded that in addition to contact with patient or healthy carrier, there is some other means by which this contagion is spread, and many confidently believe that the fact that it is borne by an insect will be demonstrated in the very near future.

As the virus has not been found in the blood of patients suffering with this disease, it would seem that it is not carried by a biting insect, as the mosquito carries malaria or yellow fever, and that if an insect is responsible, it must act as a mechanical carrier as the fly in carrying typhoid from the secretions of a patient to the food and drink of the victim.

While we are groping around in our efforts to definitely determine the means by which this contagion is conveyed, we should not lose sight of the fact that it is less contagious than any of the so-called contagious diseases. In support of this, we have the report of a recent epidemic from which we learn that, of persons known to have been exposed to scarlet fever, diphtheria and infantile paralysis, the percentage contracting the disease was: Scarlet fever, 22 per cent., diphtheria 17 per cent., and infantile paralysis 6 per cent.; and where one case existed in a family the number of other cases occurring in the same family was: Scarlet fever 40 per cent., typhoid fever 30 per cent., diphtheria 29 per cent., and infantile paralysis 17 per cent.

This justifies Flexner in the statement that "The degree of susceptibility of children and other members of the community to infantile paralysis is relatively small and is definitely lower than to such communicable diseases as measles, scarlet fever and diphtheria. While this fact does not justify the abatement of any practicable means which may be employed to limit and suppress the epidemic, it should tend to prevent a state of over-anxiety and panic from taking hold of the community."

In studying epidemics of infantile paralysis, we are impressed by certain peculiarities or characteristics. For instance, while the disease occurs in all parts of the world, the epidemics have been of greatest frequency and severity in the northern parts of Europe and of the United States than elsewhere.

Excepting an epidemic that occurred in Sweden during the winter, they have been con-

finied to the summer and early fall, thus differing from other diseases that are supposed to be conveyed by contact and entering the body through the respiratory system, and resembling those that are insect-borne owing to the greater prevalence of insects at this season, or those which gain access to the body through the digestive tract.

While they spread rapidly over large areas their distribution has been irregular, inasmuch as they have not followed the usual routes of travel. For instance, from the New York epidemic of 1907 there were numerous outbreaks in New England, but none in Philadelphia and Pennsylvania, and while this epidemic was thought to be responsible for those occurring from 1908 to 1910 in Minnesota, Nebraska, Iowa and Kansas, Chicago and its vicinity escaped, notwithstanding the fact that this city is the distributing point for travel between New York and these Western states.

The number of cases occurring during epidemics is much smaller than usual in epidemics of other contagious diseases. For instance, during the recent epidemic in New York, there were less than 10,000 cases, while during the last epidemic of measles in that city there were 200,000 cases, and in that city there are 18,000 cases of scarlet fever and 14,000 cases of diphtheria annually. Unlike other contagious diseases, the proportion of cases in an epidemic to the population is greater in the small towns and country districts than in the larger cities with all of the evils of over-crowding.

Children under five years represent about 80 per cent. of the victims and these come from all stations of life, without regard to whether they were previously robust or of feeble resistance.

The epidemics have apparently been self-limited, continuing for a period of a few months during which all of those susceptible are affected, and then, owing to lack of material, subside. Fortunately, the number of those susceptible to it is small.

Each of these peculiarities suggests its question, to which we have been led to hope for an early answer.

In studying the disease itself we find that, after gaining access to the body, the virus is carried to the tissues of the central nervous system, where it produces changes that ultimately result in degeneration of ganglion cells.

The extent of the permanent paralysis will depend on the number and location of the cells that are destroyed.

At first the changes are most marked about the blood vessels,—their walls being infiltrated with consequent narrowing of their lumen, resulting in anemia and edema and sometimes hemorrhagic condition of the surrounding structures, and in the tendency on the part of this infiltration to subside we have the explanation of the spontaneous improvement in the paralysis that occurs early in the disease.

While the gray matter in the anterior horns of the spinal cord is the most frequent site of the changes, they may occur in any of the structures of the nervous system.

Dependent on the location of these changes, several distinct types of the disease are recognized. The more important of them are:

- 1—The abortive.—a type in which actual paralysis does not occur.
- 2—The ordinary spinal,—the type in which we have the familiar flaccid paralysis in one or more extremities.
- 3—The progressive type, in which there is a tendency on the part of the paralysis to extend, this frequently resulting in death after several days owing to the involvement of the muscles of respiration.
- 4—The bulbar type, in which there is involvement of one or more of the *nuclei* of the cranial nerves. To this type the early fatalities belong.

The onset of the disease is sudden and is usually accompanied by symptoms that are referred to the digestive tract, such as persistent vomiting; occasionally there is a convulsion and rarely a chill. Immediately the temperature is elevated,—it may not be higher than 100 degrees, or it may go above 103 degrees, depending on the severity of the attack. Soon there develops irritability with hyper-sensitiveness, and the patient complains of pain in the neck, shooting pains through the body and limbs, and pain on motion. On examination it will be found that the patient perspires freely, that there is considerable reddening and congestion of the tonsils and back of the throat, that the neck is stiff, and that efforts to bend the body forward will produce pain as will *attempts* to elicit Kernig's sign.

Examination of the blood shows nothing,

but the fluid taken from the spinal canal shows characteristic changes in that it is under increased pressure, it reduces Fehling's solution, the number of cells are increased; at first nearly all of these are polynuclears, but soon the lymphocytes predominate, and there is an increase in globulin.

The duration of these symptoms varies from a few hours to three days when the paralysis occurs. This may come on quickly, but more often it develops gradually, two or three days elapsing before it reaches its height. The knee jerks are soon lost on the affected side. The pain, hyper-sensitiveness and temperature continue for several days to gradually subside. The mind is clear. The bowels are constipated and retention of urine often necessitates the use of a catheter, though in most instances the child is able to void, but with more or less difficulty. The paralysis remains stationary for from two to four weeks, when it begins to improve spontaneously. At first the improvement is rapid and then it becomes more gradual, and continues for months and in some cases for years. Such is the course in the great majority of cases. There are many variations in the different types of the disease, but time does not permit of mentioning them.

In those cases in which the paralysis has developed, the diagnosis is plain, but before there is any loss of power, it is difficult, though it can be made and the patient given the benefit of early treatment.

The symptoms to suggest it are pain in the neck, shooting pains through the body and limbs, hyper-sensitiveness, stiff neck, pain on bending the body forward and on attempting Kernig's sign. With these symptoms, the spinal fluid should be examined, for on the result of this examination the diagnosis will depend.

As to the prognosis we know that the mortality in the epidemics has varied from 5 per cent. to 22 per cent. Of those affected, 20 to 25 per cent. have made complete recoveries,—that is, there has been absolute restoration of function in the paralyzed part though a small amount of atrophy may persist.

Disability sufficient to prevent one from earning his living is exceedingly rare, and fortunately the impairment is always physical, rather than mental.

In the treatment I feel confident that much benefit is to be derived from the injection into

the spinal canal of blood serum taken from those who have at some time had the disease. This treatment has been used quite extensively during the past few weeks, and while no statement can be made at present as to its value as compared with other remedies, the indications are that the reports will be so favorable that it will be recognized as the treatment of choice.

The use of human serum grew out of the knowledge of the fact that the blood taken from persons who had recovered from infantile paralysis recently or as much as twenty years before, when mixed with the virus, would render it inert, and that monkeys to whom this serum had been administered did not develop the disease following intra-cranial inoculations of the virus. The great drawback to the use of the serum is that it has to be administered early in the course of the disease, before the onset of the paralysis, if benefit is to follow. Consequently, its field of usefulness at present is limited to those who are sufficiently familiar with the disease to make an early diagnosis.

From other remedies little is to be expected. Hexamethylenamin is given with the belief that it is of more service than any other drug. The amount given daily varies from 10 to 20 grains, according to the age of the patient.

Other than this, the treatment is symptomatic. Anodynes should be given to relieve the suffering. With the development of paralysis, hot baths repeated every four to six hours are of great comfort. The patient is put in a bath heated to 105 degrees and is allowed to stay there for about 10 minutes. These relieve pain and promote sleep.

From the first, measures to limit the deformity should be instituted. These consist in supporting the paralyzed limbs in the natural position by means of splints, casts, or strips of adhesive plaster, thereby protecting the weakened muscles from the strain of the weight of the limb and the action of the opposed healthy muscles.

After the pain has subsided, massage or electricity or both may be used. While both of these measures are of value and have as their object the stimulation of muscle fibres and the maintenance of muscular nutrition, they are of secondary importance to efforts at muscle-training and orthopedic measures for the prevention and correction of deformity.

The treatment is tedious, and in many instances costs more than most of those who are called on to use it can afford and in recogni-

tion of this there have been organized in the various states in which this disease has recently been epidemic "societies" for the after-care of patients with infantile paralysis, which undertake to see that all of these patients in their immediate communities are so treated that they get the greatest benefit possible, in this way reducing the number that would otherwise be partially if not wholly dependent, and increasing the number in whom the restoration of function in the paralyzed limbs will be almost, if not complete.

During the past few weeks there have been about one hundred cases of infantile paralysis in Virginia. Many of these patients will not be able to secure sufficient treatment, owing to their financial condition. To provide against this, I would like to see appointed in this society a committee on the after-care of patients with infantile paralysis, which will interest the officials of the state, our institutions and the public generally in the opportunity at our doors.

In closing, I wish to acknowledge my obligations to the writings of Flexner, Frost, and Lovett.

1010 *Floyd Avenue.*

HEAT OR PERCY TREATMENT OF CANCER OF UTERUS.*

By JOSEPH DECATUR ROGERS, M. D.,
Washington, D. C.

The use of cautery for inoperable cancer of the uterus has been recognized and endorsed by leading gynecologists for many years. While it necessarily is often used in this lamentable condition to give temporary relief from pain, hemorrhage and offensive discharge, it has been found frequently to give unexpected cures or remarkable amelioration of symptoms.

The cautery in the hands of many men, notably Byrne, of Brooklyn, gave better results in treating cancer of the cervix uteri than any other method of the past.

Numerous experiments have proved that heat of 115° Fahrenheit applied for fifteen minutes would kill cancer cells and could be made to penetrate two and one-half inches. Normal tissue withstands heat of 130° Fahrenheit without injury. Upon this is based the heat or Percy treatment of operable or inoperable cancer of the uterus or any other form

*Read before the Washington Surgical Society, at Washington, D. C., October 20, 1916.

of malignancy in which it is possible to use heat as the destructive agent. I deem it necessary to emphasize the fact that the correct application of heat in treatment of uterine cancer is a slow cooking, not a cautery operation.

Its use should not be limited to hopeless conditions but applied as a preliminary step to most hysterectomies for carcinoma, especially of the cervix. The very early cases, when the patient's general condition is good, might have preliminary application of heat and the hysterectomy both done at one sitting. The application of heat in no way interferes with the performance of a simple hysterectomy or Wertheim radical operation, but, on the other hand, is a valuable preliminary step, as these patients are usually markedly improved by it and bear this trying operation much better. Heat seems to seal up the lymphatics and prevent spread of carcinoma at time of operation and subsequently. One of the benefits following the application of heat is the apparent lessened virulence of metastasis, should it follow in an advanced case after treatment is applied.

To James F. Percy, of Galesburg, Ill., is due the credit of opening the abdomen so that the degree of heat applied might be determined and injury to bladder and rectum minimized, together with perfecting a most reliable and practical cautery, which can be maintained at uniform heat, without charring the tissues, which would prevent the deep penetration of heat so much desired. The perfection of this excellent heat method marks a brilliant epoch in the cancer problem, which is one of the most baffling and disappointing the profession ever had. It is only the cautery, with which I am familiar, that can be always counted on to work as long as a lamp socket of 110 or 220 volts is working. It is not an electric cautery, in the ordinary sense, for the reason that the cautery tip is heated indirectly by contiguity and not directly by the electric current. For this reason the patient, no matter what happens to the current, can never be brought in contact with it. The rheostat enables one to regulate the heat to just the desired degree.

TECHNIQUE OF HEAT OR PERCY TREATMENT.

Patient is given usual preparation for combined major and minor operation and general anesthetic administered. The patient is placed

on the table in such a manner that the buttocks are well over the edge of table and patient kept in this position by means of shoulder braces. The head is dropped and legs are elevated and separated as in any vaginal operation, care being taken not to elevate legs enough to interfere with the co-operator working above in abdomen. The abdomen is first opened and the extent of pelvic and abdominal metastases (if any) ascertained. Intestines are packed off in usual manner and if possible the internal iliac and ovarian arteries tied. Ligation of vessels prevents secondary hemorrhage, which is sometimes quite alarming though usually easily controlled by vaginal packing. This ligation is of advantage when the secondary hysterectomy is done by preventing troublesome bleeding and starvation of tissues is affected with resultant limitation of growth.

Either tincture of iodine or Harrington's solution is applied to the entire vaginal service as a protection should the vaginal and uterine walls be opened during the treatment into the pelvis.

Water cooled vaginal speculum is inserted and stream of water kept constantly running through it. This speculum is very important to prevent annoying burns of vagina. Cervix uteri is grasped with vulsellum, and cautery with small tip gradually inserted. Sometimes it is necessary to use uterine dilator before inserting cautery. Grasping uterus, the co-operator's hand in the abdomen directs the heating iron, pushes malignancy down where it can be reached, and determines the degree of heat applied. Care should be taken not to get the cautery too hot, which is the usual tendency, and char instead of cook tissues. If charred, tissues will not allow heat to penetrate deeply as is absolutely necessary for success. An important point is not to remove heating head once it is placed until the tissue is so hot that it cannot longer be held in the gloved hand. The cautery should be removed and carbon scraped off of tips occasionally during operation and larger sizes used as we proceed. As long as the uterus can be held in the gloved hand the degree of heat is not high enough to destroy normal tissue, reaching approximately 115° to 120°. Normal tissue will stand heat of 130° without injury. When one portion becomes sufficiently cooked the end of the cautery is removed to a new location. This heat

should be applied for one hour to various portions of the cancer mass, or until all tissues that were first fixed in the pelvis are freely movable. To do less than this defeats the object of our treatment, the killing of all carcinomatous cells. Care should be taken to prevent perforations by cauterization. Perforations through the uterus into the bladder or rectum do not usually give trouble, but perforations through vagina into bowel or bladder give most persistent and annoying fistulas. Extreme gentleness in all our manipulations is of great importance to prevent dissemination. One of the great advantages of the heat method of destroying cancer is that little manipulation of the malignant growth is ever necessary. Care should be taken to wipe out the vagina after operation with gauze sponge and swab vagina thoroughly with Harrington's solution or tincture of iodine to prevent secondary carcinomatous nodules developing in vagina or vulva.

The operation is not for the novice in surgery, and I know of no operation requiring better team work in the operating room than this. I believe the reason some men are opposed to it is because they have not familiarized themselves with its method of application, and have not done a sufficient number of these operations to get good operating team work.

My attention was first called to this operation at the Mayo Clinic three years ago, where I have since seen heat applied by this method, and they think that they are now getting better results and believe the Percy operation is a decided advance in the treatment of cancer of the uterus. They speak of it as well worth further study and investigation. Drs. W. C. MacCarty and A. C. Broders, Pathologists of the Clinic, tell me that thorough microscopical examination of the uterus removed at secondary operation often shows absence of any cancer cells, whereas at preliminary operation sections showed them abundantly.

Unlike radium and X-ray treatment, the expense is not prohibitive. This should, I think, be considered, for I have had patients whose mental sufferings were added to by the fact that they were financially unable to have radium or X-ray applied after hearing magnifications of its good results by solicitous friends.

Many of these women show such marked im-

provement, both locally and constitutionally, after the application of heat, that we have to be careful lest we become too enthusiastic. The bleeding will stop, the foul odor so offensive to friends and patients disappears, pain leaves, toxemia diminishes, and these desiccated, cadaverous and hopeless women become transformed into a state of apparent health, with good color, gain of weight and strength, hopeful spirits, and many are saved from a pitiful life of a morphine habitue. Although most of these were previously considered inoperable on account of extension into parametrium, they are now converted into good surgical risks for simple or radical hysterectomy. If heat method is used previously, we do not experience the unfortunate cases that from local conditions are clearly operable but after operation gradually lose ground and die on about the tenth day from no apparent cause but exhaustion.

Percy claims that ninety per cent. of even very advanced cases are operable by the heat method. The advanced cases treated had perhaps best be followed by massive doses of X-ray given by the Coolidge tube. The use of X-ray before application of heat is dangerous in massive cancer, for while it is destroying some cancer cells, it at the same time stimulates others. By the use of the Percy cauterization in applying heat as a preliminary measure to operation many more cases can be successfully operated upon, and I believe in a few years cancer of the uterus will be looked for and diagnosed early by the general practitioner, and patients will recognize the advantage of early operation in this condition as they now do in appendicitis. The surgeon in treating carcinoma of the uterus strives to save life, or to prolong life and make life more bearable by minimizing annoying and disagreeable symptoms, thus making patients less burdensome to themselves and their friends. A low primary mortality, a cure or long period of relief, and short convalescence, should be his aim. This, I think, can best be accomplished by the use of a low degree of heat applied with the Percy cauterization and secondary hysterectomy, when practical.

I realize that attempts to reach a final analysis of the value of any cure of cancer should extend over a period of at least five years, but the reports from others, and my own observa-

tion, although limited, seem so good that I am taking the liberty of making these preliminary observations.

Statistics will be given when I have had sufficient cases extending over a period long enough to be of definite value. These remarks are given that we may have a discussion of the application of heat in uterine cancer as applied in the Percy treatment, which to me appears well worth further investigation and warrants us assuming a more hopeful attitude in treating carcinoma of the uterus—the most dreaded and awful malady to which woman-kind is heir.

1400 M Street, N. W.

PRACTICAL PHYSIOTHERAPY.*

By LOCKBURN B. SCOTT, M. D., Norfolk, Va.

This being the first time I have been privileged to appear as a member of the Medical Society of Virginia, possibly a word of personal explanation may be permitted. Being a native of Canada, my medical life has been spent in the Province of Manitoba, that fertile prairie land of the middle north-west; my arrival in Norfolk being of quite recent date. It might be a graceful thing for me to say that I was attracted by the wide-flung renown of the medical practitioners of your fair state, and was induced thereby to come where some of the atmosphere of high achievement might be imbibed. Candor, however, impels to the more prosaic explanation that it was the splendid climatic endowment of Norfolk that led to its selection as a home to escape the strenuous winters of the north-west, which proved too trying for the endurance of my wife. Happily the change has proved a benefit.

Having for some years past been impressed with the value of what are often spoken of as the physical methods of therapy, and having employed them so far as the limitations of circumstances would permit, I decided when making a change of location to enlarge my facilities for these useful forms of therapeutic helpfulness, so have equipped myself specially for that line of work.

In coming before you this morning to say a few words on Practical Physiotherapy, I do not want anyone to imagine that I am coming in the spirit of an apostle of any new medical

doctrine. I am not conducting a missionary campaign, seeking to bring a new light unto benighted adherents of medieval customs. I am not posing as an authority before whose *ipse dixit* all must bow in reverent awe; for what I do not know of physiotherapy has already been compiled into many large volumes, some of which adorn my shelves; and doubtless many more are in the birth pangs. Neither do I fill the role of a therapeutic nihilist; for I firmly believe in the virtues of the proper drugs when given in the proper way, and never fail to advise their use when they seem to be indicated. Nor am I a faddist, holding that all virtues lie in the processes now advocated and belittling other forms of treatment. My only claim is to be an every-day doctor with enough of common sense to lead him to wish to employ any and every means that promises the highest good to whatever individual patient may chance to be under his care. If surgery is plainly indicated, then surgery let it be; but I am frank to say that if the other method is at all promising, it is going to have the first chance. So often are physical therapeutics useful, alone or in conjunction with other medical or surgical proceedings, that in all fairness to afflicted humanity it seems only common justice that every medical community of sufficient size should maintain a place where such treatment can be adequately administered. The insufficient equipment of Norfolk in this direction helped me to decide upon an effort to contribute a little to the general welfare in this particular line.

While it is doubtless true that most doctors will at least admit that physical methods may have their uses in certain cases, yet the fact remains that a very large proportion of the profession practically ignores these forms of treatment. A recent writer on drug therapy makes this statement, "The virtues of many a drug remain unknown for years until some medical bellwether leads the profession, then it is heralded around the world. Witness the iodine craze among our surgical friends. Iodine was discovered in 1812, yet but a few years ago any suggestion as to its use as a local antiseptic would have been met with derision. It took 100 years to popularize it."

Something of this is true of some of the most useful forms of physiotherapy. Hardly any of them are new; many date back much more than

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

100 years, but for reasons unnecessary to detail here, are only now coming into their own.

It is not my purpose to go into a minute description of the methods of therapy employed; nor learnedly descant upon the marvellous results achieved by the use of, say, a sinusoidal modality where a brother practitioner had ignominiously failed when using a slowly-interrupted galvanic current. What I want is to refer briefly and in general terms to a few of the more commonly useful forms of physiotherapy, merely hoping to reawaken an interest in the subject which every thinking doctor must at some time have experienced, but often has permitted to sink into the background, perhaps from lack of opportunity for demonstration, or possibly because of failure from immature efforts to apply principles but vaguely comprehended.

Fortunes have been made by the manufacturers of electrical appliances just because enthusiastic medical men, reading or hearing of wonderful accomplishments reached by the use of certain new and exclusive apparatus, have hastened to procure these expensive equipments, forgetting that for their successful use certain requirements of training and practice are required. Result,—after a few weeks of disgusted failure, an addition to the junk heap, and another unbeliever in the usefulness of medical electricity. The fault was not with the appliance, nor the power actuating the instrument, but, possibly, with its unskilled application in conditions unsuited for its employment. This experience has not been realized alone in connection with electric or other physical appliances. Only a few months ago we were treated to almost a surfeit of the marvellous cures resultant from single doses of salvarsan; but who of us achieved these splendid results in his own practice? Yet we have not relegated salvarsan to oblivion, but rather have learned to use it more sanely. Illustrations might be multiplied of where enthusiastic men in all the varied departments of medical work have announced the most marvellous results, either by the use of some new surgical procedure, some variation of internal administration, or other form of therapeutic application. Their glowing case reports in the medical magazines awakened our envy, and we determined to emulate their successes. But, alas for the issue! Despite the most careful observance of

prescribed technique, the most painstaking of our efforts resulted but in dismal failure. As in future issues of the professional periodicals the sequel was unfolded, we were somewhat comforted to find that we had not been alone in our disappointments; and finally we were forced to conclude that the original authors were endowed with more than ordinarily vivid powers of imagination, coupled, in all probability, with a vanity not wholly unknown even among doctors over seeing one's name in type; the combination too often leading to a rushing into print with insufficiently matured conclusions and statements of supposed facts based upon data so imperfect as to be worthless. This illustrates one of the factors that has led to disuse by many of methods which rightly employed lead to results often delightfully effective.

Another stumbling block, especially in regard to hydrotherapy, has been the mistaken idea, which the present speaker fully shared, that in order to get the beneficial effects of "the water cure" an equipment of expensive appliances was requisite, and could only be used in a costly institution under conditions available only to the wealthy, entirely outside the possibilities of ordinary town or country practice. It is undoubtedly true that there is an advantage in having well-equipped institutions in which to administer these forms of treatment; but it is equally true that most of the best results can be obtained without any equipment not found in the homes of nine-tenths of the patients even of most humble means. Has it ever struck you that the early achievements in this direction were effected with the crudest of appliances? Yet the results were easily comparable with those obtained under more refined methods. Priessnitz, the father of modern hydrotherapy, a farmer, not a physician, cured himself and many others of serious ills with the most primitive appliances. His wonderful results attracted widespread attention, and such institutions as the Battle Creek Sanatorium, and others of its class, do not seek to disguise the fact that they are direct descendants of his early work. Instead, however, of the elaborate douche apparatus we use, his appliance was a log spout conveying water from an adjacent spring, allowed to fall from a convenient height upon the body of the patient. With this

and other correspondingly crude methods he achieved results worthy of lasting remembrance. So, while convenient apparatus is a distinct advantage when available, the doctor strenuously engaged in that most important and most honorable branch of medical science, general practice, whether in city, village or mountain home, may at will command the very best results of practical hydrotherapy if he will but give a little time to the understanding of its principles and their intelligent application.

Massotherapy, or the medicinal application of massage, is another branch of the healing art that has been too generally underrated or wholly overlooked. Just a word of distinction: Massage and rubbing are not synonymous terms; herein lies the ground of serious misapprehension, which has had much to do with the disrepute into which massage has sometimes fallen. One of the minor movements of massage is rubbing, and it is useful. Gamboge is one of the constituents of Pil. Cathartic, U. S. P., and a useful part of it; but who ever thinks of gamboge as being the equivalent of the whole pill? The superficial effect of rubbing is no more to be compared to the action of deep massage. Vigorous rubbing very soon becomes irritating and painful. Energetic massage is soothing and comfortable. The one is stimulant to the skin and superficial structures; the other acts upon the entire tissue of the part under manipulation down to the periosteum. Everybody can rub; to give effective massage calls for special training and a technique only attained by persevering experience. This stands in the way of its expert acquirement by the general practitioner, who seldom feels that he has the time to spare for either the study or the practice of the art; consequently, it is generally found that the masseur and the physician are different persons, often to the serious disadvantage of both the physician and the patient.

What shall one say of the exceedingly potent twin agencies, thermotherapy and phototherapy? To the value of heat in one form or other every physician bears witness both theoretically and practically. Grandmother's ever-ready poultice, whether of bread and water, bread and milk, or especially the omnipresent linseed, spoke in homely but emphatic terms of the blessing of heat, though grandmother herself always referred to the "drawing" power

of the application. The more esthetic modern substitutes, whether in form of kaolin mixtures, the hot water bag, or thermostat, have lost none of their effectiveness, and differ from their predecessors only in being more refined and controllable applications of the basal principles of heat or moisture and heat combined. No argument is required to emphasize the value of this agency as a therapeutic measure. But not so much consideration has been given to the usefulness of light; yet few agencies are so potent in their effects upon the system. Everyone appreciates the difference between a dull, cloudy day and one when the sunshine floods the universe. While sun baths in this country are not always feasible, in the cities at least we have the "bottled sunshine" in the form of electric energy delivered through varying forms of therapeutic lamps ready to render their efficient aid. Experts tell us that the light rays, such as are produced in the ordinary electric light bath cabinet, penetrate the body tissues as light to a depth of probably a couple of inches. If this be even measurably true, it is easy to see how this heat producing energy accomplishes its beneficent effects as so frequently manifested in actual practice. This is an agency deserving of wider use in every-day therapeutics.

When one comes to speak of electricity in its ordinary forms of the static, galvanic, faradic and sinusoidal modalities with their multiplied variations, one runs the risk of being classed as a faddist or a prevaricator by a large section of the profession. But the undeserved disrepute into which these measures have fallen with many has been the outcome of such causes as previously mentioned; chiefly the indiscriminate use of imperfectly understood methods in cases where they were not indicated; resulting in just as complete failure as if strychnine were administered when potassium bromide or chloral were indicated; or if a cancer of the breast were treated by external applications of olive oil. A celebrated painter, being asked how he mixed his colors to produce such marvellous effects, laconically replied, "with brains." So, if electricity be applied with brains, beneficial results may confidently be expected; but used in a hit-or-miss fashion in incorrect dosage, disastrous consequences may follow. Because a doctor can handle the knife with exquisite skill and can

administer his drug remedies with therapeutic certainty, he is not therefore necessarily qualified to administer so potent an agent as electricity. Careful, pain-taking study and experience are needed to fit one for this branch of the healing art; but so delightful are the results many times that one is well repaid for time and labor spent.

Time will not now admit of further enlargement upon the various other forms of physiotherapy, of which many are useful: those already mentioned are among the best known and perhaps of widest general application. I plead this morning for a fuller study and more frequent use of these beneficent agencies. Every doctor, no matter in what special branch of medicine he may be working, can often find cases in which his patients might derive decided benefit from some of these forms of treatment; and if the conditions forbid his use of them himself, he would receive the lasting gratitude of his patients if he would put them in the way of obtaining such service.

In what class of cases are they indicated? Very few abnormal conditions would fail of benefit. In the form of local hot or cold packs, fomentations, and other readily utilized applications, most acute forms of disease call for their use, and most doctors freely avail of them in such cases. Their wider uses as illustrated by sanatorium treatments are not quite so clearly defined. Rheumatism, neuritis, kidney derangements, and general nervous disorders, are among the conditions for which such treatment is generally prescribed, often with the most satisfactory results; though not always, for there is no universal panacea for these oft-times baffling ailments. But so often do they prove effective, that it is only fair to give them faithful trial in such obstinate conditions. Let me emphasize that word "faithful." It is not fair to anyone concerned for a patient to take two or three treatments, then discontinue because immediate relief is not experienced. These chronic and notoriously stubborn ills often are dislodged only by patient and continuing efforts. I try to impress upon my patients that at least a month of trial should be accorded such a course of treatment before it be pronounced ineffective.

The average sufferer from chronic disease does not expect a cure from three or four dram doses of a drug prescription; why should he be

less reasonable with other forms of therapy? True, many cases are relieved early in treatment, for which gratitude is due, but many yield only after prolonged, repeated trials. I always discourage a patient who proposes a few trial treatments: they so often lead to dissatisfaction, both to patient and physician.

But the forms of disease mentioned do not at all comprise the range of usefulness of this line of treatment. Practically all chronic conditions amenable to cure respond to one form or other of physiotherapy, and many which cannot be cured are so relieved of painful and disagreeable symptoms that they are exceedingly grateful for the help afforded. Chronic dyspepsia, chronic constipation, anemia, circulatory disturbances, are often greatly helped and not infrequently cured. Brain fag, overwork and general debility call for some of these forms of treatment. The surgeon would often find his brilliant work decidedly enhanced by a preliminary course for his debilitated patient prior to operation, as well as subsequent recovery hastened by the aid of the physiotherapist.

Adhesions and contractures following fractures or other traumatisms can often be most satisfactorily remedied, and pain and disability from sprains and similar injuries greatly lessened. Indeed, if one will but take the trouble to work out the principles underlying disease and treatment, it will be apparent that the range of usefulness of these agencies is very wide, inasmuch as they are largely based upon the impartation of improved tonicity to the metabolic processes of the body structures. The circulation of the blood is quickened, stasis relieved, consequently vitalizing all body functions. Irritated nerves are soothed, muscle spasm relaxed, relieving pain, allowing restful sleep to replace distressed insomnia. I frequently have patients tell me that after treatment they have the first restful sleep for days. Cardiac and renal disease in even severe form often respond surprisingly to the Nauheim bath and other physical measures. Dilated hearts are reduced in size, failing compensation restored; valvular murmurs and dropsy relieved, and general well-being in consequence promoted.

In a word, every sufferer from chronic forms of disease is entitled to at least a fair trial of these physiological forms of treatment, for,

while no miracles are performed, and the moribund not restored to life, so great are the benefits often derived that it is not fair, to suffering humanity to deprive them of the opportunity of seeking improvement by methods which have been helpful so often.

It is hardly necessary to mention another very important sphere of usefulness of these treatments; that is, the maintenance of a healthful condition of the bodily functions by their prophylactic use. Many a business and professional man has found that he could maintain the strain of hard work, which otherwise would have induced prostration either mental or physical, when aided by regular periodic tonic baths taken once or twice a week. So that not alone are the sick helped and often cured, but the well are kept from becoming ill.

In conclusion, for my time is, I fear, overreached, while physiotherapy is not a universal panacea for all the ills of humanity; while it fails, as do all other methods at times; while it is capable of abuse with consequent ill effects; while it must not replace other clearly indicated measures medical or surgical, it has so wide application and effects such delightful results in so many serious and discouraging conditions, that no doctor is doing justice to himself or his patients who ignores its claims upon his thought and practice.

338 Boush Street.

Clinical Reports.

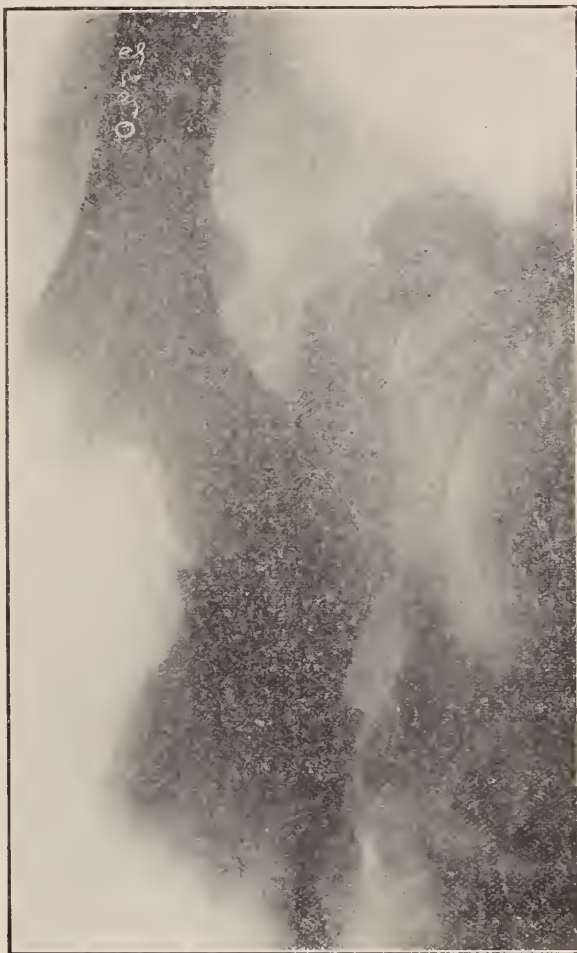
COMPLICATED FRACTURE OF PELVIS.*

By E. M. MAGRUDER, M. D., Charlottesville, Va.

On August 25, 1915, James Watson, a colored farm laborer, was engaged in loading ties on a car, standing on the siding at Campbell, Va. While shoving the car to get it into a position convenient for loading, a shifting car was backed up behind him, striking him in the sacral region and driving his pelvis against the car he was shoving. He was not rendered unconscious and was brought to the University Hospital at Charlottesville, where I treated him.

The symptoms found were contusion, abrasion

and tenderness over the sacrum behind, and over the right inguinal region and lower abdomen and right side of the pelvis in front, complete motor paralysis from the right groin to the toes and complete sensory paralysis beginning six inches below the right trochanter major and extending to the toes; there were also coldness, tension, and arrest of circulation of the



whole right lower extremity. No pulsation was perceptible in the femoral, popliteal, or dorsalis pedis arteries. The pulse was rapid and there were considerable pain and shock.

The X-ray photograph showed *oblique fracture* of the ramus of the right ischium with overlapping of fragments, the proximal fragment of the ischium being carried upward above the end of the distal fragment, and *fracture* through the right sacro-iliac joint, separating the two bones with backward displacement of the ilium.

*Read before the Association of Surgeons of the Chesapeake and Ohio Railway, at Old Point Comfort, Va., August 18, 1916.

There was no paralysis of the bladder or rectum nor was the left lower extremity affected. After efforts at reduction were made, which, however, were without success, the patient was placed upon a Bradford frame which made him fairly comfortable, considering the extent of his injuries, though hypodermic morphine had to be administered occasionally. He took nourishment and water pretty well. The kidneys and bladder functionated normally and the bowels were easily kept open, the Bradford frame greatly facilitating matters in this respect. No bed sores developed, for which the nurses deserve great credit.

The whole affected limb soon became much darker than normal, being, in fact, jet black, with the development of gaseous gangrene accompanied by subcutaneous crepitation of the whole limb, extending upward on to the lower abdomen, scrotum, and gluteal region of the right side. Acceleration of pulse and elevation of temperature were continuous from the first. The patient finally became delirious and later comatose, dying about the eighteenth day.

Autopsy showed:—

1. *Oblique fracture* of the ramus of the ischium, with over-lapping of the fragments, and the anterior crural nerve and external iliac artery caught between the fragments and completely severed; there was a thrombus in the external iliac artery extending nearly up to the common iliac.

2. *Complete separation of bones* at the right sacro-iliac joint, with backward displacement of the ilium, causing the great sciatic nerve and superior and inferior gluteal arteries to be pressed against the side of the sacrum, the inferior gluteal artery being thrombosed and necrosed; the hypogastric artery and bladder were intact; the sciatic nerve was markedly discolored but not severed.

3. *Gangrene of the whole lower extremity* extending from the toes upward on to the lower abdomen, gluteal region, and scrotum of the right side, with open discharging ulcers in the right groin and right gluteal region involving the deep fascia.

4. *The peritoneal cavity* contained about a litre of free yellowish exudate, while the intestines were matted together and covered with fibrin.

Thus it will be seen that the entire blood

and nerve supply was cut off from the entire lower extremity, including the lower part of the abdomen and the gluteal region and scrotum on the right side.

During the treatment of the case amputation at the hip joint was considered but was not done for two reasons:—

1. On account of the prostration and depression of the patient, it being practically certain that, though death was inevitable anyway in a short time, he would die on the table if an operation were attempted.

2. It would have been impossible to amputate in sound tissue on account of the high extension of the gangrene, and the condition of the patient would have been far more repulsive and difficult to manage than without the operation.

This was one of the most remarkable and complicated injuries that it has ever been my lot to treat, and, should I have a similar experience in the future, I would be inclined to try amputation, as the end could not be worse.

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(Continued from page 384.)

Reported by COLLIER F. MARTIN, M. D.,
Philadelphia.

The Consideration of Rectal and Colonic Disease in Life Insurance Examinations.

By ALFRED J. ZOBEL, M. D., San Francisco, Calif.

All important data concerning the vital organs is obtained by a medical life insurance examiner by direct examination and by precise methods. On the other hand, life insurance companies evidently do not attach much importance to the condition of the rectum and colon—not to mention the rest of the alimentary canal—for they seem willing to assume that these organs are free from disease solely from the favorable answers given by the applicant to routine printed questions asked by the examiner. That this is a fallacy, inasmuch as it paves the way to the acceptance of poor risks, and occasionally to the rejection of a good one, is shown in this paper.

Applicants almost invariably deny having or ever having rectal or colonic disease. The writer thinks that perhaps the main reason for this general denial is the ease with which these

affections can be concealed from the examiner, unless he makes an examination.

The average individual knows little about his ano-rectal region, and unless there is severe pain or itching, alarming bleeding, or annoying dysentery, he thinks it of little importance and unworthy the attention of either himself or the examiner. The rectal surgeon often sees individuals who look and feel in the best of health (outside of "a little attack of piles,") yet who are found victims of well advanced malignant disease of the rectum or colon. Unless a rectal examination be made, such a person could easily pass a life insurance examination.

The examiner should look out for those little fistulous tracts which cause no pain and discharge but little secretion, as they are frequently the primary manifestations of tuberculosis, and may appear in those who are otherwise apparently healthy. A severe stricture of the rectum may be present in a man outwardly perfectly healthy and insurable. If no history of his condition were volunteered, such a person could pass an examination unless the rectum were examined.

If a history of hemorrhoids is secured, or if on examination, it should not be forgotten that although their existence does not constitute a good cause for rejection, they often accompany liver, spinal cord, genito-urinary and uterine disease.

In cases where a suspicious anemia is found to be due solely to bleeding from hemorrhoids, these individuals could be conserved to the life insurance business if put in the way of regaining their health so as to become insurable.

If a rectal examination is made, the condition of the genito-urinary organs in the male can be investigated at the same time, while in the female accurate information can be obtained about their pelvic organs without subjecting them to a vaginal examination. At the present time insurance companies do not demand an examination of the female generative organs but accept their answers to the questions whether they ever had any uterine disorder, and if pregnancy now exists.

In conclusion, the suggestion is offered that medical examiners should lay more stress upon the questions regarding the condition of the bowel and rectum. They should inquire carefully whether there is or has ever been a san-

guinous, purulent or mucous discharge from the rectum. A history of chronic constipation or of diarrhoea should be considered worthy of further investigation. A rectal examination, both digital and instrumental, should follow if there is need therefor, or whenever there is the slightest suspicion that by it something may be revealed.

That medical examiner is the most "efficient" who not only secures his company from poor risks but also saves it business which otherwise would be lost. The utilization of rectal examination helps attain "efficiency."

Acute Angulation and Flexure of the Sigmoid a Causative Factor in Epilepsy—Report of Nine New Cases With Four Recoveries.

By W. H. AXTELL, M. D., A. M., Bellingham, Wash.

Review: In December, 1910, I published my first list of thirty-one cases—eight private and twenty-three asylum cases; in August, 1911, a further report on ten private cases with three recoveries—this included three additional asylum and two private cases, making in all thirty-six cases. The three reported cured have remained so for a period now of over four years. One additional case (No. 4) of the original list of ten private cases has had no return of the convulsions since ceasing treatment two years ago, although treatment seemed at the time to increase the irritation as reported.

Additional Cases:—Since last report I have had nine additional cases with four of them remaining free from seizures for from one to two and a half years, making in all forty-five cases reported, with eight recoveries to date.

Observations:—From my observations I am convinced that those who acquire epilepsy after the fifteenth year are more amenable to successful treatment than when commencing earlier in life. In my judgment surgery can give but little relief except where there is a definite history of inflammatory adhesions holding the angulations and flexures,—in fact, the condition of fecal stasis precludes surgery of the colon until the condition is first relieved, which then eliminates a prime factor in the production of the trouble. A new and undescribed cause of the intestinal ptosis which is generally present in these cases is the

separation of the recti muscles, which are so essential to a thorough evacuation of the colon and for the support of the abdominal organs.

The essential failure of treatment of these conditions lies in the fact that so few recognize the true condition, and, if the condition is recognized, there is not sufficient persistence in relieving the condition, or an ignorance exists as to the amount of material the colon holds and as to when it is well emptied. As a result, mutilating surgery is resorted to without getting results commensurate with the gravity of the surgery resorted to. The first intimation of the true condition is found upon opening the abdomen.—then details are carried out which should have been used in the first instance, when surgery would have proven unnecessary.

The Relation of the Roentgenologist to the Proctologist.

By WALTER I. LEFEVRE, M. D., Cleveland, O.

This paper calls attention to the advancement made in Roentgenology in recent years, and gives statistics as to the men devoting their entire time to the subject. He also mentions the increase of special literature upon the subject, as well as the immense manufacturing interests which have sprung up.

The conclusion is drawn that to the proctologist the X-ray is of value just in proportion as he is interested above the sigmoid flexure. Below this point the proctoscope gives direct information.

Because of the expense and the refinements of technic the writer feels that the proctologist should work in conjunction with his friend, the Roentgenologist.

Position for Sigmoidoscopic Work.

By DONLY C. HAWLEY, A. B., M. D., Burlington, Vt.

A majority of writers express a preference for the knee-chest position, while a minority prefer some other, e. g., Hanes', Sims', or the exaggerated lithotomy position.

Before the day of the pneumatic sigmoidoscope, the position was of necessity such as would admit of inflation by atmospheric pressure. Here the knee-chest position was undoubtedly the most satisfactory. The knee-chest position is trying and disagreeable for the patient, and not easy nor always convenient for the operator. Its use is frequently attended with embarrassment and fear on the

part of the patient. With the pneumatic tube the older method may be done away with.

Place patient in left lateral prone position with left arm drawn out behind back, the patient lying well over on left chest and stomach, the knees flexed, the right more than the left and placed above and well over and beyond the left on the table and with the back concaved as much as possible. In this position the abdominal muscles are relaxed, while in the knee-chest position they are apt to be contracted.

In a majority of cases the instrument may be passed easily and quickly over the brim of the pelvis and into the sigmoid colon as far as required or to its full length.

This method is not advocated exclusively, but a more thorough trial is urged.

A Brief Report of Two Cases of Anal Herpes Zoster.

By LEWIS H. ADLER, JR., M. D., Philadelphia, Pa.

The author stated that cutaneous lesions about the anal region are by no means unusual, and that the frequency of their occurrence is much less than one might reasonably expect from the function of the part.—its more or less constant contact with germ-laden feces; the frequent congestion to which it is subjected, and the attrition of the nates and adjacent structures induced by walking, etc.

In this connection a very unusual condition, so far as his experience went, was anal herpes zoster, of which he had only two cases in his practice, both being in young women,—one of whom thought she had contracted some venereal trouble from using towels in a public bathing establishment.

In both instances, the eruption was preceded for several days by a mild febrile disturbance, with burning pains in the anal region; at times the sensations were neuralgic in character. In both patients, the lesions were confined to a definite area, affecting only one side of the anal cutaneous surface; the eruption in neither case was very extensive or numerous, and there was no history of previous attack or of similar trouble elsewhere.

The vesicles in both cases followed the usual course of herpes zoster occurring elsewhere,—the liquid they contained was at first a clear, translucent serum, which gradually became cloudy and later puriform. They never

evinced any tendency to rupture and in the course of ten days or two weeks gradually dried to thin yellowish or brownish crusts, which shortly dropped off, after which there was left a reddish spot, covered by epidermis. These spots were very slow in disappearing.

The local discomfort in both cases was not lessened on the appearance of the eruption: but more or less burning was experienced, until the eruption had practically disappeared and in one case it continued for several weeks afterwards.

Pain was so severe in one case that family physician found it necessary on several occasions to prescribe an anodyne.

The treatment in each case was similar:—internally, liquor potassi arseni., six drops, was prescribed; locally, the parts were cleansed with a two-per-cent. creoline solution and freely dusted over with borated talcum powder. Over this a wad of absorbent cotton was applied and kept in place by an appropriate bandage.

Pruritus Ani Treated by Vaccine Method of Murray.

By WILLIAM H. KIGER, M. D., Los Angeles, Calif.

The author reports six cases of pruritis ani treated by the vaccine method as suggested by Murray. Cultures were taken from the skin at the anal junction. In every instance, streptococcus hæmolyticus was found. No local application of any kind was used. The results are attributed to vaccine treatment alone. He discredits the use of stock vaccines, and suggests the use of autogenous vaccine only. Considers the focal infection as a prime factor in an etiologic way. Also, he reports three cases evidently due to an infection from abscesses at the roots of teeth. He says that all of the cases reported had pyorrhæa, and suggests a thorough examination of the teeth, together with an X-ray picture of the jaw. He believes that a re-infection often takes place.

LYNCHBURG AND CAMPBELL COUNTY MEDICAL SOCIETY.

Dr. Joseph Colt Bloodgood, Baltimore, read a paper on "Cancer" before this Society on the afternoon of November 4 and, in the evening, addressed the public on the same subject.

Dr. Tom A. Williams, Washington, D. C.,

addressed the Society on the evening of November 6, his subject being "Diagnosis of Nervous Conditions the Result of Functional and Psychic Disorder."

Drs. E. Barksdale, J. W. Dillard and E. W. Peery, of Lynchburg, attended the meeting of the Southern Medical Association in Atlanta, Ga., early this month.

BERNARD H. KYLE, M. D.,
Secretary.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Man—An Adagitive Mechanism. By G. W. Crile, M. D., F. A. C. S. The Macmillan Company, New York. Price, \$2.50.

During a period of twenty years Dr. Crile had been accumulating experimental and clinical data to prove the main thought of the present work, viz., that man is essentially an energy-transforming mechanism obeying the laws of physics. In health as in disease the body as well as each individual organ follows the line of adaptation, and medical science endeavors to demonstrate the mechanism of this adaptation. Medicine passed through the stage of empiricism and is passing through the stage of experimentation, but the final stage, viz., that of synthesis, is as yet not completely developed; nevertheless, medicine is rapidly approaching the final stage of scientific development. The successful control of some infectious diseases proves the fact that we have already a certain foothold on the final stage of our development.

Dr. Crile commenced his interesting studies with the problem of surgical shock from which he gradually developed his ideas on diseased processes and, finally, on normal processes. He has thus shown that the origin of normal and pathologic phenomena differ in no fundamental respect. A method to prevent shock was the first practical application of his studies. The next step was formulation of certain mechanistic conceptions of disease. After having demonstrated by the kinetic theory the nature of traumatic and psychic shock, Crile undertook some researches to determine the

exhaustion produced by infections, by drug stimulants, by toxins, by exertion, etc. Transformation of potential into energy is elaborated by his kinetic system which includes brain, adrenals and liver. Consequently, conservation of energy is an important act, the knowledge of which can be gained by the proper conception of the kinetic view. Crile shows that absence of worry and fear, rest, change of scene, of diversion, happiness and success, are all preventives of an organic breakdown. Thus, application of mechanistic principles of conservation of energy is of practical benefit. Dr. Crile's work is therefore an important chapter of preventive medicine. The book is a monument to his genius. It should be read by all thinkers.

ALFRED GORDON, *M. D.*

A Text-Book of Physiology: For Medical Students and Physicians. By William H. Howell, Ph. D., M. D., Professor of Physiology, Johns Hopkins University, Baltimore. Sixth Edition Thoroughly Revised. Octavo of 1,043 pages, 305 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$4.00 net; Half Morocco, \$5.50 net.

Most of the important alterations of the text in this sixth edition will be found in the section on Nutrition and Internal Secretions, a large part of the latter subject having been rewritten. Such other changes as have been made are less essential, though, culling here and there from the great amount of current literature bearing on the shifting view points of many problems, the author has made every endeavor to present all necessary data relating to the progress of physiological science. The volume seems to meet every requirement, not only as a college text-book, but for reference by the practitioner of medicine as well, and we have no hesitancy in commending it as a physiology of the first order.

The Germ-Cell Cycle in Animals. By ROBERT W. HEGNER. The Macmillan Company, New York. Price, \$1.75.

Under the term, "Germ-Cell Cycle," the author includes all those phenomena concerned with the origin and history of the germ cells from one generation to the next generation. Such studies are now recognized as the chief methods of attacking the problems of genetics and must be employed in correlation with animal breeding.

The writer treats this important subject in the most logical and illuminating manner. In nine chapters he presents it in a concise and at the same time complete way. The division of cells and their methods of reproduction, are peculiarly well described as an introduction to the chief subject. He then considers the germ-cell cycle in the fly, segregation of the germ-cells in sponges, vertebrates, etc., the germ-cells of hermaphroditic animals. Finally, from this study he draws his deductions for formulating the germ-cell theory.

The book presents a clear review of the work done in this field and should appeal even to those who are not working on the problems of cell development.

ALFRED GORDON, *M. D.*

Manual of Obstetrics. By Edward P. Davis, A. M., M. D., Professor of Obstetrics in the Jefferson Medical College, Philadelphia. 12mo. of 463 pages, 171 illustrations. Philadelphia and London: W. B. Saunders Company. Cloth, \$2.25 net.

This is a practical handbook which gives in concise but easily readable form an outline of obstetric practice. While it does not attempt to go into minutia of larger works, it does, however, go into sufficient detail for general purposes, and is convenient, therefore, not only for hasty reference, but also for the amount of actual information it contains. It is neat in appearance, and full worth the price that is charged.

Editorial.

The Board on Standardization of First Aid to the Injured.

The Board appointed by President Wilson on November 6, 1915, composed of Dr. Richard H. Harte, chairman; Col. Louis A. LaGarde, M. C., U. S. A., vice-chairman; Asst. Surg. Gen. W. C. Rucker, U. S. P. H. S., secretary; Dr. J. P. Kaster, Dr. Samuel C. Plummer, Surg. A. M. Fauntleroy, U. S. N., Dr. J. Shelton Horsley, Maj. R. U. Patterson, M. C., U. S. A., is endeavoring to collect, through a selected group of surgeons and all other available sources, information which will assist it in placing first aid in this country on a stable basis. This body is known as the Board on Standardization of First Aid Methods. Over five thousand American surgeons have already

volunteered to assist the Board in its labors. This is a patriotic response to the appeal for assistance in solving this great medico-military problem. The standardization of first aid throughout the United States will be of value in peace as well as in war. It is the purpose of the Board to publish a technical report, as well as a popular handbook, and it is the duty of the entire medical profession to assist to the fullest extent of its power in this important work.

The Medical Society of Northern Virginia and the District of Columbia

Held its regular fall meeting in Washington, D. C., November 15, Dr. H. A. Fowler, of that city, presiding. The meeting was largely attended and was one of the most successful meetings of the society, from the standpoint of the general practitioner. Clinical reports were given by Drs. Walter A. Wells, George Tully Vaughan and Frank Simpson. Drs. S. W. Maphis, Fred Gochnauer, Stephen Harnsberger and W. C. Payne were too late in reaching the city to report the cases for which they were listed on the program. "Differential Diagnosis of Right-sided Abdominal Pain" was discussed under the headings of Appendicitis, Salpingitis, Renal Lesions, Reflex Pain from Chest, Peptic Ulcer and Colon Lesions, by Drs. L. H. Reichelderfer, A. L. Stavely, Francis R. Hagner, John D. Thomas, J. Russell Verbrycke and William J. Mallory, all of Washington. The next meeting will be held at Warrenton, Va., on the third Wednesday in May, 1917.

The Petersburg (Va.) Medical Faculty

Held its annual meeting November 16 and, after the transaction of other business, elected the following officers for the ensuing year: President, Dr. J. D. Osborne; vice-presidents, Drs. Claiborne T. Jones and J. E. Smith; secretary, Dr. L. S. Early; corresponding secretary, Dr. A. F. Bagby; court medicale, Drs. W. E. Harwood, F. W. Hains, J. F. Wright, Charles J. Sawyer and E. L. McGill; paper committee, Drs. H. Gilbert Leigh, J. B. Jones and W. P. Hoy; supper committee, Drs. H. A. Burke, D. D. Willeox and J. E. Nixon. Following the meeting, the annual banquet was enjoyed.

Dr. Horsley Awarded Medal.

Dr. J. Shelton Horsley, of this city, was awarded a medal by the Southern Medical As-

sociation, at its recent meeting in Atlanta, Ga., for original work in the surgery of blood vessels and intestines. Dr. Horsley has several times received awards for his splendid work in this line.

Dr. J. D. Osborne,

Of Petersburg, Va., while inspecting some machinery on his farm in Amelia County, on the 18th, fell and suffered a fracture of his right arm.

American Medical Editors' Association.

At the annual meeting of the Association in New York, the latter part of October, Dr. Edward C. Register, of Charlotte, N. C., presiding, the following officers were elected for the coming year: President, Dr. Geo. M. Piersol, Philadelphia; vice-presidents, Drs. Chas. Wood Fassett, St. Louis, and Robert M. Green, Boston; secretary-treasurer, Dr. Joseph MacDonald, Jr., New York, re-elected.

The Augusta County (Va.) Medical Association

Held its regular fall meeting November 8, at the Y. M. C. A. Building in Staunton, with a good attendance. The president, Dr. William Patterson, of Waynesboro, delivered his annual address. Papers, which were freely discussed, were read by Drs. J. W. Freed and Kenneth Bradford. The annual banquet was held after the meeting at the Y. M. C. A.

Dr. and Mrs. C. T. Pierce,

Of Litwalton, Va., recently visited relatives in this city.

Dr. and Mrs. R. P. Cooke,

Front Royal, Va., were recent visitors to Washington, D. C.

Harrison Anti-narcotic Law Observed in Richmond.

Investigations made at drug stores in this city by Federal officers show that physicians and druggists in this community are respecting the Harrison anti-narcotic law. Only one instance of law violation was found, and this was a prescription by an out-of-town physician, but it was not filled by the druggist to whom it was presented.

Dr. C. C. Mann,

Recently of City Point, Va., has moved to Wilmington, Del., care Dr. W. G. Hudson, Dupont Building.

Married—

Dr. George Tucker Harrison, Charlottesville, Va., and Mrs. Seymour, of New York City, November 20.

Dr. Leslie Byron Wiggs, of Richmond, and Miss Lida Fair Reade, daughter of Dr. and Mrs. Frank M. Reade, of this city, November 18.

Dr. Carrington Williams and Miss Fanny Braxton Miller, both of this city, November 25.

Dr. Charles McCulloch, Howardsville, Va., and Miss Ruth Floyd Anderson, Lexington, Va., November 4.

Dr. Joseph Packard Laird, Devon, Pa., and Miss Matilda Coleman Page, Fairfax, Va., November 15.

Petersburg (Va.) Hospital.

The annual report of this hospital showed that 1318 patients received treatment during the year, or an increase of 104 over the previous year. Of these, 73 were sent by the city, which annually appropriates \$2,000 for the daily use of six beds. There were 91 deaths reported for the year.

Dr. P. M. Strother,

Of Lynchburg, Va., has recently been to Trenton, N. J.

Dr. A. C. Jones,

Of Covington, Va., visited the University of Virginia early this month.

Free Examination for Tuberculosis.

In furtherance of the suggestion adopted by the National Association for the Prevention of Tuberculosis, ten to twelve stations will be provided in various sections of this city, December 6, at each of which will be physicians appointed by the Academy of Medicine and Surgery, to make free examination of those applying during designated hours. No cases will be treated at these stations, but those showing symptoms of tuberculosis will be advised to see their family physician or, if unable to call in a physician, will be referred to a local dispensary for treatment.

Dr. and Mrs. A. A. Cannaday

Have returned to their home in Roanoke, Va., after a visit to this city.

Dr. Southgate Leigh,

Of Norfolk, Va., has been appointed by Governor Stuart as one of the delegates to the

American Civic Association, which meets at Washington, December 13-15.

The American Public Health Association,

At its annual meeting in Cincinnati, in October, elected Dr. William A. Evans, Chicago, president, and re-elected Mr. S. M. Gunn, of 755 Boylston street, Boston, Mass., secretary.

Dr. J. R. Gorman,

A former resident physician at Virginia Hospital, this city, who has recently been serving in a New York hospital, passed through Richmond early this month, en route to Sanatorium, N. C., where he will do special work in the hospital until January the first. After that, he will locate in this city for private practice.

Great Medical School for Chicago.

For the purpose of establishing a great medical school in connection with the University of Chicago, the General Education Board, in co-operation with the Rockefeller Foundation, has appropriated \$2,000,000. To carry out the plan, the University will set aside at least \$2,000,000 for the same purpose, and will give a site valued at \$500,000. A further sum of \$3,300,000 will be raised by the University. This will make the medical school start with an initial endowment of nearly \$8,000,000. The University will also take over the Presbyterian Hospital. The entire teaching staff is to be organized on the full-time basis, all teachers in the clinical as well as the laboratory studies giving their entire time to teaching and research work in the University Hospital and Medical School.

The National Board of Medical Examiners

Held its first examination from October 16 to 21, in Washington, D. C. There were thirty-two applicants from seventeen states, representing twenty-four medical schools, and of these sixteen were accepted as having the necessary preliminary and medical qualifications, ten of whom took the examination.

The following men passed: Drs. Harry Sidney Newcomer and William White Southard, of Johns Hopkins University; Dr. Orlow Chapin Snyder, of University of Michigan, and Drs. Thomas Arthur Johnson and Hjorleifur T. Kristjanson, of Rush Medical School.

The second examination will be held in

Washington, D. C., June, 1917. Further information may be had by applying to Dr. J. S. Rodman, Secretary, 2106 Walnut street, Philadelphia Pa.

Dr. H. Grant Lind,

Formerly of Lowmoor, Va., but more recently of New York, has recently been visiting in Alleghany County, Va.

Dr. Frank Laird Wysor,

Son of Dr. J. C. Wysor, of Clifton Forge, Va., went to Newport News, Va., early this month, where he has located for the practice of his profession. Dr. Wysor was a graduate of the University of Virginia in 1915.

Dr. W. C. Nunn,

West Point, Va., has been visiting Dr. William J. Newbill, at Irvington, Va.

The Kentucky State Medical Association,

At its annual meeting in October, selected Ashland for its 1917 meeting place and elected Dr. P. H. Stewart, of Paducah, president.

Dr. George Wythe Cook,

Of Washington, D. C., a former president of the Medical Society of District of Columbia, was the guest of honor of that society at a banquet on October 28, in honor of his seventieth birthday. At the conclusion of the banquet, he was presented with a silver loving cup by the members of the society.

Dr. Charles S. Dodd,

Petersburg, Va., announces that he has taken into partnership Dr. James E. Calhoun, former house surgeon of the New York Eye and Ear Infirmary.

Health of Virginia Troops Good.

According to a report recently made Adjutant General Sale relating to the mobilization of the Virginia militia last summer, 165 officers and 2,853 men were sent from Camp Stuart in this city to the Southern Department. In addition to these there were nineteen officers and 776 men who passed through the camp and were sent on recruiting duty, resigned, were mustered out, discharged or deserted. In all of these there was not a death save two men who were killed in an unfortunate railway accident. There was only one case of typhoid fever, contracted before arriving in camp.

This man eventually recovered but was never mustered in. The camp surgeon performed more than 30 major operations, all of which were successful.

In his report, Capt. Shipp, of the U. S. Army, stated that he largely attributed the health record to the intelligent and continued work of the camp surgeon, Major Junius F. Lynch, of Norfolk, and his assistants, and to the valuable assistance rendered by the State inspector-general, Lt. Col. Stern.

Dr. R. M. Sterrett,

For many years associated with the Denver Chemical Manufacturing Company as advertising manager, announces his resignation, effective January 1.

Dr. Landon D. Walker,

Of Unionville, Va., is spending sometime in New York City, studying diseases of children.

Nobel Prizes for 1916 Not Awarded.

The Swedish Academy of Science has decided not to distribute the 1916 Nobel prizes for physics and chemistry. The sums available for these prizes will be added to a special fund.

Dr. Ramon D. Garcin,

Of this city, was called to New York early this month by the serious illness of his brother, who suffered an attack of acute appendicitis.

Dr. W. S. Whitmore.

Of Staunton, Va., was accidentally shot in the calf of his left leg, November 16, while bird hunting. While the wound was a bad one, he was immediately carried to the hospital for treatment and it is not believed the accident will prove a serious one.

Dr. Harry Q. Alexander.

Of Matthews, N. C., was elected by the N. C. Farmers' Union as a delegate to the National Convention at Palatka, Fla., November 21.

The Seventh District Medical Society of North Carolina

Will meet at Monroe, N. C., December 4 and 5. There are several hundred members. Physicians far and wide are cordially invited to attend and bring their wives. Those who at-

tend will be entertained in the homes of the city.

Dr. J. Wood Jordan,

Who has been at Catawba Sanatorium, Va., since June, has returned to his home in Ashland, Va., and resumed his practice there.

Dr. Charles R. Robins,

Of this city, by invitation addressed the Life Underwriters' Association of Richmond at their regular monthly meeting November 13.

Dr. Robert E. Booker,

Lottsburg, Va., has recently been on a trip to Indiana.

Dr. Charles Dudley Underhill,

For several years acting assistant surgeon of the port of Boston, gave a talk in this city November 10, his subject being "The United States Public Health Service and the United States Lifesaving Service."

The United States Civil Service Commission

Announces an open competitive examination for physician, for men only, on December 13, 1916. From the register of eligibles resulting from this examination certification will be made to fill vacancies in this position in the Indian and Panama Canal Service, and vacancies as they may occur in positions requiring similar qualifications. The entrance salaries in the Indian Service range from \$1,000 to \$1,200 a year, and in the Panama Canal Service are \$1,800 a year. As the supply of eligibles resulting from recent examinations has not been equal to the demand, qualified persons are urged to enter this examination.

Applicants should be between 21 and 40 years of age and must be graduates of or senior students in recognized medical schools. The names of such senior students will not, however, be entered on the eligible register in the event they pass the examination until they have furnished proof of actual graduation. Statements as to training and experience are accepted subject to verification.

For further information, persons desiring this examination should at once apply for Form 1312, stating the title of the examination desired, to the United States Civil Service Commission, Washington, D. C.

"Just-as-Good" Milk.

We note from an exchange that, to avoid the

hardships arising from the higher price of milk, a so-called "milk improver" has been put on the market in London. It is a white powder with the correct combination of bone and flesh-forming constituents. A penny's worth, mixed with a pint of water, is added to a pint of cow's milk, and this produces a quart of "just-as-good."

Cholera Still on a Rampage in Japan.

Although with cooler weather there has been a decrease of cholera in Tokio, the disease seems to spread at Osaka. To October 10, there were reported 548 cases, with 151 deaths at Tokio, while at Osaka there had been a total of 2,001 cases, with an increase of twenty daily. According to this report, no foreigner had been attacked by the disease so far as known.

Missionary Hospital Work in India.

A qualified medical man is required who is in sympathy with religious work. Passage paid and small allowance made monthly. Three years' agreement. Apply, sending copies of testimonials, Commander Eva Booth, Field Department, Salvation Army Headquarters, 122 West Fourteenth street, New York, N. Y.

—(Adv.)

Obituary Record.

Dr. James F. Gardner,

Of Capon Bridge, W. Va., a former member of the West Virginia Legislature, was killed in an automobile accident near Winchester, Va., November 11. His neck was broken when the car overturned. Dr. Gardner was 73 years of age and had received his medical education at Bellevue Hospital Medical College, New York, from which he graduated in 1879.

Dr. David Claytor,

A native and life-time resident of Bedford County, Va., died November 16, at his home near Bedford City, after an illness of about two weeks. He was 84 years of age. At the beginning of the war between the states, Dr. Claytor volunteered for service and lost an arm in the first year of his service. He was a member of the local camp of Confederate Veterans.

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Original Communications.

THE SURGICAL CARE OF WOUNDS IN THE EUROPEAN WAR.*

By ROBERT C. BRYAN, M. D., F. A. C. S.,
Richmond, Va.

It may be of interest to the members of the Medical Society of Virginia to hear some personal observations of the treatment of wounds and injuries received by the Allies in the great European war.

There has been so much developed, so many articles contributed, to the surgical world by this limitless traumatic material, that to attempt to embrace it all in an abbreviated monograph is manifestly impossible.

It must be understood that practically every case entering the surgical hospitals presented injuries produced as the result of an explosive missile expending its energy. For purposes of classification we may place all gunshot wounds in the following categories:

- 1—Laceration and tissue destruction of the skin and muscles,
- 2—Laceration and tissue destruction of the skin and muscles, plus injury to the bones, or injury to some viscus.

The writer saw, during his term of service, only a few of the cases of destructive injuries to the face. These were selected at the front and sent to those hospitals which were peculiarly adapted for the reception of such injuries. Nor were medical diseases admitted under our observation, other than instances of trench diarrhoea, pneumonia, enteritis, gripal infection, etc., complicating wounds. The essential run of cases was that of gunshot wounds, contingent upon direct, or indirect violence.

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

Whether the patient is hurt by hand grenade, rifle ball, fragment of shrapnel, bayonet thrust, or with the high explosive shell, he is, as soon as possible which is usually at night, carried from the battle field by stretcher bearers, who conduct him back by means of communicating trenches to one of the temporary hospitals, or *post de secours*, which is found in a sheltered position at the rear of the trenches. Here the first dressing is applied, hemorrhage stopped, or splint adjusted, and the first anti-tetanus injection given. No extensive surgical operation is attempted at these crude stations, for the attendant in charge is usually a young student of only a few months' experience. From this point he is transported by ambulances varying distances from one to 20 miles or more, to a first base hospital, which is usually well provided with all paraphernalia and appliances for the treatment of any type of injury. The stay here necessarily must be of short duration as the constant demands upon its capacity are very large. Hurried through this hospital as rapidly as is consistent with surgical repair, the patient is then borne away by trains to a second base hospital further from the battle front, where more protracted and deliberate attention may be given his wounds. There are 8,000 hospitals scattered through France from the battle line on the north to the Mediterranean on the south.

For hundreds of years France has been undergoing an intensive cultivation. This means that the bacilli of tetanus is prevalent, and for this reason antitetanus doses are given to all the wounded for immunization. As already stated, 1,500 units are given at the *post de secours* when the injured soldier is being taken back from the battle field; the second injection of 2,000 units is given ten days later as soon as he enters the ward of whatever hospital into which he has been admitted. As a result of

this preventive treatment there has been a progressive reduction in the mortality from this dreaded infection. I saw two cases die from tetanus; one shot through the brachial plexus, the other through the buttocks.

It must be borne in mind that the character of the cloth in the uniform which the French soldier wears, which is of a steel blue color, is most inferior in quality. This means that fragments of this cloth are constantly carried into the tissues ahead of the missiles, and act as a source of irritation and infection to the wound. No wound, therefore, could be considered surgically clean unless X-rays were taken, fragments of shell, foreign body, or missile removed, cloth, shreds of clothing, and necrotic and ragged tissue gently but thoroughly, cleansed away, pockets opened up, and competent drainage established. This surgical toilet obtains particularly in the injuries due to shrapnel explosion, or the injury of indirect violence, but does not obtain in the wounds produced by the copper-covered rifle ball with its snouted, pointed end, for it had been our custom that these rifle balls, unless indicating removal by their superficial location, should be left *in situ*, particularly when not complicated by bone fragmentation, or lesion to the viscera. I recall among other cases that of a rifle ball which lodged apparently in the greater curvature of the stomach, another posterior to the neck of the femur, and still another which had been located at the base of the heart. The wounds of entrance had healed cleanly and no attempt was made to remove them.

Many various antiseptic solutions have been tried at the different hospitals, the French, English, American, and other schools holding to their respective text-book teachings and preferences. Some of the more popular are gentian violet, one to 10,000, bichloride of mercury, Sir Almroth Wright's solution, citrate of soda, iodine, hypertonic salt solution, Merciere's solution, which had iodoform and balsam peru essentially for its base, and magnesium sulphate, which was constantly used in the hospital in which I was associated. The pre-requisite for satisfactory antiseptic solutions in a war hospital must be efficiency and cheapness. This has apparently been found in Dakin's solution, which Alexis Carrel has so perfected in his hospital at Compeigne. On

the occasion that I visited this hospital I was shown many extensive injuries which involved not only the soft parts but the bony structures as well; all of these wounds had been treated only by this method, and had recovered in a most remarkable way, the idea being a chemical and mechanical sterilization with a resultant scientific cicatrization of wounds, all wounds being considered infected until they had proven by microscopical investigation to be worthy of closure.

I will relate in detail this Carrel method of treatment, as there was nothing during my visits to the many hospitals in and about Paris which struck me so forcibly as this scientific, responsible, absolute mathematical treatment of sterilization and repair. The location of this hospital so near the front was favorable, in that the patients were received in from one to six hours after their injury. This early reception obtained in but few of the many hospitals. On admission X-ray examinations are carefully made and, with the plate as a guide, foreign bodies are located, their size noted, and operation undertaken. The incision, or incisions, are generous and of sufficient size to give free access to all foreign material, cloth shreds, fragmented bone, or to an injured viscus. It would be well to note the clothing of the soldier for holes and loss of cloth which may be later located in the wound. The wound is gently, but thoroughly, cleansed of devitalized tissue and foreign bodies; comminuted bone particles devoid of periosteal attachments are taken away, but no fragmented piece of bone is removed that possesses a periosteal bridge; small pockets and pendent cavities must be given free drainage, and counter openings made if necessary; hemostasis should be perfected; gentleness, thoroughness, and complete wound eversion should be adopted in every case. The establishment of continuity of a severed nerve may be attempted at this time; usually, however, this operation is deferred to a later date. There is no attempt to remove minute particles of shell or stone which the X-ray may show to be dotting the plate. The crushed bone is placed in proper alignment, an appropriate splint applied, and the Carrel solution is now directed to every square centimeter of the wound surface by means of tubes, which are perforated with many holes, tied at the end, and enveloped in Turkish

toweling. I have seen as many as 25 tubes used in one case. It is not the intention to use the solution as a means of irrigation, but by simple contact. The tubes also act in a measure for drainage tubes. There is no attempt to close the wound. Gauze wet with the Dakin's solution is applied to the raw surface only, the skin surface being protected by yellow vaseline because it has been noticed that this preparation may produce considerable irritation to the skin. Carrel's solution is simply hypochlorite of soda and must not be stronger than 45/100 to 50/100 of 1 per cent. It is probably the nascent chlorine, or the liberation of oxygen which exercises the beneficial effect. There is no super-saturation, there is no overflow of the fluid from the wound, the linen and bed is never soiled. If there is any excess it is attracted into the dressings. Frequent microscopic examinations to note the progress of the wound are made by means of a platinum needle, the smear being fixed in the flame, stained, and when one germ is found to four fields of oil immersion lens, the wound is considered to be ready to be sewed up. This usually obtains in from four to six days. In bad compound, comminuted fractures, with much loss of tissue, it may take 10 to 12 days. The wounds are dressed every day, new tubes and gauze applied. The flow of the solution must be stopped four hours before the microscopic investigation, as its antiseptic properties may misrepresent the result. The character of the germ found upon investigation carries no individual significance whether it is staphylococcus, streptococcus, gas bacillus, or any other germ,—it is the number and not the variety to which importance is attached.

I was fortunate to have visited Dr. Carrel at the time I did, as two weeks later the hospital was closed because he considered that the treatment of wound infection had been so perfected scientifically and mathematically that they could now abandon the question and devote their time to other considerations, and he was to go to the Belgian front to devote his entire energy and work to the study of shock.

The ultimate outcome of the wound is unbelievable, for it is soft, pliable, movable upon the deeper structures, and linear. There is no fibrosis, and regardless of the shape of the wound or tissue destruction the surgeon hopes to get just that character of scar that is found

after a clean operation on a hernia or appendix. One of the most remarkable features of this perfection of wound-sterilization at this hospital is that, by means of a mathematical formula based essentially upon the number of square centimetres of tissue destruction, the surgeon may predict absolutely the day upon which the wound will heal. Skin grafting apparently at first hastens repair, but the final union is delayed. Dr. Carrel was kind enough to exhibit many of the end results, taken in color photographs, which were so bewildering, so perfect and marvelous in the final outcome, that your writer hesitates, for fear of incredulity, to present them to you.

The location of foreign bodies, such as pebbles, concrete, barb-wire, nails, shrapnel balls and fragments, is still in the hands of the X-ray expert, but their positive localization has been much facilitated by the use of calipers and the Marion localizer. Theoretically, with these two instruments any foreign body should be accurately and positively located.

With complicating injuries of the deeper structures surgical repair is indicated as condition arises. In fractures of the long bones of the extremities extension may be applied by the Hawley, Blake, Hodgkin, or Balkan splint. In any event it has been noted that no weight under 40 pounds is of sufficient traction power for fractures of the lower extremities.

Injury to the Viscera.—Destruction and injury to soft parts necessarily follows the same surgical procedures with which we have to deal in civil practice. Perforation of the intestines, severance of arteries and veins, establishment of arterio-venous aneurisms, destruction of nerve substance, should be combated and treated according to the usual surgical measures.

Tuffier has stated that all cases of extensive brain lesions die in about six months from a cerebritis, or meningeal development. Your writer had the opportunity of seeing some apparent cures after great loss of brain substance.

Infection in Old Wounds.—Severance of nerves constitutes a large per cent. of the delayed operations and, although in many of these instances the wounds apparently have been clean and cured for several months, with no local signs of congestion or inflammatory phenomena, incisions into this area not infre-

quently liberate germs in the cicatricial tissue and suppuration ensues. It has been my misfortune on several occasions, after having waited six months, to get a bad suppuration on re-establishing the continuity of the musculospiral nerve. It has been noted that a nerve regains its growth distally at the rate of one centimeter a month.

Gas Bacillus Infection.—This virulent intoxication does not have the horrors for the surgeon which it formerly possessed. It should be recognized early, and with liberal incisions, free drainage, consistent application of an antiseptic solution, the mortality has been greatly controlled. We got the most beneficial results from the use of hot magnesium sulphate, the extremities being submerged constantly. Dr. Kenneth Taylor, sometime Pathologist to the American Ambulance in Paris, has brought out in a monologue the use of quinine hydrochloride as specific in gas infection, and claims that it is ten times as effective as carbolic acid.

Gas Inhalation.—We had but few of these which had survived the acute attack of laryngeal edema and capillary bronchitis. Those who came to us were in a chronic state and made good recoveries. The treatment of this chlorine gas irritation was by means of inhalations of saturated solutions of sodium bicarbonate and hyposulphite of sodium.

Trench Diarrhoea.—I saw but few of these cases, and only in those soldiers who had received some injury. It is apparently a colitis, or an ileocolitis from infected water. They are responsive to thorough purgation, colonic irrigation, and small doses of ipecac.

Plastic Work.—Dr. Morestin, of Paris, possibly now enjoys the greatest reputation for restoration of great injuries to the face. Excellent work is done at the American Ambulance, Neuilly, where I had the opportunity of seeing some cases under the supervision and care of Drs. Jas. P. Hutchinson, of Philadelphia, and Chas. A. Powers, of Denver. There is possibly no class of cases which present the pitiful deformities, horrible aspects, and sickening devastation, as that of the unfortunate "Poillu" who has lost the whole side of his face, the lower jaw, or the nose, eye and upper jaw, as the result of gunshot wound.

Fracture of the Bones.—In no hospital that I visited did I see Lane's plates, or any modification of these mechanical restraints, used for

a fracture. Extension was carried out only by means of weights applied to the limb by one of the many splints in vogue. It may not be inappropriate at this time to mention the use of a large number of small bags of salt which would be applied in and about the wound, probably exercising its beneficent influence by a reverse peristalsis of the lymph flow, as doubtless obtains in the use of magnesium sulphate for the treatment of infected wounds. The amount of exudate which is called out by this method is astonishing. The bags are changed frequently and new sterilized sacks put in their place.

Shell Shock.—I had the opportunity to see several of these cases, from the hesitant aphasia to that profound state in which the patient knew absolutely nothing. This aberration is caused by the near explosion of a high power shell, and in many instances not a scratch or bruise is found upon the body. The explanation is probably a process of rapid aerial decompression or depneumatizing with an escape of nitrogen from the blood; this is transformed into bubbles, blocks the capillary vessels and anemizes the vital centers, producing instantaneous death. I do not know the ultimate outcome of such cases as those I saw were sent to hospitals for appropriate treatment.

Veneral Diseases.—During my stay of four and a half months in a rather active hospital of 225 beds. I never saw one case of venereal infection, nor recognized any luetic taint which I thought justified treatment by specific measures. This bespeaks most highly in an incontestable manner the character and morals of a people who are now engaging in a death struggle for their homes, firesides, and rights.

Blind.—There are some 5,000 French soldiers blinded as a result of the war. These are being taken care of in peculiarly designed hospitals which develop among them different trades, such as basket weaving, carpet and rug manufacture, printing, piano-tuning, etc. It is surprising the adaptability that these men show, and how rapidly they perfect themselves in their newly-acquired trade.

In conclusion, I may say that most of the hospitals which I visited were excellently fitted out, powerful X-ray machines, vibrators for the detection of foreign bodies, localizers, unlimited dressings, splints, irrigating cans, and

the usual hospital paraphernalia for the comfort and treatment of the cases. I saw no oxygen anesthesia used, only ether. It is surprising how quickly and how well these soldiers take anesthetics; this may be explained in a measure by the enforced physical exercise which they have, for months, been accustomed to, splendid condition, discipline and cooperation of the patients to do all that is possible for their speedy recovery.

The mortality at the different hospitals necessarily varies. I believe at Neuilly it was 4-56/100; at some other institutions I know it is as low as one per cent., for it must be borne in mind that those cases received in the second base hospital for treatment necessarily presented less severe injuries than the wounded who never get away from a first base hospital, or, indeed, succumb at the first dressing station.

I have been frequently requested to express my idea of the probable duration of the European war. My reply has been that I am not in as good a position to predict the final outcome as you who have had access to the daily papers, who read the unbiased news, and view the question in an unprejudiced way based solely upon impartial telegraphic intelligence. I would however, venture to say that the war will continue at least one year longer.

301 West Grace Street.

NOTES ON THE TREATMENT OF WOUNDED AT THE AMERICAN AMBULANCE, NEUILLY, SUR SEINE, FRANCE.*

By S. P. OAST, M. D., Portsmouth, Va.

The American Ambulance at Neuilly, under the direction of Dr. Winchester, Du. Bouchet, of Paris, and Dr. Jas. B. Hutchinson, of Philadelphia, occupies a large, thoroughly modern brick building, which was in course of construction for the purposes of a high school at the outbreak of the war, and shortly afterward completed and turned into a surgical hospital with accommodation for six hundred patients. It is admirably suited to its present purposes, and leaves but little to be desired in the way of structural alterations to make it ideal for surgical base hospital work.

In the spring and summer months, just past, during which time I was one of the resident

physicians there, the wounded were being received from the Verdun and Somme regions on hospital trains, the journey being about ten hours.

The conditions with which we were occupied for the most part consisted of compound fractures of the extremities, extensive mutilating wounds, with loss of tissue substance in every possible situation; perforating and penetrating wounds, and recent amputations. Fully ninety per cent. of these lesions were produced by fragments of high explosive shells, the remainder being due to hand grenades, rifle balls and shrapnel, of frequency in the order named.

The treatment of wounds in general is the first thing I wish to mention.

The lesions, at the time of being received at the Ambulance, had existed on an average, I should say, of four or five days, this time being passed in the dressing stations and various temporary hospitals in the army zone. Most of the dressings were two and three days old, often older, and the wounds, nearly in every instance, were extensively infected, sloughing, and frankly purulent. The chief causes of infection were, for the most part, the ordinary pyogenic organisms (the streptococci, staphylococci, and proteus bacillus), but occasionally the gas producing bacillus, perfringens, was found to be the cause. Previously, during the Battle of Champagne, in the fall of 1915, and again on one or two other occasions, but to a less degree, there had been epidemics of wound infection by the gas bacillus, but at the time of my stay there were only a few cases, and these not severe. I know of but one amputation because of so-called "gas gangrene," occurring during my entire service of four and one-half months.

The usual plan pursued with all cases, no matter how trivial in external appearances, was to take the patient to the operating room within a few hours after admission, give ether, clean the wound thoroughly, remove as far as practicable all sloughy material and foreign bodies and, after making ample counter-openings for dependent through-and-through drainage, tubes were inserted for this purpose. In most cases, several small fenestrated tubes, soft and about the size of a number fifteen French catheter, as advised by Dr. Carrel, were used in place of the single large tube

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ordinarily used for drainage purposes. The ends of these small tubes were left protruding from the wound for four or five inches, care being taken that none of the fenestrations were without the wounds. Every two hours irrigations were done through these tubes, one end being closed in order to direct the fluid through the fenestrations, thus distending the wound cavity and forcing the fluid into the recesses of the tissues.

The dilute solution of sodium hypochlorite, or ordinary bleaching powder, prepared according to the formula of Dr. H. D. Dakin, of New York, was used routinely, until suppuration had subsided; then normal salt solution was substituted, and the wound allowed to fill in by granulation.

It will be seen that this is not exactly the method of wound treatment as practiced by Dr. Carrel, at Compiegne, though partaking somewhat of it. Everyone who has visited the Carrel hospital, and observed the results obtained by the treatment there, is very enthusiastic about it. It is there that closure of wounds by suture is practiced a good deal, after two or three days' treatment, with marked success. It has been found impracticable to follow this procedure at Neuilly, and the difficulty seems to lie in the longer duration of the lesions when received there.

Dr. Carrel's hospital occupies a very peculiar position, in that it possesses the facilities and equipment of a base hospital, at the same time being right on the front, within a few miles of the fighting. Here, the wounded are brought in, and treatment instituted within a few hours of the time of injury, before the infection has taken hold, while further back at Paris, the wounds are three, four and five days old when received, and stubbornly infected.

The method of irrigating wounds under slight pressure with Dakin's fluid, as set forth above, was best carried out in such conditions as compound fractures of the long bones, with through and through drainage. However, experience seemed to show that in areas in which the infection had become well established, as was the rule with our cases, this treatment seemed to possess no particular advantage over the older method of simple irrigation either with Dakin's fluid or other substance.

In conditions received late, the most appreciable effects of Dakin's fluid were seen in large open flesh wounds with extensive sloughing. These were cleaned up in a remarkably short space of time by the use of this solution, either as a Murphy drip or by fourth hourly dressings. Some caution must be exercised in its use, however, in the vicinity of large vessels, as an increasing number of severe secondary hemorrhages have occurred since its introduction and suspicion fastens very strongly to it as a factor in their production. Though the advocates of this solution claim that it is non-irritating, experience at the Ambulance has shown that any continued contact with the skin over a few days sets up a dermatitis, which has proved quite distressing in several instances. To prevent this, a protective layer of vaseline gauze was used next to the skin with complete satisfaction.

On the whole, Dakin's solution, chiefly because of its inexpensiveness, and also because of its efficacy, proved the most useful substance for general wound dressing, but it was thought that the frequent changing of dressings played an equal, or even greater, part in quickly cleaning up a wound, than any remarkable virtue of the fluid itself.

In the treatment of compound fractures, which forms the bulk of the work at Neuilly, many forms of apparatus were in use, the most noteworthy feature of which was the employment of the overhead suspension principle, by means of a wooden framework attached to the ends of the bed. This, as we know, is by no means new with the war, but its advantages were never so well appreciated until Dr. Blake began using it with his metal rod splint for fractures of the femur during the early days of the war in 1914. Since that time, it has been steadily gaining in favor, not only for fractures of the femur, but for fractures of the leg, arm and forearm as well.

I shall not attempt any lengthy description of it here, as it is doubtless familiar to all. Briefly, it serves these purposes: (1) To increase greatly the comfort of the patient in allowing a greater range of freedom in bed; (2) to decrease edema; (3) to facilitate dressings and the care of the patient generally.

It is not to be understood that overhead suspension introduces any system that replaces or interferes with extension and abduction, but

allows and facilitates the employment of these principles, as before, by adhesive plaster strips, hitches, or Steinman's pins, with weights on the foot of the bed.

Of the special form of apparatus in use at the Ambulance, none seems to deserve mention more than the ambulatory extension splint for the treatment of compound fractures of the humerus, devised by Dr. Levya, one of the residents at the Ambulance. This is an iron frame splint riveted to a plaster of Paris or aluminum plate jacket which encircles the chest and abdomen and, being adjustable, allows for any desired position of the arms and forearm, at the same time permitting extension on the lower fragment by means of a strong rubber band.

The results obtained by the use of this apparatus were very satisfactory, and seemed in every way to justify its use after the acuteness of the infection had subsided, in preference to keeping the arm suspended with the patient in bed.

This splint is an elaboration of what is known as the aeroplane splint, a device which has been in use at the Ambulance for some time, in the ambulatory treatment of various conditions about the shoulder, not calling for extension.

Compound fractures of the femur which, from their frequency of occurrence and gravity, deserve special consideration, were treated in a slightly modified form of the Blake splint, which consisted of two wrought iron rods, slightly longer than the leg, and connected at the lower end by a wooden cross piece, and at the upper end and middle by flat metal bands made to curve over the leg. The leg was cradled between these two iron rods by means of cotton flannel straps, or, as in the region next the wound, by gutta percha tissue, and the whole suspended by tackle from the trestle work overhead. Extension was made on the lower fragment and leg by weights on the foot of the bed, attached by long broad straps applied to both sides of the legs and thigh as high up as the position of the wounds would permit. These straps were either of adhesive plaster or cotton flannel, in which latter case they were applied with a special form of glue. In a few cases, because of the location of the wounds, or of irritation of the skin, extension was effected through the medium of a hitch around

the semi-flexed knee, using a broad piece of muslin over a very thick pad of cotton. It was found quite essential to have this pad of cotton very copious to prevent cutting the skin.

Dr. Hutchinson was not very partial to the use of Steinman's pins in compound fractures of the femur because of trouble with infection, and they were not being used, but I remember one case of simple fracture in which a steel pin, resembling a meat skewer (no Steinman pins being available), was driven through the femur just above the condyles, and extension made by this means with an excellent result. As to the amount of weight used, it was the usual plan to run the total up to twenty pounds in the course of the first few days; then, after three or four weeks, after the shortening had been overcome, to reduce this amount by a few pounds.

Abduction was obtained by means of a horizontal wooden bar nailed on the uprights at the foot of the bed, the degree being determined largely by the level of the fracture, but the leaning was to abduct well in every case.

It will not cause much surprise when I say that, of all the conditions met with at Neuilly, by far the most troublesome were compound fractures of the femur. The chief difficulty was the inability to control the infection; to prevent pocketing in the abundant fleshy tissues of the thigh. Wide through and through drainage was established in these cases immediately after arrival, and irrigations and dressings practiced very frequently, but no plan of treatment could be found to prevent the burrowing, and it was not unusual for the case to make three and four trips to the operating room, before the situation could be gotten in hand, and not always then.

The mortality rate in surgical base hospitals has been surprisingly low during the war, estimated at something over two per cent., I believe, and if the Ambulance at Neuilly can be taken as an index, I think it is safe to say that fully one-fourth of these deaths are due to compound fractures of the femur with their attendant complications of infection and secondary hemorrhage.

One meets with such a great variety of conditions in a war hospital of the character of the Ambulance at Neuilly, that it is obviously out of the question to attempt anything but a

very hasty review of some of the more important ones here.

Among other things, I should like to mention compound fractures near or involving the ankle joint. A form of apparatus known as a cradle was generally used for the treatment of these conditions, though some times an old-fashioned fracture-box seemed to meet the requirements better than anything else. This cradle, mentioned above, was an appliance, by means of which the leg and foot were slung in a canvas hammock between two parallel wooden bars, and made to slide on a framework of wood by the use of a trolley arrangement. This permitted of extension, when practicable, and possessed the advantages over a fracture-box of allowing greater freedom of movement and comfort to the patient, and at the same time permitting the dressing to be made with little or no disturbance to the position of the fragments.

The method of treating recent amputations was very interesting. Because of conditions which obtained on the front, the French army surgeons had adopted, as most practicable, the procedure of amputating without flaps—"chop amputations," as they are frequently called. This, of course, was a reversion to old antiseptic methods, and these cases when they arrived at the Ambulance were invariably badly infected.

The plan pursued here was to clean up the wound by using Dakin's solution, either as a drip or by frequent dressings. This took on an average of three or four days, after which four adhesive plaster straps were applied to the skin in such a way as to encircle the circumference and, with the aid of a spreader, equal traction was made on all four of these straps by weights on the foot of the bed, as in Buck's extension. In this way flaps were produced, which were drawn well down below the end of the bone. The procedure then was to apply adhesive plaster fitted with eyelets to these flap margins, and further reduce the granulating area by firm lacing. It was by such measures that a great saving of time was brought about in these otherwise very tedious cases, usually about three weeks sufficing to see the stump entirely closed over.

This method of lacing wound edges together also found general application to large granulating areas in almost any situation. In a num-

ber of cases, marked for skin grafting, it was found that such an operation was unnecessary after the vigorous employment of lacing.

Before I stop, I should like to mention the nerve suturing work of Dr. Hutchinson, which was showing some very promising restorations of functions, even at the early stage of my stay. Also, I should like to call attention to the successful character of the plastic work on the face being done by Drs. Hart and Powers in collaboration with the dental department, under the direction of Drs. Hays and Davenport, of Paris.

THE INFLUENCE OF CAFFEINE ON THE TOXICITY OF MORPHINE SULPHATE.

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The comparative frequency of poisoning by preparations of opium renders the treatment of such poisoning a matter of importance to practitioners. It is a well-recognized fact that repeated lavage and purgation are indicated, and, since opium causes death in mammals by its depressant action on the respiratory centre, there is no doubt that artificial respiration should be employed when there is evidence that the natural function is no longer adequately performed. Since, however, there are drugs that are capable of stimulating the respiration, it would seem that the employment of these respiratory stimulants also is justified.

The two drugs most commonly recommended and widely used in the attempt to stimulate the respiratory centre depressed by opium are atropine and caffeine. Since the investigations of Bashford¹, it is apparent that atropine must be used with caution, for the stimulant action may, by over-dosage, be converted into a depressant one and the action of atropine become synergistic with that of opium. As the result of this danger from atropine, the use of caffeine has been more and more strongly recommended of recent years. According to Cushny, "Caffeine seems certainly more indicated than atropine, for it is scarcely possible to paralyze the respiratory centre with the former." This use of caffeine is apparently justified by the well-known experiment used in many laboratories, where caffeine is shown to be capable of stimulating the respiration depressed by morphine, alcohol, or hydrated chloral. From results that we have recently obtained in expe-

riments, however, it would appear that the employment of large doses of caffeine are not devoid of actual danger, and instead of lessening the toxicity of morphine sulphate, really render the chance of the animal's recovery less probable.

Our experiments were carried out on apparently healthy, full-grown cats, usually males, and upon full-grown, apparently sound, guinea-pigs.

In the experiments on cats, we used a method similar to that devised by Hatcher for the physiological assay of the digitalis bodies.² The cats were etherized for the necessary operative procedures, a cannula was inserted into the femoral vein, and a one per cent. solution of morphine sulphate was injected at the rate of one c.c. per kilo body weight every two minutes until the death of the animal occurred. By the use of nine cats, it was found that the lethal dose could be determined within fairly narrow limits; the average dose being 390 mgms. per kilo body weight; the extremes being 310 mgms. and 440 mgms. respectively.

Salant and Rieger³ state that the minimum lethal dose by oral administration to cats is 150 mgms. of caffeine per kilo body weight. Since it is improbable that cats show seasonal variation, this dose was not verified, it being assumed that the same dosage would hold good for our cats. A second series of cats, six in number, were given 80 mgms. of caffeine, in the form of a one per cent. solution, orally, from fifteen to thirty minutes before the induction of anesthesia. These cats were then etherized, a cannula was inserted, and the morphine injection carried out as in the preceding series. The results secured upon these animals showed that the previous administration of approximately half the lethal dose of caffeine not only failed to increase the resistance of the cats to the lethal action of the morphine sulphate, but actually rendered them decidedly more susceptible to the toxic action of the latter.

The results secured from these experiments are given in Table 1.

TABLE I.

A—Morphine alone to Cats.		
Weight gm.	Lethal Dose in Mgms. per Kilo.	
2000	310	} Average—390 mgm. x Kilo.
2900	310	
2800	390	
3400	390	
2302	410	
2310	410	
3410	420	
2100	430	
2500	440	

B—Morphine preceded by 80 mgms. per Kilo Caffeine		
3511 gm.	230	} Average—303 mgm. x Kilo.
2945 "	290	
2490 "	310	
3892 "	310	
3110 "	320	
2368 "	360	

Sollmann⁴ says that the just fatal dose of morphine sulphate for guinea-pigs is 700 mgms. per kilo, when the drug is injected subcutaneously. Since it has been shown that the resistance of guinea-pigs to poisoning by various drugs is apt to be influenced by season⁵, it was deemed necessary to determine the lethal dose for guinea-pigs at the time the experiments were carried out. It was found that the lethal dose was in the neighborhood of 550 mgms. per kilo body weight, when the drug was injected subcutaneously in the form of a 5 per cent. solution. One guinea-pig succumbed to a dose of 440 mgms. per kilo, but the animal was obviously sick before the injection was made.

According to Salant and Rieger³, the lethal dose of caffeine by subcutaneous administration to guinea-pigs is subject to large variations, but is near 200 to 225 mgms. per kilo. They state that a dose of 100 to 120 mgms. per kilo does not produce noticeable symptoms. In order to determine whether this latter statement held good for the time our experiments were performed, two guinea-pigs were given 100 mgms. of caffeine per kilo body weight. Both animals appeared somewhat uncomfortable for a short time after the injection, but were by no means seriously affected, both surviving. Four more guinea-pigs were then given 100 mgms. per kilo of caffeine subcutaneously and also doses of morphine sulphate, varying from 400 to 500 mgms. per kilo. All of these animals succumbed rather promptly. The results are shown in Table 2.

TABLE II.

A—Morphine Sulphate alone.		
Weight gm.	Dose in Mgm. per Kilo.	Result
240	400	Survived
320	400	Died
600	420	Survived
600	500	Survived
610	500	Died
565	600	Died
575	600	Died
600	700	Died
B—Morphine Sulphate combined with Caffeine.		
250 gm.	400	Died
475 "	400	Died
500 "	500	Died
265 "	500	Died

These few experiments on guinea-pigs show that these animals also are rendered more sus-

ceptible to the lethal action of morphine sulphate when caffeine is given in large, but sublethal dose shortly before or after the morphine injection.

When the actions of morphine and of caffeine on the respiratory centre are taken into consideration and it is recalled that morphine death is due to respiratory failure, it is hard to conceive that caffeine would be injurious. That caffeine is always and everywhere a stimulant, however, is open to question. The experiments of Hale⁶ show that caffeine, instead of shielding the organism from the toxic action of acetanilid, really renders the latter more toxic, and Pilcher⁷ has shown that the same is true for the action of caffeine in animals poisoned with alcohol. Sollmann and Pilcher⁸ and Pilcher⁹ have investigated the circulatory actions of caffeine and find that relatively large doses markedly depress the heart, and this seems particularly prone to become apparent when the animal's heart has been subjected to some injury previous to the administration of the caffeine. While the statement of Cushny previously quoted may be quite true of the action of caffeine on the respiratory centre, it is possible that the less obvious circulatory injury of the large doses of morphine combine with the action of caffeine on the heart muscle and in this manner cause death.

It must be understood that we do not urge these results as evidence that caffeine should not be used in the treatment of poisoning by morphine sulphate or other opium preparations. In the first place, the action of morphine on cats is entirely different in its visible manifestations on the intact animal from what is seen when the drug is given to human beings; and, in the second place, the doses of caffeine are excessive. It does seem, however, that when the results obtained by Hale on the combined action of caffeine and acetanilid and by Pilcher on the combined action of caffeine and alcohol are taken into consideration and when we recall that, different as the superficial appearances are in cats and in human beings, death in both instances is due to respiratory failure, that some limit should be placed on the amount of caffeine used in the treatment of opium poisoning and that more attention should be paid to removing any of the unabsorbed morphine and hastening the elimination of that present in the circulation.

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SOME OBSERVATIONS MADE FROM RECENT CASES OF ECTOPIC PREGNANCY.*

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The history of ectopic pregnancy dates back to the middle of the eleventh century when Albucasis described the first known case of ectopic gestation. For centuries it was considered one of nature's rarest freaks, but since March 3, 1883, when Lawson Tait of Birmingham, Eng., performed his first successful operation on a case of ruptured ectopic gestation, examples of this condition have been observed so frequently that the literature of reported cases is voluminous. To Tait and his views of the etiology and treatment is largely due our knowledge of this most important subject. Instead of regarding the condition a rare one, as was previously the case, we now know that it is comparatively frequent and that every surgeon in active practice must meet with several cases each year. The relative frequency of this condition at the present time as compared with the past, simply means that we are now better able to diagnose these cases. No doubt any number of deaths assigned to so-called idiopathic peritonitis and the old-fashioned cramp colic were undoubtedly due to ruptured ectopic pregnancies.

If all of the usual symptoms described by the majority of the text-books were present on examination, we would have no difficulty in diagnosing every case which comes under our observation. But, unfortunately, this is not the situation we are confronted with, and the object of this paper is to point out how easy it is to miss a diagnosis by dwelling too much on the cardinal symptoms. We find these symptoms summed up by several well-known authors in the following manner: (a) amenorrhea, (b) symptoms of pregnancy, (c) sudden

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sharp pain with syncope, (d) metrorrhagia, (e) often a history of previous sterility, (f) on bimanual examination, a distended tube, possibly a little more boggy than a hydro- or a pyo-salpinx of corresponding size, and (g) normal or subnormal temperature.

If one should chance to find all of the foregoing symptoms manifested in a case, even the most unobserving would have no trouble in making a diagnosis, but as a rule few present all or even a fair majority of these diagnostic points, as will be observed in two cases upon which I have operated within the past nine months, and will now report:

Mrs. J. P. R., white, female, age 33. Married. American. Housewife. Admitted to hospital January 18, 1916.

Chief Complaint: Pain in right side.

Family History: Father living and in good health; mother an invalid; three sisters and one brother, all living and in good health. Two children, both living and in good health. History negative to tuberculosis, one aunt died of cancer.

Past History: Usual diseases of childhood. Pneumonia several years ago.

Present Illness: About two years ago, patient began suffering with pain in back on right side. She was unable to be on her feet on account of severe pain on standing. Menses seemed to exaggerate this condition. Menses had been regular, but always accompanied with pain. Patient thinks she had an attack of appendicitis about six weeks ago. Also has had dull aching pain low down on right side, which she termed "ovarian neuralgia." Her last menstrual period came at the usual time, three weeks ago, lasted three days, and she has had no sign of bleeding since.

The present attack came on with a dull aching pain about twenty-four hours ago, accompanied with nausea and vomiting.

This patient was brought in by her physician with a diagnosis of appendicitis. I made an examination and confirmed his diagnosis. Her temperature was 100.2, pulse 90 and of very good volume, very tender over McBurney's point, and she showed a rather marked rigidity of the right rectus muscle. Operation was advised and done soon after admission to hospital. A high McBurney incision was made in order to facilitate palpation of the gall-bladder. On opening the abdominal cavity, it was found

practically filled with blood, rather dark, and a few clots. On palpation, the tube and ovary on the right side seemed to be about the normal size but fixed in the cul-de-sac. The incision was closed and a median incision was then made. The fimbriated extremity of the right tube was found adherent to the corresponding ovary, both being very adherent to the cul-de-sac. The tube and ovary were delivered and a distinct sac was found which had formed between the fimbriated extremity of the tube and a ruptured graafian follicle in the right ovary. There was a decided ooze both from the tube and ovary, so a salpingo-oophorectomy was done and clots removed. The appendix was congested, but apparently secondary to this condition. It was removed by the usual technique, and the wound was closed in layers with tanned catgut. The patient made an uneventful recovery.

Now, from the history and physical findings in the foregoing case, I am unable to see how a diagnosis could have been made. A bimanual examination was made, but the tube and ovary felt no larger than the left. There was no bulging in the cul-de-sac. There were no signs of hemorrhage or shock, yet the patient's abdomen was practically full of blood, and there was bleeding at the time of operation. The temperature (100.2) and pulse (90) would be found in most any case of early appendicitis. Facial expression was not that of a patient suffering with either shock or hemorrhage. As a matter of fact, the patient expressed herself as feeling better than she had in twenty-four hours. She walked into the hospital from the carriage without experiencing any difficulty. She had not missed a period, neither had she felt that she was pregnant. There was no metrorrhagia at any time between periods, and no history of sterility, having given birth to two children before. No boggy mass could be felt on bimanual examination; neither her pulse nor temperature suggested ruptured ectopic pregnancy.

The second case was in a desperate condition on admission to the hospital, and the history presented here was taken after the patient was well on the road to recovery:

Mrs. W. O. M., white, female, age 33. Married. American. Housewife. Admitted to hospital June 16, 1916.

Chief Complaint: Pain in lower abdomen, chills and fainting spells.

Family History: Father died of pneumonia. Mother living, in good health. Two sisters and one brother all living and in good health. Husband in good health. No history of tuberculosis or cancer in family.

Past History: All diseases of childhood except scarlet fever, and diphtheria. Chills and fever when small. Appendicitis one year ago. Was operated upon for this. Has suffered with constipation for a number of years. Menses began at fourteen. Always irregular, often missing occasionally only three weeks, then again would go six weeks. Always has had a great deal of pain with periods, even after child was born. Very often would have to go to bed for one or two days. Pain usually started with flow. Duration of menses two to five days. Married thirteen years ago. Had one miscarriage at three months, about eight years ago, and one child three years old. healthy.

Present Illness: Last menstruation April 20, 1916 (1 mo. 28 days). Three weeks ago felt tired and sleepy, with loss of appetite. Wednesday, June 14, 1916, had cramping pain in lower abdomen, and chills. She went to bed, but did not call physician. Thursday she felt better and did the family wash. Friday morning, severe cramp-like pains started in lower abdomen, a little to left, radiating to right side and up to right shoulder. She was nauseated, weak and fainty. A physician was then called.

On arrival, he called me in immediately for consultation. We found the patient almost moribund, with pulse scarcely palpable in either radial artery, and in a semi-conscious condition. The family was very much excited, and a history that would throw any light on the case could not be obtained. On examination, the abdomen was found to be slightly distended, with a decided flatness on percussion over lower abdomen. There was marked tenderness and rigidity over the whole lower abdomen; no more so, however, on the left side than the right. A bimanual examination was made and a distinct bulging of the cul-de-sac was found. I could not palpate either tube or ovary, owing to the very rigid condition of the abdomen. There was no sign of bleeding from the cervix, and the family was quite positive that she had not had any, but, as before stated,

they were very much excited, and we did not attach much significance to this statement.

She was taken to the hospital immediately, and hypodermoclysis started. 1,000 c. c. of Locke's solution were given before the operation was done. A median incision was made under ether anesthesia. On opening the peritoneal cavity, an enormous quantity of free and clotted blood was liberated. The right tube and ovary were quickly examined and found to be normal; the left tube and ovary were then brought up for inspection. There was a large cavity in the ovary which was bleeding freely, and the tube was ruptured near the fimbriated extremity and showed frank hemorrhage. It looked as if the end of the tube had been adherent to the ovary. A salpingo-oophorectomy was done, the major parts of the clots removed and the wound was closed with tanned catgut without drainage. 500 c. c. of Locke's solution were given before leaving the table, then 50 c. c. an hour for twenty-four hours. Saline oz. 8, glucose oz. 1, and soda bicarb. drams 1, were given per rectum every four hours. The patient's pulse was quite palpable and 140 at the end of the operation. The next day her pulse was 108, temperature 101.4. On the sixth day her temperature was normal, and pulse 78.

She made a rapid convalescence, and suffered no inconvenience with the exception of slight headaches. A blood count was made a few hours after operation with the following results: large lymphocytes 2 per cent.; small lymphocytes 24 per cent.; transitional 1 per cent.; polys 73; total leucocytes 13,200, erythrocytes 2,400,000, and hemoglobin 40. In comparing this with a typical case, all we had to rely on were the physical findings. The history was taken subsequent to operation. There was no history of amenorrhea or symptoms of pregnancy, merely sudden, sharp pain with syncope. There was no metrorrhagia or previous history of sterility, neither could a mass be felt on examination. Our actual findings summed up were history of pain in lower abdomen with fainting spells and nausea; symptoms of severe internal hemorrhage and shock, namely, sub-normal temperature (97), weak, thready, scarcely palpable pulse, facial expression, and physical signs of fluid in the abdomen. These were the symptoms and signs on which we made a diagnosis of ectopic pregnancy.

SYMPTOM COMPLEXES SIMULATING NEURASTHENIA.*

By H. J. HAYES, M. D., Richmond, Va.,

Associate Physician, Tucker Sanatorium; Late Clinical Assistant Neurological Institute of New York; Late Clinical Assistant Orthopaedic Hospital and Infirmary for Nervous Diseases, Philadelphia.

My purpose in taking up this subject is to call attention to the infrequency of neurasthenia and at the same time to attempt to show that among the large number of cases which are dismissed with the diagnoses of neurasthenia and hysteria, we are not dealing with neurasthenia or hysteria at all, but with well recognized conditions demanding entirely different consideration. Either of the above terms is exceedingly difficult to describe when an honest attempt is made. Restricting the term neurasthenia to a state of nervous fatigue, we have to exclude a number of conditions which were included by Beard in his original description. A number of mild mental cases, early organic nervous conditions and ductless gland dyscrasias, are frequently passed by with the diagnosis of neurasthenia or hysteria.

I feel that, while there is such a condition as neurasthenia, a large majority of these cases are congenital and do not require the stress and strain which are ordinarily looked upon as exciting factors. It is true that many of these individuals do not fully declare themselves until about puberty, but on considering their past life we are able to see that their nervous make-up has not been normal. We frequently find that this type has not been exposed to the stress and strain which are looked upon as exciting causes of their so-called "nervous breakdown."

Confining the term neurasthenia to the above group, we are confronted with a large number presenting many and varied complaints and which are ordinarily diagnosed neurasthenia. It is this type of patient to which I wish to attract your attention.

I believe there is a conscious or subconscious realization of an inability to adjust themselves to existing conditions in a large number of cases, of which the true neurasthenic forms a small group. In defense of this unfitness many subjective sensations are brought forward by the patient. These patients are frequently dismissed after a physical examination as having nothing to account for their complaints. The

psychic make-up is neglected, which accounts for our failure to appreciate the whole picture. A correct interpretation of the individual as a whole is absolutely necessary if we are going to be successful in aiding them to adjust themselves.

Cases belonging to manic depressive psychosis, and especially in the mildly depressed phase, frequently have many indefinite complaints. These individuals present a slight depression which is obscured by such complaints as insomnia and general nervousness, with the cardinal symptoms retardation and self-depreciation not pronounced. Another type frequently seen is that having a morbidly anxious state about subjective sensations, depending on physiological activities, which they look upon as abnormal. Quite a number of this latter type, to which the term anxiety psychosis is applied, frequently develop in later life a pronounced hypochondriacal depression. The true hypochondriac should be mentioned here only to be dismissed as being congenitally insane.

There are other patients who have the emotion of fear developed to a pathological extent, which is shown by a morbid anxiety, the basis of which may be manifest or latent. Many of these individuals have complaints which are indefinite at first sight, but which can be accounted for readily if true consideration is given to the psychic factor. The somatic element is not as marked here as in the true anxiety psychosis.

Another group frequently looked upon as neurasthenics is that of the obsessive-psychoneuroses. These individuals simulate the neurasthenic in that their weakness is a congenital one, the complaints which they present being only exaggerations of their normal mental mechanism. There is usually a mild depression accompanying the fears and doubts which these individuals have. The anxiety, depression and fears that are seen in these patients can be removed in a large number of cases, but to do this it is extremely important to recognize just what we are dealing with and outline proper measures, as shown in the following case:

Patient, male, age 40. Present condition started about 12 months ago. At this time he had an acute infection, lasting about six or eight days. He recovered from this, but had some general muscular pains, which were called neuritis. This condition was aggravated on moving around, which was apparently the basis of the psychic mechanism which

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

kept him in bed for about twelve months. He was apprehensive about over-exertion. Careful examination disclosed no organic disease. We presented his condition to him and started him on graduated exercises, along with massage and general re-education.

While in bed the only fear he had was that of over-exertion, but this was all that was needed to confine him to bed. He progressed steadily under direction, but developed many other fears, none of which were marked enough to cause any decided retardation of his recovery. The rest treatment or any suggestion of this kind would have strengthened his obsession.

These cases do exceedingly well on a plan of treatment consisting of graded exercises, general tonic measures and re-education.

DEMENTIA PRAECOX AND ALLIED CONDITIONS.

We frequently see patients in the adolescent period of life exhibiting a slight change in the emotional sphere, developing a hypochondriacal moodiness and complaining of difficulty in thinking, with a slight intellectual loss. They are restless and irritable and fatigue easily, which is accounted for by some physical condition. The symptoms presented by these individuals are different from those of organic or toxic disturbances known at present. It may be that we are dealing with a chronic chemical disturbance and have acute exacerbations. These so-called allied conditions seldom return to normal, though they may not follow the course of true dementia praecox and are frequently considered neurasthenics.

Mr. H., age 23.

Family History: Father and paternal uncle highly developed intellectually, but used alcohol excessively. Brothers and sisters normal.

Past History: Patient did only fairly well at school; was quite popular on account of being good natured. At about 18 he started to work, which required strict attention and application. He was able to fill the position fairly well for about two years, when his employers noticed that he was neglecting his work, at times showing periods of abstraction. These periods increased in length and finally resulted in his giving up his work.

He was easily irritated, rather moody at times, and fatigued easily. This condition has progressed slightly in the past two years. At present he shows a definite mental deterioration but is able to do physical work under direction in a satisfactory manner.

OBSCURE CASES HAVING A LUETIC BASIS.

The possibility of syphilis being the etiologic factor in our obscure cases should never be overlooked. Latent syphilis is frequently responsible for many and varied nervous and systemic manifestations, as has been proved by routine serological examinations. I think that fully twenty per cent. would be a fair estimate of the frequency of a luetic infection in

the cases seen by the internist and neurologist. The vegetative nervous system offers a rather broad investigative field which is at present beginning to receive attention. Just what signs and symptoms the vegetative nervous system will give when luetic involvement also occurs we are unable to outline. Could not many indefinite complaints be due to perverted function of the vegetative apparatus when attacked by the spirochetes?

Paresis. Early paresis is frequently mistaken on account of the indefinite symptoms presented. We should not wait for the expansiveness which our text-books portray. Memory gaps, general nervousness, slight change in personality and speech defects are far more common. Unfortunately, these symptoms are not combined in the early cases and we have to subject these individuals to blood and spinal fluid examinations. This admission of the inability on our part to be certain of the diagnosis from the clinical side alone is far less humiliating than to have our apparent neurasthenic later diagnosed correctly as a case of general paresis.

Male, age 40. Complaints: general nervousness, depressed for past 18 months. Excited and irritable at times. Two unconscious spells 18 months ago, slight hemi-paresis followed, which cleared up in short time

Examination: Pupils small, equal, slightly irregular but quite active. No tremor. No speech defect noted on first examination; this was much plainer in conversation than on test words. Reflexes exaggerated on right side. Blood and cerebro-spinal fluid examinations showed positive reactions.

This case illustrates several facts. Pupillary reflexes may be lively late in central nervous syphilis and that unconscious attacks, first noted in adult life, may be forerunners of a stormy future. Neurasthenic symptoms frequently mask a well-defined clinical entity. Serological examination is essential in obscure cases.

BRAIN TUMORS.

Early in the course of brain tumor cases we are liable to mistake these for functional cases, especially so in those cases in which there is an infiltrating growth in some silent area of the brain and which is giving no definite objective signs. These cases, having more or less continued headache, should not be dismissed with the diagnosis of neurasthenia, or auto-intoxication, without consideration of cerebral syphilis or neoplasm, as is shown by the following case:

Miss L., age 44. Headache started in August, 1914,

persisted until November, unaccompanied by other symptoms; slight nausea noted at which time she had also shown slight memory gaps and a tendency to be silly. About January 1, 1916, she developed a slight intention tremor of the right.

Examination: Negative, except for the tremor on the right side, which was very slight when alone, but much exaggerated when under observation, suggesting a functional condition. Exaggerated reflexes in lower extremities, no clonus or Babinski. Blood negative, spinal fluid negative except for slight increase in globulin. Eyes negative. No further changes noted until February 22nd, when patient had three general convulsions. This case illustrates the difficulty in some organic cases.

The patient was seen by good men who were unable to be certain as to whether the patient's condition depended on an organic basis or not.

The patient died April, 1916, of septicæmia following the opening of a small skin abscess on right shoulder. Autopsy revealed infiltrating growth about the size of a walnut in the left frontal region.

These observations have been confirmed by a careful review of our last year's work at the Tucker Sanatorium.

212 West Franklin Street.

THE STREPTOCOCCUS AS A FACTOR TO BE RECKONED WITH IN THE TREATMENT OF TUBERCULOSIS.*

By KENNETH M. FERGUSON, M. D., Marion, Va.

While tuberculosis within itself is a sharply localized disease, there is an early constitutional derangement expressed in a slight daily rise of temperature, as a result of the absorption of the proteins and destructive metabolic products, this experience varying, of course, with the number and size of the diseased process, as well as idiosyncrasy, "The absorptive capacity of the circulatory channels seem to exercise a wide range of variability at different ages; the young absorb more freely than the aged, hence the fact that children compared with older people show much more pronounced constitutional symptoms" (Cornet). Not only is this true in tuberculosis, but in many other diseases, and must be due either to a greater absorptive capacity, or to a given amount of poison in a smaller quantity of blood. The natural inference, then, is that every case of tuberculosis, even in its early stage, does not conform with absolute exactness, to the same unbending cast-iron rule in the manifestation of its symptoms; but in the great majority of instances, we have a daily exacerbation of temperature in the incipient stage of tuberculosis that conforms with the same regularity as the temperature pro-

duced by malaria, and so generally true is this, that it is regarded as one of the most valuable symptoms in an early diagnosis. This effect, then, must rest upon some cause. The injection of tuberculin, which to a certain extent is analogous to the direct absorption of the metabolic products of the tubercle bacilli, if practiced in the morning hours, will be followed by a rise in temperature in the evening and night hours. There must be in effect something in common between the natural absorption of bacterial toxins and the injection of tuberculin; and if it requires several hours for the tuberculin to effect a rise in temperature, it would naturally require a similar length of time, for a similar agent taken into the circulation by natural absorption to produce a similar effect. If it can be assumed, then, that the absorption of bacterial toxins goes on continuously, it is not illogical to further assume that "during the fever period, there is a dilatation of the internal vessels, including those distributed through the lungs, and a corresponding decrease of pressure in the pulmonary arteries and veins, which brings for a time, upon the part of the blood, a decreased capacity for the absorption of foreign material" (Cornet), and during this period of diminished absorption, excretion goes on naturally and necessarily to the extent of eliminating largely the bacterial toxins from the blood, with the effect, of course, that the dilatant action upon the vessels of the internal viscera, after a time is arrested, and blood pressure rises. As a consequence absorption is resumed in a greater measure, until the entire procedure repeats itself. We know that activity favors absorption, and that rest reduces it. During the hours of sleep absorption is naturally diminished. The return of the waking hours brings again a period of activity in a measure greater or less, the morning cough results in an increased intrathoracic pressure, and with the ordinary activity of the day comes again increased absorption of the poisons, followed as a result with the characteristic fever. This, with a cough, is about the usual outline of incipient tuberculosis, while the tubercle bacilli is the sole cause of the constitutional manifestations. The unarrested case, however, soon passes into the stage of softening and excavation and then in addition to the tubercle bacilli, other microorganisms are discoverable in the sputum, chiefly the streptococcus. "Bacteriological in-

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vestigations after death have proven, beyond peradventure, the presence of pyogenic bacteria in the lungs in intimate union with tubercle bacilli, and pus germs have been obtained in almost pure cultures from purulent contents of cavities" (Babcock). The temperature now becomes irregular, in an advancing case of tuberculosis, and in intensity is measured by the toxemia of this mixed infection, reaching 102 degrees, 103 degrees, 104 degrees, or even higher. The hectic fever is believed to be due to the absorption of toxins generated by the streptococcus in the lungs, and is spoken of by Cornet as the "fever of absorption".

Moreover, it is a common clinical observation that the more active the breaking down of pulmonary tissue, the more intense becomes the fever, chills, perspiration and emaciation, so that one cannot escape the impression that such phenomena are dependent upon mixed infection, and not upon the tuberculosis *per se*.

Again, in the stage of mixed infection a type of fever is seen, which is characterized by wide differences in its extremes, and which the Koch school has termed "the streptococcus curve." In ulcerative phthisis without pyrexia, the bacteria have either lost much of their virulence, or the absorption of their toxins is prevented by the free evacuation of the cavities. This, with a more aggravated cough, is but a brief outline of the usual symptoms of tuberculosis after the stage of mixed infection has been reached.

Incipient tuberculosis has been and is regarded as a very curable disease, and available statistics bear out this claim. While we have no specific in the way of a remedy for incipient tuberculosis, yet we all know that under the basic principles of absolute rest, fresh air and heightened nutrition, that a great many cases get well; but after the stage of softening and excavation has been reached, when micro-organisms other than the tubercle bacilli are found in the sputum, chiefly the streptococcus, tuberculosis is regarded as a very incurable disease, and so true is this, that the question is one of world-wide concern, and in our dread of this disease, in our helplessness in contending with this disease after the stage of mixed infection, after the streptococcus has become a factor, we speak of it as the "Great White Plague".

It has occurred to me that the great keynote in the successful treatment of tubercu-

losis, except in its very incipency, must be on the principle of eliminating the streptococcus, and with that thought in mind, I have been experimenting some, and I have a case to report. Mrs. B., age thirty, mother of three children, negative family history, except one brother and one sister, who died of tuberculosis about two years ago. I treated the brother for several weeks after the stage of mixed infection, without result; he lived in Bristol, Virginia, returned home, and died with a typical, uneventful history of tuberculosis, living about eighteen months from the beginning of the attack. The sister's case was in my hands entirely, except a few weeks spent at Catawba; hers was a rapid, vicious type of the disease, dying in about twelve months from the beginning of the trouble. This case seemed an exact duplicate of the case I have to report. The first evidence of trouble in Mrs. B's case was that she ceased to menstruate after June, 1914. The latter part of October in the same year she went to bed with a temperature. The diagnosis of her physician was typhoid fever, but she has had a temperature from then till now. A cough began to develop about the time she went to bed, and in latter part of December a sputum examination was positive. I saw her once in the middle of the winter in consultation; she then had marked tubercular trouble in both lungs, her maximum temperature then being 102 degrees. In May of the present year she came into my hands. After an arrangement that was satisfactory to her and to her physician, she came as a free patient, with the understanding that she would submit to my experimentation. At that time she had many tubercular centers, rapid softening and excavation; her temperature was 102 degrees in the morning and 103 degrees, 104 degrees, and sometimes as much as 105 degrees in the evenings, pulse rate about 135, marked emaciation, weighing less than eighty pounds. Her maximum weight when first grown was 125 pounds; she had not been weighed for some years prior to her sickness, but is supposed to have weighed about one hundred and ten pounds at the beginning of her present illness. When I began to treat her, when her fever was highest, she had almost a continuous cough, bad nights in consequence, heavy night sweats, was raising about half pint of heavy sputum a day, no appetite, bedridden with a bad bed-sore on

her back. While it is impossible to say just what any given case of tuberculosis is going to do (for they do unexpected things sometimes), still, in the face of such a picture as I am here relating, it does not take much of a stretch of the imagination to see that the end was near at hand. In my judgment she would have lived about six weeks. It was under these conditions that we began in our effort to eliminate the streptococcus. In the *Journal A. M. A.*, of May 8th, this year, I read an article on the treatment of pellagra by auto-serotherapy, and was struck with the idea that auto-serotherapy might be a very potent agent in the treatment of disease. About this time my friend and neighbor, Dr. Greiner, treated a case of puerperal sepsis with auto-serotherapy with such marvelous results, that I was anxious to make the experiment in this advanced case of tuberculosis, that was dying from the rapid destructiveness of the streptococcus with its intense toxemia, associated, of course, with the tubercular bacillus. Accordingly, the treatment was begun. The technic in using auto-serotherapy is simple; a piece of canthos plaster about one and one-half inches square is smeared with vaseline or olive oil; the grease is then wiped off as nearly as you can, and the plaster at bed-time is placed on the chest; by morning a blister will have formed, furnishing about one c. c. of serum, which is drawn into a hypodermic syringe and injected into the muscle of the arm, or any other site that may be preferable. This procedure we repeated in this case about every four days, and no daily record was kept of the case, other than the patient took her own temperature about three times a day, and reported the fact to me on my next visit. In the early part of this treatment she began to show signs of improvement, the temperature began to average a little lower, the cough began to improve some, and the appetite picked up a little, and a general improvement has followed till now, after six months of this treatment, the patient has gained in weight more than twenty pounds, the expectoration has diminished from about half pint of purulent, heavy matter a day to two or three drams, as much improved in character as lessened in quantity, patient can sleep the night through without coughing once, and a general sense of well-being obtains. The tubercular trouble, however, is still active, the temperature

ranges from normal to 100 degrees. If the patient is up two or three hours, or is annoyed by the children playing over her bed for the greater part of the day (as often happens), or is visited much by the neighbors and talks from morning till night, then, under these conditions, her temperature reaches 100 degrees; but if a day of quiet is had, her temperature at maximum is 99 degrees. The pulse rate has come down correspondingly, ranging from 85 to 95. This patient's environment is not first-rate; she is in bed on an upstairs porch—that part of the environment is all right; but the nursing has been unskilled and by one who has had no experience in tubercular cases. She has her meals three times a day, and her diet is the same as the other members of the household. This patient is utterly incapable of understanding the meaning of absolute rest; she believes that this principle was all right when she did not have strength enough to move, but now she believes that it is all wrong; but, notwithstanding these things, notwithstanding the fact that she has many tubercular centers, and has had extensive excavation, and notwithstanding the further fact that she has been sick almost unto death, still, if the streptococcus is kept eliminated, and some unforeseen complication does not develop, she may get well. For the sake of experiment, I have on two occasions in the history of this case allowed three weeks to go by without any serum given, on the first occasion when the patient had not improved so much: the temperature began to crawl up again, and a general intimation of all the old symptoms began to return. On the second occasion this was true in a very much lighter sense, and in each instance all of these symptoms cleared up under two or three injections of serum. How antigens in the blood serum, when assembled by a blister, and injected into the muscle with a hypodermic syringe, make antibodies that wipe out the streptococcus regardless of its location, I do not know; but that it does do it, is not a vision of faith, but a vision of fact.

Only a week or two ago I treated two cases of recurring boils; one of these patients had this trouble for two months or more, the other for six months. This latter case told me that he had for the last six months thirty boils on the forearm and hand, had six or eight active

ones at the time I treated him. I put a blister on each patient and gave them each one c. c. of serum, and in each instance, all of the evidences of the boils disappeared in four days.

I treated a second case of incipient tuberculosis within the last six months in this way, where the streptococcus was not a factor, and the treatment was without result, and the tubercle bacilli, so far as I know, is still invulnerable to the direct influence of any remedial agent as a specific. If tuberculosis, except in its incipiency, is ever successfully treated, it will be through the principle of eliminating the streptococcus, which I know can be done through autoserotherapy, and I believe it can be done by autogenous vaccination. The tubercle bacillus is a micro-organism of extreme minuteness, and so true is this that Koch would never have found it, had he not first seen it by the eye of faith, and established his method of counterstain. The tubercle bacilli is not only minute, but it is a germ of light toxemia, as compared with other micro-organisms, and unaided by other micro-organisms it would take the tubercle bacillus a long time to destroy life, if it ever would. When we remember that the streptococcus is a germ of rapid growth, of high toxemia, coarse and strong as a micro-organism, making inroads upon any character of tissue where it may gain a place of abode, it is not strange that tissue so fragile as the lung would yield to its destructiveness and power, and it is not strange that tuberculosis has been an incurable disease where the streptococcus has stalked unhindered.

This plan of treatment is so logical, and this method is so simple and available, it is sincerely hoped that all who have opportunity in treating tuberculosis where the streptococcus is a factor, will prove the worth of this principle, so that out of the mouths of many witnesses, its virtue may be generally and quickly known.

July 27, 1916.—This patient passed an uneventful winter, spent in bed on an upstairs porch. In May she menstruated for the first time in two years, and has continued to menstruate. While she has not been weighed recently, her weight is apparently about the same as reported in this article. Her temperature when she is comparatively quiet is $99\frac{1}{2}$ —a hundred and over if she moves around much. She spends her time on the upstairs porch, eats

and sleeps well, coughs and raises some, and her sputum shows more or less tubercle bacilli. About every week or ten days she takes a hypodermic of auto-serum administered by her sister. Aside from this she has no special treatment.

FOCAL INFECTION, WITH ESPECIAL REFERENCE TO THE NOSE, THROAT AND EAR.

By CLARENCE PORTER JONES, M. D., F. A. C. S.,
Newport News, Va.

Auto-intoxication from pyogenic organisms is perhaps the most important field of medical investigation of the present day. Such cavities, sinuses, cryptic and furrowed structures as are found in the upper respiratory tract and ear, are manifestly a source of much of the focal infection which is contributing to the symptoms of not feeling well, general inability to work, acute disease of the upper respiratory tract, as also to the gastro-intestinal tract and rheumatism.

When a person can carry on the functions of the body without hindrance, the body weight remaining the same, with a continual feeling of well-being, he is said to be in perfect health. Such a person resists infection, and has a tremendous advantage over his fellow who is perhaps just a little subnormal in health. Every one present knows the gastro-intestinal disturbance a chronic appendix or gall bladder disease will set up. Likewise, I dare say that no one present believes that rheumatism is due to some obscure miasma in the blood or to an error of diet, as was formerly believed, but, on the contrary, is due primarily to focal infection, a true toxemia, and that correct diet, by improving the patient's resistance, helps nature to cure the rheumatism. This focus may be anywhere, gastro-intestinal, faucial, or in any part of the body. The reason that the tonsil is thought to be the chief seat of rheumatic infection is most likely due to its ease in detection as, with a blunt probe pressed against the anterior pillar or a small dull curette passed down into a crypt, pus will be caused to ooze from the tonsil.

Chronic toxemia, barring malaria and a few other maladies in this climate, is practically always due to a pus focus.

It is not an uncommon thing for otologists to operate for mastoiditis to relieve a condition

of toxemia, having a history of middle ear disease, followed by some tenderness over the mastoid, but the chief symptom is a slight rise of temperature each day which cannot be attributed to any other cause. This is true of the frontal, sphenoid, ethmoid and maxillary sinuses. There is so much written on the importance of the tonsil and adenoid being the finest culture medium for pathogenic bacteria, that I will not dwell on this phase, or the importance of prompt treatment of these organs when diseased, as this fact has been settled many years.

Of course, any pyogenic organism may be the cause of this infection; the more common, though, being the staphylo-, strepto- and pneumo-cocci, as also the *B. tuberculosis*, *septus* and *micrococcus catarrhalis*. Vaccines of the combined common bacteria, dead, are a useful adjunct to treatment.

The chief treatment is the thorough eradication of the focus by intelligent surgical procedure when the same is possible. A few cases from my records will illustrate the good effects of radical treatment better than further description along general lines.

Case 1.—Mr. A. C. J., business man, age 31, consulted me in November, 1913, with history of a diagnosis of tuberculosis four years previously, though no sputum examination had ever been made. He had ever since that time been spitting slight amounts of blood on rising, preceded by a violent coughing spell. His condition seemed bad; he had a slight rise of temperature most every day. I found an abscess which emptied by a fistula, between the left tonsil and posterior pillar. This tonsil being enucleated, no other treatment was given, and his recovery to perfect health and rapid increased weight was evident. He gained 26 pounds in four months and is in splendid health at present.

Case 2.—Miss H. L. T., school teacher, age 49, consulted me January, 1909, complaining of dull headache, some rise of temperature each day, easily fatigued, and had a general lazy feeling, as she expressed it. There was no pain except occasionally a dull wave from root of nose radiating over right side of head. Her maxillary sinus was found to be filled with pus. Upon the evacuation and cure of the sinusitis, all the symptoms disappeared except some fifth nerve neuritis which ensued for several months after the treatment. Though the fever, laziness and dull headache disappeared,

sharp waves of pain continued to bother her two or three times in 24 hours, and would pass over the course of the fifth nerve like an electric shock, as she expressed it. However, this disappeared in about six months. She has been perfectly well ever since.

Case 3.—Mr. T. W. I., electrician, age 27, consulted me in February, 1914. He was pale and weak, had poor digestion, was easily fatigued, and said he loathed work in any form, felt too lazy to breathe through his nose; that he would soil several handkerchiefs a day, and had much disagreeable hawking and spitting on rising each morning. On examination, his ethmoid cells, anterior and posterior, right and left, were filled with pus; there were also some polypi present. These latter were removed and the cells cleaned out, catarrhal vaccine being administered in conjunction. All of his symptoms rapidly disappeared and he was speedily restored to health, remaining so until December last, when he again reported, saying he was afraid there was some return of the trouble. I found that a few remaining ethmoid cells in the right nasal chamber were filled with pus. I cleaned these out, gave him catarrhal vaccine, with prompt curative results. He is quite well now.

Case 4.—Mr. C. G., college student, age 20, consulted me in May, 1911. He had a history of middle ear abscess five years previously. There was at times a slight discharge of pus from the right ear, the left being normal. He had a distinct septic look, said he became fatigued, followed by a moderate rise of fever, upon any unusual exertion, and never felt just quite well. There was a small perforation in the drum; but there was no pus visible in the canal. There was no swelling, redness, or pain over the mastoid except on firm pressure over the tip. The mastoid was opened and found to be necrotic. After the operation he had good health, which continues to the present.

Case 5.—Mr. J. W. G., age 61, baker, came to see me in November, 1909. He suffered greatly from rheumatism, had been under treatment for six or seven years with only relief at times; said he had grippe eight years before, and had had dull headache frequently since. While his appetite was good and he was able to be about most of the time, he never felt quite well. Free purgation and strict diet made him feel much better, yet the pains in his joints would return promptly

when he would transgress his diet list. His left frontal sinus was found to be diseased. Upon operation, I found pus and several polypi. Good drainage was established through the nose, the sinus was packed from the forehead, and was subsequently dressed from this region. His rheumatism promptly got well. He is still free from any symptom.

There are quite a few more cases I could give you, but these five illustrate the points at issue. You will recall in a former paper before this society, I reported a series of cases illustrating reflexes, more or less remote in character, cured by removal of pressure from the vicious circle, or so-called sensitive area, in the nose. But this little paper is intended to call attention to systemic toxemia due to a local pyogenic focus, and to elicit a full discussion of the subject. I agree fully with Frank Billings when he says the head is the seat of probably the majority of focal pyogenic seats, as the bacteria of the air can invade this region so easily. Yet, as he says, the gall bladder, kidney, appendix, rectum (as fistula in ano), and other sites, are sufficiently numerous to cause a systematic hunt to find them. In other words, if a person is not in good health, the body functions hindered, it is the physician's duty to find out the cause and to remedy the same, bearing in mind that it is not always how much work we do, but how well we do it that counts.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Senescence and Rejuvenation. By C. M. Child, of the University of Chicago. The University of Chicago Press, Chicago, Ill. Price, \$4.

One of the most mysterious facts in life is the succession of generations. The problems of reproduction, growth, inheritance, are and always have been of immense interest. The process of growing old is one of the few which Professor Child endeavored to trace. From experimental investigations during a period of fifteen years he succeeded in establishing certain facts which present an adequate interpretation of age changes. He points out how the rate of growth decreases and at the same

time the rate of metabolism decreases, how the structural elements become less plastic, atrophic in later stages. He considers the following questions: How do young and old organisms differ from each other and what is the nature of senescence? Is it a feature of the fundamental processes of life or the result of incidental conditions? Is rejuvenescence of old organisms or parts possible? Is the process of senescence in a given organism always of the same character, or does it depend upon the environmental conditions? Is the rate of senescence always the same in a particular species, or does it differ in different individuals according to the action of internal or external factors? To some of these questions the author gives a definite answer; to others the answer is provisional. In order to understand fully the phenomena of senescence in man one must look for the physiological processes in the lower forms. A very interesting and quite original feature of Child's work is the demonstration of the occurrence of rejuvenescence independently of sexual reproduction. In the higher forms the possibilities of rejuvenescence are apparently very narrowly limited, but in the simpler organisms it is a characteristic feature of life.

The book is a proof of high erudition of the author. The difficult problems are excellently discussed and every thoughtful mind will find here abundant material for reflection and education.

ALFRED GORDON, *M. D.*

An Introduction to Neurology. By C. JUDSON HER-
RICK. W. B. Saunders Company, Philadelphia.
1916. Price, \$1.75.

In a biological introduction the author endeavors to determine the part played by the nervous system in the adjustment between the inner activities of the living organism and the activities of surrounding nature. The function of the nervous system consists therefore of establishing internal and external relations. In a very able resume the author considers the anatomical and physiological peculiarities of the nervous system, the neuron, receptors and effectors, reflex circuits. In discussing the chapter on Cerebellum, he considers the vestibular apparatus which is so closely connected with the latter. The visual and olfactory pathways and functions are treated

in a very interesting manner. The sympathetic nervous system is also given due consideration. Particular stress is laid on the structure and function of the cerebral cortex. A very instructive chapter is that on evolution and significance of cerebral cortex. There the author displays great erudition. The book is written in an entertaining manner and is a valuable addition to the neurological literature.

ALFRED GORDON, *M. D.*

Pharmacology and Therapeutics for Students and Practitioners of Medicine. By HORATIO C. WOOD, JR., *M. D.*, Professor of Pharmacology and Therapeutics, University of Penn.; Second Vice-Chairman of the Committee of Revision of the U. S. Pharmacopœia. Second edition. Philadelphia and London: J. B. Lippincott Company. 1916. 8vo. 455 pages. Cloth. Price, \$4.

This second edition includes changes that have recently been made in the U. S. Pharmacopœia, thereby necessitating extensive alterations which have likewise been necessary to keep apace with the rapid advances in the sciences of pharmacology. The articles on veronal, digitalis, pituitary, atoxyl and salvarsan have been almost completely rewritten, and important alterations made in those on potassium, caffeine, dionine, ergot, ipecacuanha, magnesium, calcium, and hexamethylenamine. A number of other substances not considered in the previous edition have received more or less extensive notice. A number of unofficial drugs have been considered because the author deemed them of practical importance, while he has also included a number of substances which he believes of little remedial value because of their recognition by the Pharmacopœia. An innovation in the Pharmacopœia which has been followed in this work is the adoption of the British term "mil" for the thousandth part of a liter. We do not like it though our objection seems to be fully met by the equal use of ordinary apothecaries' weights. Chapter I deals with Preliminary Considerations, after which subjects are grouped according to their physiologic and therapeutic actions—a plan that has always appealed to us with favor, especially so as each agent is listed alphabetically in the index. The author is regarded as one of the leaders of therapeutic science, and the volume before us seems to fully sustain his reputation along this line.

The Physician's Visiting List for 1917. Flexible leather, wallet-shaped, with pencil, in three styles: weekly, monthly and perpetual editions. P. Blakiston's Son & Co., Philadelphia. Price, postpaid, \$1.50 to \$2.50, according to style.

This visiting list, besides the usual blank spaces for record purposes, contains likewise the usual printed matter—calendar, utero-gestation table, poisoning, weights and measures, etc.,—in addition to which we note an American table of mortality, height and weight table, while the dose table is brought up-to-date and includes an entirely new list prepared in accordance with the new U. S. Pharmacopœia (1916). This list, which gives the dose in both the apothecary and metric systems, is an exceedingly useful feature, as there were many changes, improvements in standards, new drugs and other material inserted.

The Practitioner's Visiting List for 1917. Four styles: weekly, monthly, perpetual, sixty-patient. Pocket size, substantially bound in leather with flap, pocket, etc. \$1.25, net. Lea & Febiger, Publishers, Philadelphia and New York.

This is a convenient visiting list for keeping the records of daily practice. In addition to the ruled pages for daily calls, it contains specially arranged spaces for obstetric practice, deaths, addresses, etc. The text portion contains a scheme of dentition, tables of weights and measures, table of doses, therapeutic reminders, antidotes for poisons, and other correspondingly valuable information. It is printed on paper which is suitable for either pen or pencil, and is bound in handsome grained leather.

Editorial.

The Control of Smallpox.

Diphtheria, scarlet fever, whooping cough, measles, smallpox, and infantile paralysis are contagions every state desires to control; therefore, quarantines of varying degrees of severity are established by different states.

Quarantine and control as a state proposition is very expensive when state system of control is enforced; even then it frequently fails. Such a proposition can be much easier and more effectively handled in cities. Quar-

antime and control are local problems and the responsibility is purely local.

In the control of smallpox, laws require notification to the health authorities, exclusion of exposed children from school, warning placards, vaccination, quarantine and disinfection, with penalties for neglect or refusal to comply with any of the requirements.

To notification there can be no objection; the only objection that can be raised against placarding premises is the injury a sign causes commercial, financial, and social interests, with a possible chance of making a dishonest physician. Since the vital interests of a community are of paramount importance, these objections do not carry weight. The dishonest physician is the only one that would cause anxiety, but they are usually discovered by inspectors or law officers.

The vaccination and the revaccination requirement need no comment, since vaccination has been proved time out of mind to be the surest safe-guard against smallpox. It is not necessary to produce statistics in the matter: experience will convince where an array of figures will fail. Our personal experience, when intimately connected with the management of smallpox, the employment of nurses and others connected with the hospital, shows an absolute immunity against the disease in those who were either vaccinated or recently revaccinated; none others were under employment there.

The violation of the principles of personal liberty, in its relation to vaccination, must not be considered in the control of smallpox in either adult or minor person, for the reason that the advocates of this principle are a menace to a community where they have been exposed as contact or suspect.

The Police and Fire Departments and the Public Schools in the District of Columbia require vaccination or revaccination, or evidence of an attack of smallpox, as a prerequisite for appointment or admission. And the cases of this disease among these persons is negligible.

The quarantine requirement is the most important for consideration. It is this that causes more trouble and expense than anything connected with the management of the disease; there is either no intelligent interpretation of the term, or there is an abuse of the power to control, which the law permits.

Quarantine alone does not prevent smallpox after the expiration of the legal period of the quarantine; it only adds to the chances or possibilities of an outbreak of the disease at some future time; it alone is never effective after the appearance of smallpox or where there has been a mild, undiscovered case, as these undiscovered cases, while not ill enough to seek the advice of a physician, have frequented public places, public entertainments, and have been carriers of the infection and contagion.

Quarantine to be of any service must be enforced with vaccination; it is here that quarantine exerts its influence; a quarantine without vaccination will grant a temporary immunity; its effect is local and its only lasting effect is to encourage the unvaccinated to remain unvaccinated; it only makes the offender more strongly impressed in his fallacies. "Effectually quarantined" is an expression too vaguely used; it is a false security, and instead of a city having a protected population, the number of the unvaccinated steadily multiplies; liability to smallpox is retained and increased.

"No health officer or health department that claims that quarantine will stop the occurrence or spread of smallpox has a right to insist upon the people's being vaccinated, for, if quarantine prevents smallpox, it prevents the necessity of vaccination."—(Special Bulletin No. 45, March, 1915, State Board of Health of North Carolina.)—To this should have been added: Nor shall such officer or department be sustained by the State of North Carolina.

Our belief has been and still remains that quarantine is a fallacy unless it is established in connection with vaccination for the unvaccinated. We advocate the vaccination of all who have been exposed to the disease. We advocate and would compel the vaccination and if necessary the revaccination of every unvaccinated contact, with his removal to a municipal quarantine station, and his detention during the legal period of quarantine; revaccinate every previously vaccinated contact and discharge him, but require him to report at stated times for observation. In the event of his refusal to comply with these directions, he, too, would be placed in the quarantine station, but this man would not cause much worry, for did the disease manifest itself, it would soon enough be known. This is not an honor quarantine; it is an intelligent quarantine, for the

reason it entails no hardship upon the breadwinner; it reduces the expense of control, and preserves the friendship of the man; he will become a willing and an unpaid assistant to a health department.

He would in the end be able by this method to abolish quarantine against this disease.

Our conclusions are: 1—quarantine is expensive; 2—quarantine without vaccination is a fallacy; 3—quarantine without vaccination begets a feeling of false security; 4—"Effectually quarantined," as employed by the public, is an unworthy expression; 5—vaccination is the only protection against smallpox; 6—abolish quarantine and let the responsibility rest upon those members of the community who want the disease; 7—every city should charge and collect for the maintainance of those sick of the disease, who are, when sick, not residents of the city where they are found; 8—abolish the placard just as soon as disinfection of the premises has been completed; 9—remove every case of smallpox to a municipal smallpox hospital; 10—levy the cost of home quarantine against the premises; 11—if necessary, refuse supplies at the city's expense.

L. E.

The Southern Medical Association,

Meeting in Atlanta, Ga., the middle of November, selected Memphis, Tenn., for its 1917 place of meeting and elected the following officers: President, Dr. Duncan Eve, Nashville, Tenn.; vice-presidents, Drs. S. R. Roberts, Atlanta, Ga., and Bransford Lewis, St. Louis; secretary-treasurer and editor of journal, Dr. Seale Harris, Birmingham, Ala. Mr. C. P. Lorz continues as business manager of the journal. The following were elected presidents of the various sections: Surgery, Dr. F. Webb Griffith, Asheville, N. C.; medicine, Dr. Jas. McLester, Birmingham, Ala.; public health, Dr. A. T. McCormack, Bowling Green, Ky.; eye, ear, nose and throat, Dr. Thos. W. Moore, Huntington, W. Va.

As at former meetings, health topics were discussed by a number of prominent physicians from the pulpits of a number of churches on the Sunday prior to the meeting. The program of papers was varied and interesting, including a discussion of a large number of the diseases to which flesh is heir. There was an unusually large number of clinics and the en-

tertainments left nothing to be desired to make this meeting most enjoyable.

The Southern Association of Railway Surgeons,

At its annual meeting in Atlanta, Ga., during the meeting of the Southern Medical Association last month, elected Dr. Joseph M. Burke, Petersburg, Va., president; Dr. I. W. Cooper, Newton, Miss., vice-president, and Dr. Ambrose McCoy, Jackson, Tenn., was re-elected secretary-treasurer.

The South Piedmont (Va.) Medical Society

Held its semi-annual meeting in South Boston, November 21, Dr. W. L. Williams, of Brookneal, presiding. There was a good attendance of members and visitors. In addition to papers on the subject for general discussion, Gastric Ulcer, a number of other interesting papers were read. Dr. George A. Stover, South Boston, is the very efficient secretary of this Society.

Dr. and Mrs. William Meredith,

Of Gouldin, Va., were called to Roanoke, the latter part of November, by the illness of Mrs. Meredith's mother. Their home was also recently visited by fire and was saved from being destroyed only by the timely aid of some of the neighbors.

The Seaboard Medical Association of Virginia and North Carolina

Is to hold its annual meeting at Washington, N. C., December 19-21, 1916, Dr. David T. Tayloe, of that city, presiding. Indications are that there will be a large attendance and a fine meeting. The secretary is Dr. Clarence Porter Jones, of Newport News, Va.

Changes in U. S. Navy at Norfolk, Va.

Surgeon Reginald B. Henry has been ordered to the Naval Training Station, Norfolk.

P. A. Surgeon Martin Donelson has been detached from the receiving ship at Norfolk, and ordered to the Pennsylvania.

P. A. Surgeon G. C. Rhoades has been detached from the Naval Hospital, Norfolk, and ordered to the San Francisco.

P. A. Surgeon G. W. Shepard has been detached from the Norfolk Receiving ship and sent to Training Station at St. Helena, Va.

Dr. V. W. Quillen,

Recently of Coeburn, Va., has purchased the property of Dr. H. J. Baker, at Nickelsville, Va., and moved there the first of this month for the general practice of medicine.

Dr. Joseph Bear

Delivered a lecture on November 26, at the Young Men's Hebrew Association, of this city, his subject being "The Practice of Medicine of Today."

Dr. James H. Smoot,

Woodstock, Va., has been elected president of the Shenandoah County, Va., Agricultural Society, which plans to hold their first fair next October.

The Pi Mu Medical Fraternity

Held its annual convention at the University of Virginia December 1 and 2, many visiting delegates and alumni being in attendance. They were entertained on the first night with a model initiation, followed by a banquet at the University tea room. The following officers were elected: Vice-councilor, Dr. Hugh Young, Baltimore; senior councilor, Dr. Paul V. Anderson, of Westbrook Sanatorium, Richmond; junior councilor, Dr. James A. Kirk, Louisville, Ky.; general secretary, Dr. W. B. Blanton, New York; assistant general secretary, Dr. R. A. Webb, Jr., Johns Hopkins Medical School; treasurer, Dr. A. M. Willis, Richmond; editor of publications, Dr. Greer Baughman, Richmond; historian, Dr. J. A. Waddill, University of Virginia; visiting delegate, Dr. Paul W. Howle, Richmond; chairman extension committee, Dr. E. D. Plass, Johns Hopkins Hospital.

Dr. Joseph I. France,

Of Baltimore, has been elected to the United States Senate from Maryland.

The Southern Surgical and Gynecological Association

Is scheduled to hold its annual meeting at White Sulphur Springs, W. Va., December 11-13, under the presidency of Dr. Thomas S. Cullen, of Baltimore. Dr. William D. Haggard, Nashville, Tenn., is secretary.

Dr. William G. Thompson

Has resigned as professor of medicine at Cornell University Medical School, so as to give his whole time to professional work. He has been succeeded by Dr. Lewis A. Conner.

Dr. and Mrs. John W. Winston,

Of Norfolk, Va., have been recent visitors at Bowling Green, Va.

Dr. H. H. Jones,

Of Doe Hill, Va., has been the recent guest of relatives in Harrisonburg, Va.

Dr. A. M. Brent

Has returned to his home in Heathsville, Va., after a visit to Baltimore, Md.

The Southside Virginia Medical Association

Will hold its last meeting for 1916 in Petersburg, December 12, Dr. H. A. Burke, of that city, presiding. This is the meeting for the election of officers. Dr. E. F. Reese, Courtland, is secretary of the Association.

Dr. M. P. Deboe,

Formerly of Bedford County, this State, but who has resided in Cooca, Fla., for the past three years, is at present at the Baltimore, Md., Eye, Ear and Throat Hospital.

The Virginia State Board of Medical Examiners

Will hold its winter examinations in this city, December 12-15, 1916, for the examination of applicants to practice medicine and surgery in this State. Dr. J. N. Barney, Fredericksburg, is secretary-treasurer, and Dr. R. S. Martin, Stuart, president.

Dr. Edward Brooks,

Charlottesville, Va., spent a few days at his old home in Chase City, Va., the middle of November.

Dr. J. William Ebert,

Of Lutherville, Md., visited at the home of his parents, near Winchester, Va., the latter part of November, having made the trip by automobile.

Dr. W. T. McLemore,

Of Courtland, Va., was a visitor in Suffolk, Va., last month.

Principal Causes of Death.

According to a preliminary report of the Bureau of Census nearly one third of the 909,155 deaths reported for 1915 in the registration area, which contained approximately 67 per cent. of the population of the entire United States, were due to heart diseases, tuberculosis and pneumonia, and nearly two-thirds were charged to twelve causes—the three just named, Bright's disease and nephritis, cancer, apoplexy, diarrhea and enteritis, arterial diseases, diabetes, influenza, diphtheria and typhoid fever. The principal epidemic diseases of childhood—whooping-cough, measles and scarlet fever—were responsible for 11,489 deaths of adults and children together. The "Safety-first" campaigns have reduced the rate of deaths from accidents by railway, street-cars, automobiles, mines and machinery, the rate per 100,000 for accidental deaths having fallen from 85.3 in 1913 to 76.3 in 1915. The number of deaths from suicide varied little from that of the past ten years. The use of firearms as a means of suicide seems to have increased.

Dr. James J. Phillips,

Who has for several years been engaged in the practice of his profession at Tarboro, N. C., has been appointed resident physician at White Sulphur Springs, W. Va., to succeed Dr. Oscar Kniffler, who has left for New York. Dr. Phillips will be associated with Dr. G. B. Capito.

Grace Hospital To Be Enlarged.

Plans have been accepted for the enlargement of Grace Hospital, this city, by the addition of three stories to the present building, thus practically doubling the capacity of the hospital. This will make the hospital, which will cost approximately \$30,000, a six-story structure. It is expected the improvements will be completed by next summer. Grace Hospital is the private hospital of Drs. H. Stuart MacLean and Robert C. Bryan, of this city.

Dr. Frank Redwood and Family,

Of this city, have been recent visitors in Suffolk, Va.

Dr. A. L. Tynes

Returned to his home in Staunton, Va., the

latter part of November, after a visit in Richmond.

Dr. Lewis Holladay,

Orange, Va., spent several days in Charlottesville, last month.

Dr. Manfred Call,

Of this city, visited Arvonnia, Va., the latter part of November, and spent several days hunting with friends.

Fined for Failure to Report Births.

After doing all possible to secure compliance with the birth registration law within ten days after birth, the Virginia Health Department has finally entered upon the prosecution of violators of this law, physicians and midwives, and states that it will proceed in other cases as fast as possible. If we have been neglectful of this law, it might be well even now to make immediate report of these cases.

Dr. Robert E. Booker,

Of Lottsburg, Va., who has been on a visit to Indiana and North Dakota, has returned home.

Dr. and Mrs. J. C. Dunford,

Of Portsmouth, Va., spent Thanksgiving with relatives in Richmond.

Dr. Frank Hancock,

Norfolk, Va., was a visitor in Richmond, early this month.

Health Campaign To Be Undertaken in Montgomery County.

The Board of Supervisors of Montgomery County, Virginia, at its regular meeting the latter part of November, agreed to appropriate \$300 for an intensive health campaign in that county, thus meeting the offer of the State Health Department to contribute \$900 for such a campaign. Much enthusiasm has already been aroused in the county over this project.

Dr. Perkins Glover,

Arvonnia, Va., was a recent visitor at the home of his brother, Dr. Samuel Glover, at Midway, in Nelson County, Virginia.

Dr. A. H. Deekens,

Recently of Fredericksburg, Va., is now located at The Plains, Va.

The American Academy of Ophthalmology and Oto-Laryngology

Is to hold its annual meeting in Memphis, Tenn., December 11-13. Dr. J. E. Brown, Columbus, O., is president, and Dr. Lee M. Francis, Buffalo, secretary.

Dr. and Mrs. Harry Wall,

Of Norfolk, Va., were recent visitors in this city.

Dr. and Mrs. E. H. Miller

Have returned to their home in Danville, Va., after spending the Thanksgiving holidays in Richmond.

Money Bequeathed for a Hospital.

Miss Molly Elliott Seawell, the authoress, who died in November, in her will provided for the erection of a hospital in Gloucester County, Va., under the auspices of the Sisters of Charity of the Roman Catholic church, as a memorial for herself, her mother and sister.

Dr. and Mrs. Charles Mangum,

Of Chapel Hill, N. C., were visitors in Richmond for the Thanksgiving holidays.

Dr. A. Murat Willis,

Of this city, the latter part of November visited Farmville, Va., from which place he and Dr. R. L. Hudgins went on a hunting trip.

Number of Patent Medicines Barred From Sale in Virginia.

Upwards of 250 patent medicines, which contain enough alcohol to require for their sale the payment of a United States liquor dealer's tax, are barred from sale in this State, by the prohibition law which became effective in Virginia in November. It happened, however, that none of the prohibited drugs was made in this State.

"If you would hit the mark you must aim a little above it; every arrow that flies feels the attraction of the earth."—*Longfellow.*

"Ever tempted to sell your automobile?" asked the cheerful idiot.

"The temptation is strong enough," replied Dr. Inbadd, "but there are too many points involved. You know I mortgaged my house in order to buy the machine. Then I mortgaged the machine in order to build the garage and now I've had to mortgage the garage in order to buy gasoline."—*Exchange.*

Railway cars would be sanitary if it weren't for the people in them.

America's typhoid fever bill is more than \$270,000,000 a year.

The full dinner pail is the enemy of tuberculosis.

Obituary Record.

Dr. Philip Mills Jones,

Secretary of the Medical Society of the State of California and editor of the *State Journal*, died in San Francisco, from pneumonia, November 27, aged about 47 years. He was born in Brooklyn, N. Y., and graduated in medicine from the Long Island College Hospital, Brooklyn, in 1891. He took a prominent part in the organization of the California State Society in 1902 and was one of the trustees of the American Medical Association.

Dr. Charles H. Todd

Died suddenly from heart disease at his home in Owensboro, Ky., November 12. He was 78 years of age and had graduated from Tulane University, New Orleans, in 1861. He was surgeon in the Confederate service throughout the Civil War and had been for many years prominently identified with the medical profession in his section.

Mr. Martin I. Wilbert,

A member of the Council on Pharmacy and Chemistry of the A. M. A., died in Philadelphia, November 25. He was a member of the revision committee of the U. S. Pharmacopeia, and was an active worker in the passage of the anti-narcotic law.

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Original Communications.

REPORT OF A CASE OF ASTHENOPIA AND HYSTERICAL AMBLYOPIA RELIEVED BY INTRANASAL OPERATION.*

By CLIFTON M. MILLER, M. D., Richmond, Va.

Associate Professor of Rhinology and Otology, Medical College of Virginia, Ophthalmologist, Rhinologist, etc., Stuart Circle Hospital.

Headache caused by intra-nasal pressure, without acute inflammation or any suppurative condition in the accessory sinuses, is not new, and mention has been made on the subject by various observers. It has been usual to consider headache of nasal origin to be at its worst upon arising in the morning and gradually to subside as the day passes, but this view is so often wrong that it should be abandoned and a more detailed and searching examination of the nose made in cases of repeated or persistent headaches.

In making examination of this character we should be careful not to jump to the conclusion that, because a lesion of the type for which search is being made is found, the cause of the discomfort and pain is discovered. This sort of precipitancy in diagnosis will often lead to a prognosis more hopeful than the actual physical state of the patient justifies. The rhinologist, because he is specially skilled in one branch of medicine, should not allow himself to lose his sense of perspective and hence be led to attribute all human ailments to some pathological condition present in his own special domain. Close affiliation with the internist is essential, and with his aid careful search of the general condition of the body must be made.

Gastro-intestinal stasis with absorption of putrefactive material from the intestinal tract

is an abundant source of headache. Renal and cardio-vascular lesions giving rise to high blood pressure and deficient elimination. Various aberrations of the pelvic organs in women are a fruitful cause of suffering of this type. Any of the foregoing conditions may give rise to a nasal congestion that will produce pressure and be the immediate cause of the headache, but relief of this pressure by surgical intervention is not good rhinology when, by going back and properly regulating the general condition of the patient as to diet, etc., and outlining a correct therapy to meet the systemic abnormality, the local condition in the nose will be cured and the patient far more improved than if a surgical operation had been done for the relief of pressure and we had let it go at that.

Syphilis, eye-strain and intra-cranial lesions must, of course, be eliminated, but the elimination of these is merely a part of our examination and sifting out of all other causes than nasal pressure as a factor in the production of the suffering of the patient before us.

Many cases of headache due to nasal pressure have come under my observation in the past few years, but the one reported had some characteristics not found in any of the others.

Mrs. I., of Florence, S. C., age 33, first seen October 28, 1907, on account of asthenopia, for which glasses were given and worn with comfort till February, 1910, when she returned for another examination, wearing the glasses given at this time till October, 1912. She returned in December, 1913, with the history of not having obtained the usual relief from her glasses, and has had considerable photophobia, worse at times than others, but can give no reason, such as greater eye-work, etc., for the increase at such times. Examination of her refractive condition revealed no change necessary in her glasses. Examination of her nose showed enlarged middle turbinate on the right side,

*Read before the Eastern and Southern section of the American Laryngological, Rhinological and Otolological Society, at New Orleans, La., March 3-4, 1916.

pressing firmly against the septum. Removal was advised but not accepted.

Between December, 1913, and April, 1915, she came three times to have her eyes examined and each time the photophobia was more marked than at previous examination and vision less acute without any lesion of the ocular fundi. Between these dates she was operated on for appendicitis and some gynecological repair operation done. She was also in the hands of an internist who after a most careful examination could find nothing wrong except the above surgical conditions the remedy of which he hoped would incidentally result in cure of her headaches which were now constant and the vision so much reduced as to prevent her use of her eyes. At each eye examination in my office she could be coaxed up to seeing a little beyond her first vision by distracting her attention and changing the type now and then. She was sent by the internist to one of the most prominent ophthalmologists in this country, who was informed of the pressure of the middle turbinate, which in my opinion was the cause of her symptoms. He did not concur in this opinion but simply made a diagnosis of hysterical amblyopia and asthenopia and directed that she be amused and her nourishment kept up, etc., all of which had been done for about a year. She returned to me in despair of her condition, and said she was willing to do anything. Her vision was .2 in the right eye, and .3 in the left. My advice in regard to her middle turbinate was repeated and she consented to its removal, which was done April 1, 1915. Since this time she has had no headache of consequence; her vision February 4, 1916, was .8 in the right eye, and 1 in the left. She sews, reads, or uses her eyes in any way she desires with her correcting lens which she has never been without and photophobia is entirely gone.

There was no pus in her middle turbinate, so this case was not one of those cases of retrobulbar neuritis from purulent ethmoiditis, but was undoubtedly hysterical amblyopia due to the constant pain of ethmoidal pressure, though she was not what would be considered ordinarily a hysterical subject,—being bright, energetic, thoroughly interested in everything going on about her, and happily married, being the mother of two bright, healthy children.

3 West Grace Street.

MEDICAL IGNORANCE AND MEDICAL ETHICS.

By J. LUTHER SHEPPE, A. B., M. D.,
Red Sulphur Springs, W. Va.

I was called, January 5, 1915, at 9.30 a. m., to Mrs. L——, the wife of a Lithuanian. She was a rather stout, robust, healthy young woman, a primipara, who had been suffering from pains of a more or less intermittent character since 9 o'clock the night previous, and consequently she concluded she was going to be sick. Digital examination revealed a slightly patulous os, just admitting the index finger. No pelvic engagement of the fetal head had as yet taken place. Anticipating a long and tedious labor, I left, promising to return in two hours. Going back at 12 o'clock, I found conditions about as before except that the fetal vertex was beginning to engage in the superior strait. I assured them that labor was now setting in in earnest; that everything was proceeding in an entirely normal manner, but that first labors were generally slow and that it would take time. After a lapse of a couple of hours, I saw that the husband was getting restless and uneasy. Foreigners are very suspicious of American doctors and often negative the physician's efforts by failing to carry out his instructions. Moreover, it is difficult to make them understand. The woman was disposed to bear her pains badly, which served to increase the anxiety of the husband. He said: "Maybe you give medisheen." Again I endeavored to reassure him. I told him his wife was in no danger; that there was no cause for alarm; that labor was going on all right, but slowly; that it was impossible to hurry nature without risk to the woman. Looking up at the clock, he said: "Jesus Christ! 2 o'clock, no 'ketch' baby." Putting on his coat he went out. In about two and a half hours he returned accompanied by Dr. Blank. During his absence labor had progressed considerably. The head was descending through the superior strait, the os had dilated the size of a silver dollar and within could be felt the amniotic sac which had become somewhat tense.

At 3 o'clock I had administered six grains of quinine sulphate and one hour later six grains more. Contractions were now becoming fairly regular, perfectly normal conditions prevailed, and everything augured a speedy and satisfactory termination of labor.

Dr. Blank, whom I had never seen, introduced himself and proceeded at once to take charge of the case. I observed that I did not know I was to have a consultant. He said: "Did they not tell you?" I said, "No." The first thing he did was to pull a flask of whiskey from his pocket and call for a glass and water. Emptying about half of the contents of the flask into the glass, he drank it, saying he needed it to brace him up, or words to that effect. His manner and speech showed that he was already under the influence of liquor. He then washed his hands and proceeded to make a digital examination, in the course of which he ruptured the "sack of waters," remarking to those present as he did so that it would be all right in about ten minutes. Let it be remembered at this point that the first stage of labor was just becoming firmly established, that it was by no means completed or near completion, the os, as before remarked, being dilated to the extent of admitting two fingers.

The doctor now asked if I had my hypodermic needle with me, saying he had left his at his office. I replied in the affirmative. He said he wanted to administer "peeturshun" (pituitrin). I remonstrated—told him that in my opinion such a course was positively dangerous under existing conditions and that I would not be a party to it. He scoffed at the idea, said it was a fine thing, that he had used it hundreds of times, and that he would show me how to do it. He insisted upon the use of my needle, to which I finally agreed upon condition that he assume all responsibility for the results. After fumbling in his case for a time, he said, "I'm sorry I haven't the 'peeturshun' with me, but I will use ergot instead." I again protested that it was exceedingly bad practice to exhibit ergot in the first stage of labor, but to no purpose. Taking an ampule of ergot, he attempted to load the syringe, but failed utterly (too drunk.) I then loaded the syringe for him and he injected the medicine at once. He then called for vessels in which to sterilize his forceps, preparatory to making an instrumental delivery. I immediately withdrew from the case.

I afterward learned that it was the habit of this man to use instruments in every case in order to be able to charge a larger fee. I was called in consultation with a colleague in two cases delivered by him. In one case we found

the perineum torn entirely through, involving the sphincter, and left in that condition, no effort at repair having been made. At the time of our examination (six weeks after delivery) it was a foul putrid sore.

In the other case, a high forceps operation had been done against the protest of the woman, a multipara, whose former labors had been normal in every particular and who told the doctor she was getting along all right, to let her alone and give her time, with the result that the baby's neck was broken. But the doctor, drunk as usual, swore he did not intend to remain there all night, and persuading the patient to take a little chloroform to help her along, as he said, applied the forceps while she was under anesthesia, dislocating the neck of the baby and ripping the perineum through to the sphincter ani. Examination showed that the tip of one blade of the forceps was over the anterior fontanelle and that the other blade was over the occiput with the tip at the base of the skull. In addition to killing the baby, a fine big boy, this professional "boozeheister" infected the mother, as might have been expected; consequently, she developed a malignant case of puerperal septicemia, which came near ending the poor woman's life.

These cases suggest several subjects that deserve comment: First, powerful and dangerous drugs, such as pituitrin, in the hands of ignorant and unscrupulous doctors, cause untold suffering and harm and are a menace to human life. Every intelligent, well-informed practitioner knows that pituitrin is an emergency remedy and that it should not be exhibited indiscriminately. The indications for its use, also, are well known and need not be stated here. Possessing, as it does, the power of producing almost tetanic uterine contractions, that it should never be used until the os is fully dilated, none but an ignoramus will deny. Even then the delivery may be so precipitate as to seriously endanger the integrity of the soft tissues. Furthermore, the accoucheur should be absolutely sure that no anomalous presentation nor mechanical obstruction exists. The erratic action of pituitrin is a matter of common knowledge. A single injection of 1 c.c. may produce a ruptured uterus; while, on the other hand, two or more injections may be entirely negative in effect.

In view of these facts, how important is it, therefore, that the doctor, into whose keeping

are committed the lives and well-being of his patients, should be a man of sober judgment, thoroughly informed as to the possibilities of the means he employs for the alleviation of the sick and the suffering; skillful in the application of all remedial agencies; in whose thought the welfare of his patients occupies first place: a man of spotless moral integrity in whose breast the honor and purity of woman is held as a sacred trust; who does not belittle the ills of his clientele nor parade them before the community,—in short, a gentleman. But, you say, doctors are human and no better than other men. Is it too much to expect of the doctor that he be a gentleman?

Inscribed in flaming letters over the portals to the halls of medicine should be this legend: "Let no 'boozeheister,' no adulterer, no violator of female chastity, no moral leper, no dope fiend, no charlatan enter here." These are the things that degrade the profession, that drag it down to the level of the gutter.

The medical profession should be a profession of high ideals, noble purposes, and unbounded humanitarianism. The responsibilities of the profession demand that its votaries possess the keenest intelligence, the broadest culture, the soundest judgment, the profoundest sympathy, and the highest skill. In the hands of one thus equipped, the interests of the patient will be safe.

But alas, how far below this lofty standard has the once noble calling fallen! Sordidness and venality are fast becoming dominant factors in the practice of medicine of the present day. Graft is not confined alone to politics and business. It has invaded every sphere of human activity. It would be strange, indeed, if the ancient and honorable profession of Æsculapius should escape its blighting effects. That the yeggman should make his appearance in the ranks of medicine and surgery need excite no surprise. The sole object and aim of this medical vampire is to get the almighty dollar, no matter how. He is a pastmaster in the art of fee-getting. His motto is: "Get the coin," and there is no depth to which he will not go, no means however dishonorable which he will not employ, in order to accomplish his ends. The question uppermost in his mind is not what can I do to help the patient but what can I do to make him part with his cash. The interest and welfare of the patient is a secondary consideration, if considered at all.

Consequently minor ills are exaggerated in order to multiply visits and run a big bill. Fake examinations and fake diagnoses are made. The fears of patients are taken advantage of to induce them to undertake treatment for diseases that do not exist. The credulous are persuaded to undergo operations either at home or at a hospital for easily remediable conditions. In the latter case the medical dollar-chaser is rewarded to the tune of "\$25 per." Unjustified operations by the thousand are done. The profession seems to have gone surgery-mad. Surgery has its legitimate field, but that it has been overdone cannot be gainsaid.

The appendicitis game has been played to the limit and the same may be said of the organs of the female pelvis. Through ignorance or from a purely mercenary motive every pain below the diaphragm is diagnosed appendicitis, notwithstanding the fact that only fifty per cent. of the cases diagnosed appendicitis at the Boston General Hospital, according to Cabot, prove to be appendicitis. Patients suffering from pneumonia, typhoid fever and other acute conditions have been operated for appendicitis. Even the pregnant state has not escaped.

Thousands of perfectly innocent and unoffending ovaries, tubes, and uteri have been sacrificed upon the altar of the surgical juggernaut, and thousands of women have been doomed to lives of invalidism and misery in consequence. Many a brilliant operation has gone to the credit of the great surgeon while the patient has gone to the cemetery. A voice is heard in Ramah, Rachel weeping for her children because they are not.

But suckers are plenty and the game goes merrily on, while the medical and surgical yeggmen wax and grow fat.

Small wonder that the profession of medicine has lost the confidence and respect of the laity and the esteem in which it was once held and that the public has gone off after strange gods—advertising fakirs, patent medicine nostrums, faith-healers, spine-adjusters and all the rest of that ilk.

The ethical aspects of the case deserve notice. Had Dr. Blank possessed the most elementary principles of a gentleman, after acquainting himself with the conditions, he would have reassured those concerned that everything was all right; that labor was proceeding in a nor-

mal manner, but that time would be required as first labors are often slow and tedious; that there was no cause for uneasiness or alarm; that the doctor in charge was doing everything that could properly be done under the circumstances. This done he would have collected his fee and taken his leave.

It is a lamentable fact that there is less co-operation, less spirit of fair-dealing and mutual helpfulness, less spirit of fraternalism among the members of the medical profession than any other class. There is no craft or guild at the present time that has not its organization or union for mutual interest and protection. Not so medicine.

Justice, a square deal, professional courtesy among doctors in their treatment of each other are becoming rare virtues, observed more in the breach than in the performance. The ranks of medicine are filled with assassins, pirates and four-flushers, speaking from the standpoint of professional honesty and fair-dealing, to whom the code of ethics is a dead letter; who are utterly wanting in the first instincts of gentlemen; whose venomous darts are launched at every competitor who comes within range of their influence. There is nothing too sacred that they will not sacrifice in order to compass their purpose. The most damnable of the whole predatory crew is the "pussy-footer" who sneaks around and seeks to discredit you everywhere and on every occasion by innuendo and by open misrepresentation; who endeavors to steal your patients by belittling you and your treatment; who assumes an air of wisdom and know-it-all if called in your absence, smells your medicine, shakes his head and forthwith changes the prescription; who cuts rates in order to induce your patrons to leave you and employ him and in a thousand and one other ways, directly and indirectly, seeks to injure you and destroy your business. And the most deplorable thing of all is that these disreputable medical marauders hide under the hypocritical cloak of "good standing."

These are some of the unpleasant reflections connected with the practice of medicine. There are good and bad, honest and dishonest, in every calling and medicine is no exception. You can not make a velvet purse from a sow's ear, nor will a course of training in a medical college transform a moral degenerate into an angel of light. It is a happy thought that most

regular physicians are honest, sincere, and competent, albeit there are many who are not.

The medical profession as a whole is a dignified, honorable, intelligent body and the pity of it is that the profession is unable to protect its honor and good name from being besmirched by the disreputable conduct of certain ignorant and unscrupulous individuals who have gained access to its ranks.

COLONIC AND APPENDICULAR INFLAMMATIONS.*

By WILLIAM W. PENNELL, M. D., Mount Vernon, O.

"'Tis better to have loved and lost than never to have loved at all" is a beautiful thought poetically expressed. To have done any other thing and failed does not fall on the ear with the same romantic melody, although just as commendable if within the scope of worthy endeavor.

Medicine and Surgery are two forces designed to restore or ameliorate the sick and injured, the one the auxiliary of the other. The outlines of their aggressive activities may be as tortuous as the shore-line of the sea, as the effort with disease surges back and fourth, neither trying to supplant the other.

Of these two forces, Medicine is the older and therefore the nobler, since, without doubt, man's conception of his greatest duty toward a sick or injured fellow-being was to preserve every atom of his anatomy with functional activity intact. Experience, however, showed that disease as well as injury not only destroyed parts but whole organs as well, and that the remainder, if separated from the corrupting part or organ, could live and enjoy a restricted existence. Therefore, Surgery was born not only to widen and improve the methods of reduction of luxations as practiced by the primitive physicians, but to assist nature casting aside every deleterious condition that was endangering the life and well-being of unaffected parts.

As before stated, Medicine and all that it implies, is greater than Surgery because its office is the highest conception of man's duty to man; yet, to the undiscerning the transcendent results of the physician's profound patience are mere trifles compared to the achievements of Surgery, because the unseen and unsensed marvels of Medicine seem mere

*Read before the Knox County (Ohio) Medical Society.

pigmies alongside the colossal tangibilities of Surgery.

'Tis better to have never given medicine than to have given much without clear diagnosis; or, with clear diagnosis, to have given so little as to be of no effect.

Surgical anesthesia cannot be produced by infinitesimal doses of an anesthetic; so medicines, to accomplish medical results, must be given in doses adequate to the work expected of them, and they should so harmonize, with the conditions with which they are to deal as to produce the best possible results with the least amount of delay. As above hinted, medicines to do good must be given to effect, and this effect must be maintained until it becomes permanent.

The mere giving of medicines is not a part of the physician's art, and no one is benefited by merely taking medicines. Right or wrong, medicines act according to the amount given; no process of trituration or agitation can dynamize a medicine in the least beyond increasing its solubility, and since the human organism is the ultimate judge of all the potentialities such a medicine may possess, and is the real triturator and demonstrator of every soluble article taken into the system, experience has proven that beyond ordinary solution no power is added to a medicine by agitation or trituration. Trituration outside potable solution is dilution, and dilution is weakness. Were this not true, trituration and agitation of food-stuffs would revolutionize the markets of the world.

Thought, outside that which excites disgust for the substance swallowed, cannot affect that which is put into the stomach. What the stomach will do with it is not a matter of faith, nor of suggestion, nor even a consequence of exerted will power on the part of the swallower, or any other person. The person who, by mistake, takes an emetic when he believes he is swallowing a diuretic, will vomit in spite of his faith; or if poison instead of a balm he will die before he will be soothed; if he takes a narcotic instead of a stimulant, sleep and not intoxication will follow. Belief that a gun was not loaded has resulted in many a death.

Physicians and surgeons, like poets, are born, not made; humanitarianism and not commercialism is their characteristic; neither could make a money-lender, for the money-lender finds a poor devil in a tight financial state and

straightway prepares plans to shear away as much as possible of the unfortunate fellow's remaining wealth. That game is old as adversity. Professional commercialism, exerted where hardship ensues, goes a step deeper in meanness.

It is the patient's interest, and not the physician's or surgeon's, that is supreme in any sickness. Personal gain and renown are in the background; to do good, the only ambition; contentment with doing not overmuch nor too little; to give the same service to the worthy poor as to the worthy rich. Worthless humanity as an asset anywhere is undesirable, and not a proper recipient of the preserving hand of either medicine or surgery.

The normal colon is a self-cleansing cess-pool. Like the nose, ear and womb, it has an accessory space or cavity which, on the invasion of inflammatory disease as a precaution against infection, is hermetically sealed. Of course, to the colon the feces are not feculent, nor the fluids that are gulped and voided by the appendix an offense to the appendix. The percentage of infections of the various accessory spaces of the nose, as compared to the number of inflammations of the nose and pharynx that are seen, is infinitesimally small because of the sealing referred to on the approach of danger. Even gonorrhoeal ophthalmia seldom finds its way into the nose and throat.

Inflammation wherever found has the same characteristics. That of a secreting surface does not materially differ from that of an excreting surface. Causation alone determines its course, results of cause suggesting its treatment. Being a remonstrance against whatever the cause may be, itself is not a morbid process; rather a summoning of all the bodily powers to cast out the thing that would work injury to the whole body.

An inflamed area may be amenable to medical treatment; the same area might be involved in a process requiring surgery; if a mucous membrane, it can rid itself of purulent formations by secretion and excretion through natural drainage, thus preparing the way to recovery; if of other tissues, pus formations must have drains established. Every such activity stands on its own merits and cannot be subject to an *ipse dixit* that prescribes a routine treatment under all circumstances. The sun is ever rising and the sun is ever setting somewhere; so, many a gastric and many an intestinal in-

flammation arises in a pyorrhoea, or in that state of the mouth caused by wearing an old rubber plate reddened by cinnabar of mercury while being vulcanized, and many a health goes down under a cause operating far from its base of origin.

The resistance of the body to disease is wonderful; less wonderful perhaps than is its power to wholly recover after having resisted disease. So wonderful are these powers that men learn to become careless in shielding themselves from exposure, and laugh at the suggestion. But there will come a time when resistance loses its hindering force. The enemies that have laid siege to the citadel overflow the battlements and swarm into the deepest recesses of the fortress. Even then they seldom find inflammable material; it is dogged enough to ignite feebly. Beseiged and besiegers, in the long-drawn battle, have undergone change; pictures arise that the helping hand of medicine or surgery might have prevented. In the ear, deafness from obstruction of the Eustachian tube and fixation of the stapes; about the duodenum, chronic atrophic cholecystitis with semi-jaundiced skin, misanthropic disposition, constipated bowels and ideas; in the colon, an obliterated appendix, resembling the obliterated Eustachian tube, no longer a possible menace to the life of its possessor.

As said, to the normal colon the feces are not feculent, nor is the urine putrescent to the bladder. It is when these products decompose from too long retention that harm supervenes.

Thorough regular drainage of the colon is essential to health. Were this a matter of continual observance, the chance of difficulties arising therein, aside from unhealthy materials introduced through the mouth, would be well-nigh impossible. A deeper, stricter insistence on the part of parents, teachers, and physicians, regarding the importance of this observance, would be of incalculable benefit to the general welfare.

Constipation, regardless of cause, is always a source of danger as is also the retention of urine; yet, there are colons and there are bladders that are never wholly drained. Of course, if physicians and surgeons knew as much and could do as much as some people imagine, the evils that follow these states would vanish at the invitation. So, since they have no immediate cure for what years have been accumulating, every sort of makeshift is resorted to for temporary relief—a pleasing dummy that

replaces no elasticity in either bladder or colon.

The man who operates a patent medicine shop and calls himself a pharmacist, the one who peddles from house to house, and the one who cries his wares on the streets, are of the same ilk. With pills, powders, syrups, and teas, not to mention the varied forms of syringes, these lure the sufferers on to increased difficulties with the promise to cure. Any one can give cathartics, suggest laxatives for sluggish bowels; if the physician ranges himself with those mentioned he can expect no higher estimate of himself than is placed on them. Yet, the physician should be more than an offerer of make-shifts.

The indiscriminate use of cathartics is largely responsible for the prevalence of constipation, however absurd that statement may seem when it is further asserted that constipation is the predominant symptom of affections of the colon. Men grow rich selling the constipated public levers with which to raise the sewer-gate day after day. How industriously they ply their trade! They would not produce a cure if they could—it would be too ruinous to sales. Not for the world would they permit colons to get so they could attend to their own affairs without aid; the more they are whipped by cathartics, the weaker they become; elasticity is lost in dilatation, increasing the sale of cathartic medicines to overcome increasing constipation.

Primarily, cathartic medicines may have had nothing to do with producing irregularity of the bowels. As such, the whole matter may be the direct result of inattention to a very necessary function. Repeated denials of the impulse to evacuate the bowels invites feeble desire and feeble effort. Diet may have a contributory part in producing irregularity, but the active factor is a continued negligence toward an effectual daily drainage of the colon. Negligence benumbs the natural impulses that are set in motion by the presence of materials seeking exit. Of course, occupation may be so engrossing as to seem negligence; and one that requires much sitting, if not counter-balanced by sufficient general exercise, with particular massage of the abdominal muscles, is sure to produce sluggish bowels; therein is the beginning of many a far-reaching disease.

The colon, once started on the way to enfeeblement, becomes the theater of certain, definite activities, especially if the excessive eating of proteids, sugars and starches is prac-

ticed and where abundance of fresh vegetables, fruits and fats is denied.

An enfeebled colon means weak peristalsis, its contents do not keep moving on, distension supervenes, muscular tone is further impaired; in the end, permanent dilatation with stasis is as certain as death itself.

Is it any wonder that a function so impaired does invite hemorrhoids, proctitis, fissures, fistula and other diseases into its tissues? Or that higher up, beyond the effects of straining at stool, that the muscular coat of colon and ileum, stretched and often sacculated, cannot protect their mucous membranes from a chronic inflammatory thickening? Or, still more, that the colon, the appendix and the ileum, should be the scene of repeated attempts to rid themselves of their putrid, irritating contents?

It has been repeatedly shown that the colon and ileum, overdistended with fecal accumulations, give way under their burden and sag downward, thus adding displacement's distress to the sequences of the one great prolific source of discomfort and impaired health—inadequate drainage of the lower bowel.

Here, as elsewhere, symptoms are not always direct. Excessive functioning on the part of the vegetative nervous system, through irritation of the vagus, may produce many peculiar symptoms distant from the abdomen. Morning sickness resulting from pregnancy is so well known as to not merit mention, but morning sickness owing to morbid processes in the abdomen and pelvis are not so generally recognized. Nevertheless, it is present more or less regularly in many ovarian, uterine, cystitic, colonic, and appendicular inflammations, and in growths in the same situations; indeed, so sharp and persistent are some of these reflexes in the digestive system as to mislead the undiscriminating.

Long before these patients with reflexes come to the physician, the patent medicine druggist and the street faker have indicted the liver and the stomach as the criminals to be punished; so, many a sick stomach is tormented with "tonics" when the real culprit is grinning at the performance some twenty feet away. Many a wrangling in the viscera has been mistaken for a wrestling with the spirit. On the other hand, now and again, one meets pain in micturition as a reflex from colonic disease, especially in neuropathic subjects; if not reflex, it is due to the quality of the urine brought about by intestinal absorption. In

either, if backache is present, and it usually is, then the physician will find a patient who has been deluged with swanpoot and safe cures for an imaginary kidney disease.

As intimated, effective drainage of the colon should be a subject of public education. It should be shorn of that false modesty that shuns mention of a function that lies so close to the welfare of the body. Not howled from the housetops, nor yet held to the hardly audible whisper that is aspirated in shame, but told in a clear, precise way. To a girl, bowel function is more important than menstrual function; to a boy, it is vastly more important than is contemplating a house in which he is to be the over-lord-some day. Let both understand it. Were this true, appendicitis as a disease of the young would lose its place on the roll of honor.

So negligent of the intestinal function are our people that every community can furnish examples of colonic and appendicular inflammations besides those of enteroptosis. Yet, could this dream of having the intestinal canal perform its work like rhythmical machinery, those in whom organic changes have occurred in this tract would continue to furnish materials to the surgical knife; not that care and medicine would not improve their condition, by any manner of means. Care and medicines would do wonders for every one of them—their inflammations, hemorrhoids, fistulae, fissures, and conditions that later might lead to malignancies.

Many an enfeebled colon strives to overcome the inertia thrust on it. Add the pressure of impaction to the pressure of congested, tortuous vessels in a tube furnished with thousands of glands capable of secreting abundance of mucus, and the result is a state that speaks louder than words. Its appeal is almost pathetic; its effort a force throbbing itself away against a stone wall. Yet, right courageously it liberates its dissolving fluids to break down the masses of corruption distending its walls, and for months, years, a constipation-diarrhea prolongs the life of this offender against the laws of nature. He is a familiar figure about the drug stores, the six-by-eight sanitarium, the Christian science rooms, street fakers, and the fellows who have medicines to sell. With headache, yellowish skin, furred tongue, constant grouch, a bunch of criticism labelled religion, he carries a breath suggestive of moving night soil. The world looks yellow to him;

chronic auto-intoxication deprives the sun of its shine, honey of its sweetness; suspicious, he doubts his right hand as it deals with his left, and is never a "hale fellow well met." Too melancholy for the pleasures of Heaven, too funereal to join in the *diabolism* of Hades, he, like Salathiel, must wander on and on.

Should he wander into the presence of a medical man he might be told he has appendicitis because he has a tender spot on the right side. He may give a history of periodical pain, for they all tell the same story, and his McBurney point may be very tender. What a pity it is that McBurney put that point on the map! I often wonder if McBurney ever saw a colon laboring like a womb to rid itself of its contents, and, in the baptism of suffering witnessed, considered the bowel as the thing offended against, and that removal of the appendix would relieve not for one minute the excruciating grind of torment that the next accumulation would cause? As well remove the Fallopian tubes to relieve the distress set up by putrid materials in the uterus, as do an appendectomy for the convulsions of a tortured colon. The optometrist might as well give lenses for his headache, the nerve specialist prescribe phosphorus and sulphonal for restless nights, and the electricity faddist apply treatment for numbness in the legs, or, if the skin dares to itch because of the irritating substances that are being washed out in the sweat, then it is that the skin specialist may deluge him with arsenic. But after all this is done, his colonic nerves will not cease to throw out a protest at the next assemblage that occurs, and he will have his old appendicitis, notwithstanding his appendix is nestling softly in the specimen case at the hospital.

Mistakes in the diagnosis of appendicitis are common. Given a pain in the right side fear that it might mean appendicitis is expressed. One might surmise as well that because there is a pain in the head that the brain is diseased. De Quervain found a hundred cases of erroneous diagnosis and operation in the Swiss hospitals; eighty of these had other surgical conditions, but twenty needed no operation at all; seven were pneumonia with abdominal symptoms. He warns that children vomit on the slightest excuse, and how they are inclined to locate anything wrong within at the umbilicus. Appendicitis is rare under five years, typhoid fever common, and three cases of typhoid were mistaken for appendici-

tis, and De Quervain warns it is better to test the blood for bacilli and put away the bistoury. In seven of these cases the patients were neuropathic; their symptoms simulated appendicitis and were needlessly operated upon.

Some two years ago I met a peculiar coincidence. I was at the Blank clinics. The case of a woman from Kansas came to the table, Dr. Ollie Blank, surgeon. He said it was an appendicitis. On opening the abdomen the spasm of the colon was plain to even a casual observer, and the appendix was healthy. Blank remarked as he directed his assistant to close the wound, "That doctor down in Kansas knew better than we; he said the trouble was nervous!" The other half of the coincidence was in another hospital and by another operator; and, like the first, the trouble was nervous and the appendix healthy; but the operator removed the appendix, saying he would save the woman future trouble; he might also have removed her ovaries to prevent a future ovaritis.

Women in whom the hymen is not intact should receive a second glance before a diagnosis of appendicitis is made—particularly if the history of the last menstruation is hazy. Girls are liable to have pneumococcus peritonitis to follow pneumonia, and a staphylococcus peritonitis often attends a pyosalpinx. Then, too, there is peculiar reaction syndrome, consisting of vertigo, syncope and pain, liable to result as the reflex from a too abrupt emptying of the colon after a period of constipation. This has been observed in many cases of chronic colitis. Mathieu cites several instances of this sort of nervous phenomena. Again, because the cecum is raised by the enlarged uterus, the appendix is much higher in pregnant women than normal.

Appendicitis is as rare before five as it is after the fiftieth year. Of 1,080 cases in von Eiselberg's clinic, but twenty-nine were between fifty-one and seventy-two. Primary cancer of the appendix is very rare, Rassieur reporting but two instances in his work.

Acute and chronic colitis find their replicas in acute and chronic activities in the appendix, their similarity being so close as to require the most discriminating tact. Particularly is this true of the chronic form. It does not do to rely on tenderness over the McBurney point. Tenderness is present in every case of chronic colitis as well as appendicitis; it is present in most cases of constipation; it is always pres-

ent in every neuropathic case, especially those who have been told that there is a sore spot in the right side when appendicitis exists. That word has a terrorizing sound to the laity; to many, the physician could not in any manner produce more distress than to make a diagnosis of appendicitis.

Aside from recurrent attacks and the persistence of more or less tumor, the diagnosis of chronic appendicitis cannot well be made. A loose cecum, bands causing angularity of the intestine with consequent pressure and increased difficulty of overcoming of constipation, the various phenomena that may arise from the rich nerve connection between the head of the colon and the superior plexus of the sympathetic have to be eliminated. Herein arise the reflex disturbances ascribed to the liver, stomach, and heart, referred to earlier in this paper. In this connection, it is well to remember that diverticula of the colon, especially in its lower part, may be the cause of much that is puzzling. These are, for the most part, responsible for left-sided appendicitis; though of course one sees now and again all the symptoms of an appendicitis on the left side where there is neither appendix or diverticulum. The most reliable symptom of appendicitis, acute or chronic, is a tumor at or near the head of the colon; this, however, is not distinctive. In the young it might mean an intussusception, indurated glands, and the like; in the middle and aged it might mean malignancy or fecal impaction. In any event, each patient, being a law unto himself, an individual who brings his personal equation to your diagnostic ability, must be weighed accordingly.

Suppose a case of appendicitis. If it is catarrhal no particular tumor will be formed. By the third day there will be an intumescence, but it will lack that full, well-defined tumor where purulent infection has occurred. It is safe to wait for tumor before operating; it is safe to put off operating, when the tumor is well-defined, until all acute symptoms have abated; it is perfectly safe not to operate in every case of catarrhal appendicitis. Just why the poor appendix should be removed for getting inflamed from surrounding unhealthy states does not appear. Certainly not because we do not know what it is for; several other structures might be removed for that reason. Certainly not because it is inflamed; other organs that become inflamed get well and do

their duty just as perfectly after as before. Certainly not because it is superfluous; arms, legs, eyes, ears, wombs, ovaries, kidneys, stomachs, spleens, gall-bladders, noses, lower and upper jaws, thyroids, and testicles, have been removed and proved to be superfluous so far as life is concerned. And certainly not for any reason except purulent inflammation in the appendix, rendering it unfit and unsafe as a part of the body, just the same as any other part which, for similar reasons, becomes a menace to the welfare and well-being of the remainder of the body. The time was when we spoke of perityphlitis and iliac phlegmon; but latterly we are told that every such case was really an appendicitis, and that the appendix is really but the functionless relic of a large ancestral cecum. We are also told of the formations found in appendices—moulds of feces, enteroliths, coproliths—and of the lodgment of foreign bodies within its lumen, and how in about two per cent. of all subjects catarrhal or obliterative appendicitis will convert this relic into a harmless bit of flesh. One might say many of these things of parts of the body not regarded as functionless relics. Collections may occur wherever there is secretion or excretion. We may find rhinoliths in the nose, gallstones in the gall bladder, concretions in the liver, in the pancreas, in the kidney, in the tonsils, and in the intestines; foreign bodies may be found wherever access to an organ can be had. And wherever formations are found, the evidences of germ life and activity will also be found. My experience for the last thirty-nine years has been so at variance with our medical teachers that I fail to see the force of the argument they urge against this little part of our anatomy. True, I have seen some ten cases requiring surgical operation; I have seen some scores of others that recovered without the use of the knife. I believe that surgical appendicitis requires surgery, just as I believe that medical appendicitis is perfectly curable by medicines. Latter-day teachings in our colleges would wrest all from the hand of medicine and place it in the crown of surgery. Nihilism in regard to the action of medicines and their power to control pathologic states stalks through the temples of Aesculapius. Recruits to the profession go forth from *Alma Mater* to gather success from the world; what once was a fair sized medicine case has dwindled to a mere

vest-pocket affair, but the surgical armament has grown from a modest walnut case to a gripsack of colossal proportions. Evidently the Creator was so thoroughly fagged out when He thought of man that He had become careless about materials, else a wholesale method of pruning would not have been devised.

"What's the use of knowing how to cure disease, when all you have to do is to cut out the unhealthy part?" asks the embryo surgeon, supplying himself with a bigger bag than the one held by the man just ahead. Perhaps he dreams; as the Burbank of his profession, he is looking forward to the day when he shall see an appendixless race of men. Yet, were he to visit every sheep-farm in the world in this year of Grace, he would behold every little lamb with his little tail behind him, notwithstanding from long before the year 1 A. D. that useless affair has been inexorably amputated.

Pardon the digression. At no time was it my purpose to present a technical paper on the subject chosen. Any sort of refuge is a good refuge when one gets to floundering. We should be as resourceful as the surgeon who had a system of abbreviations for his record of cases. Tb was tuberculosis; Ss, syphilitic; Gs, gallstones, etc. He operated a boy for appendicitis, but the recurrent attacks of right-sided pain persisted with amazing obstinacy. A student examining the surgeon's record found the letters G o k under 'cause.' He asked the old gentleman what those letters meant and was told 'God only knows!'

There is a symptom belonging to inflammation of the colon, which I have many times observed. It might be diagnosed sciatic neuritis, sciatic neuralgia, or it might be regarded as a coxalgia; but no one of these terms can be applied to it. Yet it is a pain in the hip, radiating to the knee, even to the heel, but no treatment addressed to the sciatic nerve will prove of the least service. Quite a number of these have come under my observation in the last few years; some of them limped badly in walking, and all felt better at rest, all were permanently relieved by attending to the condition in the bowel without reference to the nerve itself.

Serous and purulent inflammation at any point is associated with rigidity; tumor is present in abscess. If it is an appendical ab-

scens, tumor will form within seventy-two hours. Abscess here requires the same treatment that abscess of any other part would need. But inflammation here, pure and simple, requires no more than the same sort of pathologic process would require in any other part. At least that is the conclusion that a large experience in dealing with inflammations in these structures has brought to my mind.

It is a common thing to describe colitis as a difficulty attended with looseness of the bowels. Several discharges hourly might occur. This is all very well for acute catarrhs of the colon and even of the upper intestine. We also have been taught that in constipation there is a putrefactive activity producing toxic bodies, resulting in more or less toxemia with headache, vertigo, nausea and the evolution of gases. The discharges are described as very offensive. All physicians meet such cases. But there are cases of colitis without diarrhea just as there are constipations without fermentations and toxemia. In these the activity of microorganisms is not so evident. Indeed, they are altogether lacking. Many individuals have an action of the bowels once in three or four days, a few at longer intervals. Others again will have more than one discharge in a day. It is largely an individual matter. But it is an undisputable fact that constipation precedes what is ordinarily termed appendicitis. Over seventy-five per cent. belong to this state, the remaining twenty-five arising in acute putrefactive conditions and from direct injuries to the mucosa from sharp seeds or other solid bodies that have been swallowed. Nature is just as protective here as elsewhere. Take an acute coryza; the first act on the part of the body forces is to close up the avenues that infection might travel. The sinus and tubal blockade is complete in a short time, giving ample protection to ears, antra, sinuses and cells. The same occurs in the colon, the appendix being protected by a cordon of watchful guards. Not that the ears and other structures have ample protection in every instance. By no manner of means. We do find that the attacking cause over-rides the defenses set up, now and again. So in the case of the appendix. The trouble in the colon is greater than the little fellow's defenses.

The pains and distresses of mucous colitis are often taken for appendicitis. These are

often on the left side, but many times I have seen them on the right. Here is where we have constipation as an anterior condition; the stools may or may not contain mucus. If mucus is in much quantity, it may contain cellular and fibrinous elements and the patient may pass some puzzling shapes resembling organized flesh. The nervous susceptibility of these patients is such as to produce a secretory neurosis of the colon and accounts for much that is observed by the physician. If this form of colitis should exist in the transverse colon it must be differentiated from gastric disturbances. Removal of the appendix rather aggravates these conditions. They have their attacks of appendicitis oftener and they are more difficult of cure. Several on my list just now would be better off if the appendix was at home.

Perhaps it is a trifling thing to cut out an appendix. But to my mind any piece of surgery that makes a solution of continuity cannot be trifling. To preserve the body whole is the ideal condition. At this point the physician stands on higher ground than any surgeon. The surgeon is the maker of cripples, the subtractor of body factors, the one who says to a patient, "a part of you must be removed that the remainder may live. Half a loaf is better than no bread, and a maimed body is better than no body." Herein is the greatness of the surgeon when he performs necessary operations. But his grandeur is colossal when he spares the knife. When he will join with the physician and teach that the appendix was not put in the belly as an insurrectionist or a suffragette, to disturb the peace and welfare thereunto belonging, to be snipped off and its stump turned into the colon, except in case of abscess, he will be transcendent indeed.

Appendicectomy as a routine treatment for appendicitis is questionable treatment. It has the same faults and restrictions as any other treatment. Render unto surgery the things that are surgery's and to medicine the things that are medicine's. (By medicine is meant any procedure outside operative interference).

When a student I read Elliott's *Obstetrics*. There was one flowery gem of oratory in the volume that has never escaped memory. It was: "The man who will wantonly thrust an instrument of death into the brain of a living fetus would not scruple under the mantle

of night to use the stiletto of the assassin. Yet, how often it is ruthlessly torn from its mother's womb, and in fragments held up to the gaze of the astonished spectators as a testimony undoubted of the operator's skill."

Remove the radial bitterness from this and it would not inaptly apply to some of the performances that are made in the name of Surgery.

The work of the physician, perhaps in larger degree than the surgeon, is to bring aid to the body in a battle for existence. Without the inherent power of the body to battle for itself, outside aid would fail; it is the allmarshaling force of every intelligent unit of exterior assistance offered in the hour of need; it is the force to which every recovery should render praise. Recoveries prove what barriers this force will overcome, to what conditions it will adjust itself. Surgery as well as Medicine should fail if this adjustment did not come to the rescue. It corrects mistakes, it fills many a gap. Intelligently aided and directed, this force is almost creative in its scope. The power of the body to mend itself is the answer to the prayer of Christianity, the god of Christian science, the ammunition of the faker, the dynamics of Hahnemannism, the rubber in osteopathy, the 'discovery' in patent medicines, and the shield that protects from meddling and ignorant methods of treatment. It is the essence in every cult from

"Lo, the poor Indian, whose untutored mind
Sees God in the cloud or hears Him in the wind."
to the strangely decked Cogliostro, so that both wrought wonderful cures and accomplished much good. Physicians and surgeons should not forget that one may have planted and the other watered, but the great force they serve gave the result. If this power of the body to recuperate itself had been withheld, physicians, surgeons and all who attempt to arrest disease, would meet worse defeat than the "Little Corporal" met at Waterloo.

In no other region is this power more beneficent or quicker exhibited in disease than in the intestinal tract; especially is this true of the colon if properly drained. Here, as elsewhere, it is only an intelligent hand that can give adequate and material assistance to the inherent forces of nature. The skilful physician and competent surgeon, through exact diagnostic, therapeutic and operative measures, must ever remain the great assistants over the heavy grades of disease and disaster.

ARTERIOSCLEROSIS.*

By J. RAMSEY NEVITT, M. D., Washington, D. C.

The great number of cases in which this condition is so strikingly apparent at autopsy, together with the numerous references in literature, justify calling your attention to the subject for further discussion.

No simpler or better definition can I find than Osler's. Possibly his knowledge of this condition was the inspiration of that famous edict—sixty years; then chloroform.

Arteriosclerosis,—arterio-capillary fibrosis:—The conception of arteriosclerosis as an independent affection—a general disease of the vascular system—is due to Gull and Sutton. A condition of thickening of the arteries, diffuse or circumscribed, beginning in the intima, consequent upon primary changes in the media and adventitia, but which latter involves the other coats. The process leads in the larger arteries to what is known as atheroma and to endarteritis deformans. Considering the etiology as an involution process, arteriosclerosis is an accompaniment of old age, and is the expression of the natural wear and tear to which the tubes are subjected.

Longevity is a vascular question, which has been well expressed in the axiom that a man is only as old as his arteries. More commonly arteriosclerosis results from the bad use of good vessels, and among the circumstances which tend to produce this condition are the following: Chronic intoxications—alcohol, lead, gout, and syphilis,—all of which play an important role in the causation, although the precise mode of their action is not yet very clear. They may act, as Traube suggests, by increasing the peripheral resistance in the smaller vessels, and in this way raising the blood tension, or, possibly, as Bright taught, they alter the quality of the blood and render more difficult its passage through the capillaries. Many authorities attribute an important part in the etiology to overfilling of the blood vessels which occurs when unnecessarily large quantities of food and drink are taken. Particularly is this the case in stout persons who take very little exercise.

Of all the vessels of the arterial system, the aorta and its arch is most frequently the seat of this disease, as it is also, of other vascular degenerations. The gross pathology ranges

from the abnormal inelasticity imparted when the arch or adjacent parts is grasped between the fingers, the numerous glistening and small irregularly scattered nodules upon the surface and internal coats, to that hard, unyielding condition characterized by scaly opaque calcareous lamina surrounding the entire lumen. Also, in those advanced or extreme conditions of sclerosis of the large blood vessels the coronary arteries themselves are observed to undergo a similar change.

These vessels are seen to stand out from the muscle, and their smaller branches are easily traced. We likewise note that the heart itself, with few exceptions, is greatly enlarged. Other blood vessels, such as the radial and popliteal, though less frequently, participate in the same phenomena.

According to Rokiansky, the order of frequency with which other vessels are affected are splenic, iliac, femoral, coronary, the cerebral vessels, the uterine, brachial, internal spermatic, common carotid, and hypogastric. The arteries of the stomach and mesenteric vessels are rarely involved, and the pulmonary least commonly, except in case of mitral disease, or other conditions which impede the pulmonary circulation.

In the record of the coroner's office of no later date than last fall, there is entered one of the most remarkable cases of general arteriosclerosis of which I have any knowledge. The history of the case, as well as the record of the autopsy, which latter concerns us most, is as follows: John Doe, white, twenty-two years, single, was thrown from an automobile, and sustained a fracture and dislocation of the hip as a result of the accident. Shortly after the patient was taken to the hospital, he lapsed into a state of coma which, upon urinary analysis, proved to be entirely of diabetic origin, probably being intensified by shock. Subsequently, I learned the patient had been under treatment for some time for this disease.

At post-mortem examination:—weight about 135 pounds, height 6 feet. Hip dislocation had been reduced, and fracture of right femur put up in splints. General condition of body was fair. General arteriosclerosis; brain not examined; lungs normal; right heart dilated, and filled with ante-mortem clots; valves sclerotic; spleen, sclerotic and large; kidneys, sclerotic and large; sugar present in urine; liver, sclerotic; gall bladder normal; stomach dilated and

*Read, before the Medical and Surgical Society of the District of Columbia.

showing chronic gastritis. Pancreas was normal; intestines, normal; genital organs, normal. Cause of death, fracture of the hip; also acute dilation of the heart and shock. (Autopsist—Dr. William Brown Carr.)

I am indebted to Dr. Van Swearingen, pathologist of Freedmen's Hospital, for photographs and memoranda of cases.

Case 1.—Jennie B., colored, age 60. Clinical diagnosis: arteriosclerosis. Patient complained of pain in the right knee. X-ray was made for diagnosis; nothing was found there clinically. X-ray diagnosis: arteriosclerosis—popliteal artery.

Case 2.—Walter S., age 70, clinical diagnosis: alcoholic cirrhosis of liver and interstitial nephritis.

Case 3.—Hawkins T., age 40. No clinical history submitted other than positive Wassermann. X-ray showed advanced calcification of radial artery.

The post-mortem material of which I have availed myself is entirely from official autopsy. Looking over the records of these post-mortems, covering a period of three or four years, it is easily seen that there has been a steady percentage increase in arteriosclerosis. From a sociological standpoint, the same class of subjects were shown at the morgue as you would expect to find in the morgues in other large cities, with the exception, perhaps, that there was comparatively a greater proportion of colored people. I believe I would be safe in saying that this condition is met with more frequently in the negro.

In many of the autopsies performed, where the particular purpose was to ascertain the cause of death, whether the death occurred suddenly without obtainable clinical history, as, for instance, when found dead, or, again, when the case had not been diagnosed, and, though the condition of arteriosclerosis was marked, this latter condition was not always ascribed as the cause of death. Quite often some other pathological change would be found which did establish more accurately the primary cause of such death.

Right here I will refer to statistics quoted by H. F. Stoll (*Amer. Jour. Med. Science*, August, 1915). The statistics of Louis I. Dublin, of the Metropolitan Life Insurance Company of New York, show a condition which I believe emphasizes this question in a very fitting manner. In ten years ending with 1910,

the mortality of cerebral hemorrhage and apoplexy had increased to 18.8 per cent.; that from organic disease of the heart, 39.3 per cent.; the deaths from Bright's disease had shown an increase of 18.1 per cent., and, most astounding of all, the mortality from disease of the *arteries* had risen from 5.2 per cent. to 25.8 per cent., or 396.2 per cent.

An important factor, probably the determining factor, in vascular degeneration, is the strenuous life we lead in this country, where "Step lively" is the word. Over-work alone will not account; to the abuse of alcohol, the poisons of lead and lues, and hard labor most of the arterial changes are attributed. While definite knowledge, in spite of much experimental work, is very meager, it is probable there are a considerable number of toxins, endogenous and exogenous, that exert a deleterious effect on our cardio-vascular tissue.

Let me invite your attention to our local health officer's report for 1915 pertaining to the condition of arteriosclerosis; it will prove decidedly suggestive. Number of cases of deaths recorded as arteriosclerosis:

Age, 40 to 49 years, 1; 50 to 59, 17; 60 to 69, 41; 70 to 79, 61; 80 to 89, 20; over 90 years, 3. Total, 143.

During the following period: 1896 to 1901—White, 3; colored, 1. 1901 to 1905—White, 29; colored, 6. 1906 to 1910—White, 71; colored, 13. In the succeeding years: 1911—85 white, and 19 colored. 1912—82 white, and 23 colored. 1913—86 white, and 8 colored. 1914—116 white, and 27 colored.

Furthermore, we note the potent cause of death in the District of Columbia during the years 1913 and 1914 arranged in order of relative influence on the death rate in the latter year. First, organic heart disease, (2) pulmonary tuberculosis, (3) Bright's disease, (4) pneumonia, (5) apoplexy, (6) malignant tumors, (7) prematurity, (8) arteriosclerosis. And remember that in 1896 a total of four deaths was recorded, while in 1914, 143 certificates were received at the health office bearing arteriosclerosis as the primary cause of death.

From the foregoing we find that arteriosclerosis is assigned as the cause of death much more frequently in the white than in the colored race, and again see the steady increase each year of white cases, and decided fluctuations on the colored side. Just here I wish to

say, though apparently contradictory, that I have doubts as to the accuracy of death certificates reading "arteriosclerosis" as a primary cause of death, in individuals under the age of fifty.

We cannot deny the almost alarming increase in the frequency with which this condition is met. Bearing in mind the class of cases from which these subjects were drawn, the observation of gross syphilitic lesions in the body was not uncommon. However, I shall not try to show a relationship of arteriosclerosis and syphilis, but it does occur often enough, and I take it as being worthy of passing mention.

Then, too, if we could be justified in associating a chronic alcoholic stomach, kidneys and liver, with a comparatively marked hardening of the arteries, we would establish a condition, or analogy, which would be highly satisfactory as to cause and effect, but unfortunately, at least microscopically, such was not the experience.

I do not believe that alcoholism *per se* should occupy the position given it as a cause of arteriosclerosis. High living is not always the portion of the alcoholic. Apparently there are too many illy nourished and emaciated individuals of the strictly alcoholic class that exist many years past the average allotted time for man.

One could hardly conceive of any medical question worth while, or even favor a position without microscopical and chemical support. To my mind the deductions of Stoll, and especially the work of Adami, are forceful and clear.

Stoll says that: 1—Syphilis is the underlying, or basic factor, in a much higher percentage of hypertensive cases, than has hitherto been realized (of 50 individuals studied, 90 per cent. either gave a positive Wassermann or luetin test, or were known to have had lues or had children with hereditary syphilis. 2—(* * *). 3—It would seem that hypertensive disease, is one of the most common, possibly the most frequent, of the so-called "late manifestations" of hereditary syphilis. 4—Apoplexy, sudden cardiac death occurring in middle life, are almost always due to syphilis. 5—(* * *). 6—(* * *). 7—The luetin test, especially if activated by a week of mixed treatment, is often of more value than the most

sensitive Wassermann in detecting these late manifestations of syphilitic infection.

Adami says a frequent source of arteriosclerosis in those of early age is syphilis. The researches of Heller and his pupils, and of Chiari (which since have been abundantly confirmed in other laboratories) have proved that the primary lesion here is a small celled or granulomatous infiltration of the media along the course of the individual vasa-vasorum.

Kotz, Bruns and Wiesner have pointed out that a similar change may be encountered in congenital syphilis. Accompanying the infiltration, there is well-marked localized atrophy and disappearance of both elements of the medial coat—of the muscular and elastic tissue layers,—the absorption of the latter being very striking. *This is the primary change.* The process does not extend beyond the media into the intima, but is a secondary process, the intima undergoing proliferative thickening. It is only at a later period when the fibrosis has given place to atheroma that the vessels above noted extend into the necrotic area. We see here a syphilitic mesaortitis followed by intimal sclerosis and its sequelae. This form of arteriosclerosis is frequently, but not necessarily, accompanied by a high pressure and peripheral arteriosclerosis.

Frequently, the syphilitic is apt to indulge his various appetites. According to Cabot, alcoholism, contrary to general opinion, is not a cause of arteriosclerosis: all are agreed that over-eating is.

Clinical Reports.

AN UNUSUAL FRACTURE.

By E. HOWE MILLER, M. D., Danville, Va.

Mr. T., referred by Dr. C. L. Carter, Chatham, Va., young man 28 years old, six feet tall, weighing 185 lbs. While running on the lawn at a party he slipped and fell backwards, his knees never striking the ground, but the sudden and violent muscular contraction fractured both patellae. The fracture was so sudden and sharp that it gave a loud sound which Mr. T. thought was his leg breaking, and he made no effort to get on his feet.

He was brought to the hospital where I saw him one hour after the accident. The knees were not much swollen and you could easily

lay your index finger between the fragments, as they were widely separated. In a short time, however, the knees began to swell to enormous proportions. Hot applications were applied and he was kept in bed for two weeks during which time the local application of hot and cold were kept up, allowing the swelling to subside and the tissue to coffer dam in order to resist infection.

Operation.—Two weeks after the injury, Dr. J. M. Robinson and I opened both knees and found the fragments of bone to be still widely separated, the joints filled with large blood clots and both internal and external lateral ligaments torn beyond a line drawn laterally through the center of the head of the tibia. The clots were worked out with normal saline solution, the fragments brought together by two holes being made with a motor drill in each fragment, through which was passed number two chromic gut, the ligaments sutured with number two iodized gut and skin with interrupted silk-worm gut suture. Wounds healed by primary union and patient left the hospital one month from day of the operation, able to walk and bend the knees perfectly.

878 Main Street.

Proceedings of Societies, Etc.

ROANOKE ACADEMY OF MEDICINE.

November 20, 1916, meeting. Dr. R. W. Brown in chair. Seventeen fellows and several visitors in attendance.

Dr. H. E. Jones read a paper, the title of which was "Some Facts, Deductions, Conclusions and Generalizations on Things Material," in which he discussed the physical and the metaphysical, chemical, biological and therapeutic facts and theories, a thesis in which the author soared to such intellectual heights and probed such profound depths that some at least of his audience confessed to inability to keep in sight. In the discussion *Dr. Brady* remarked, "When we were boys we used to enjoy a frolic in the pastures, throwing off coats, hats, and all restraints, and this is what *Dr. Jones* has done in this essay; he is like a colt kicking up his intellectual heels for the mere enjoyment of it." Others took part in the discussion. *Dr. Jones* stood manfully to his guns and the lateness of

the hour only compelled a cessation of an enjoyable battle of wits.

Dr. W. S. Slicer's paper on "Team Work" was practical and well thought out,—a plea for more cooperation in the profession and a better utilization of facilities at our hand. It was discussed by several.

Dr. Preston spoke briefly on "Standardization of Hospitals" as a prerequisite to requiring hospital experience in licentiates of State Examining Boards. *Dr. Gale* mentioned the relative difficulty of obtaining internes in hospitals at present as compared with exactly the opposite state of affairs in years gone by.

A communication from the Burrell Memorial Hospital, an institution for treatment of colored patients, was received. The board of directors are making a plea for financial assistance and for cooperation of the Roanoke Academy in getting this worthy object on a better basis. A committee was appointed to deal with the matter.

Dr. Trout, of the program committee, stated we have promise of several noted men, as invited guests, to address us during the current season.

It was voted to have the annual banquet at the time of meeting of the Southwest Virginia Medical Society, December 21 and 22.

December 4, 1916, meeting. Twenty-two fellows and three visitors in attendance.

Dr. J. F. Armentrout gave an address, "Some Observations on Bone Tuberculosis in Children," in which he brought out practical points. His lecture was accompanied by lantern slides, showing the value of X-ray not only in diagnosis but in progress of treatment as well.

He was followed by *Dr. S. S. Gale* in a lengthy and highly interesting paper and talk on "Treatment of Fractures," also illustrated by lantern slides, adding greatly to the value of his paper. He defended the Lane plate, but at the same time warned against indiscriminate use of this method. The remark was heard (informally) that this was one of the best of many good papers from this essayist. The slides of both *Dr. Gale* and *Dr. Armentrout* were exceedingly instructive, and gave added interest.

E. P. TOMPKINS, M. D.,

Secretary.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

The following are extracts of the principal papers read before the above named Association at its meeting in Washington, D. C., May 9-11, 1916:

President's Address—The Psychology of Diseases of the Respiratory Tract.

By T. HUDSON MAKUEN, M. D., Philadelphia, Pa.

While the specialty of laryngology is dependent upon all the various specialties in medicine, its future progress and development depend chiefly upon a knowledge of psychology and its related branch, neurology.

Psychotherapy has been practiced after a fashion since the beginning of the history of medicine, but it has not kept pace with the other forms, the chief reason for this being that the successful practice of psychotherapy requires on the part of the practitioner the profoundest knowledge of both medicine and man, and especially man. Few physicians are mentally and temperamentally capable of practicing psychotherapy, and the improved curricula of the schools do not supply the rising generation of specialists with the assistance which they should have.

Since many of the diseases of the respiratory tract are purely functional and of psychic origin, the laryngologist should be able to distinguish between those of his patients who are psychopaths and neuropaths and those who are suffering from actual organic diseases. He should realize that to treat a purely psychic case by physic measures is not only useless but in many instances absolutely harmful, and to operate merely for the psychic effect of the operation is exceedingly questionable surgery.

Psychotherapy in the form of education and reeducation should always be used, in addition to the necessary medical and surgical measures, for the relief of disturbed respiratory, phonatory and articulatory functions. It is not enough to do operations for the correction of disturbed functions without at the same time or immediately thereafter doing something in an educational way to correct the faulty habits which accompany, either as cause or result, the conditions that we are seeking to modify or cure. An example of the psychophysic habits that arise owing to functional disturbances due to organic lesions is found in the speech of the patient having a cleft palate. When this char-

acteristic speech has developed, no amount of adequacy or efficiency of the palate brought about by operative measures can in itself appreciably change or improve the speech, because the individual accepts his old speech as normal speech.

This principle obtains in all our operations upon the respiratory tract, the object of which is to correct faulty functioning. Its value is apparent in dealing with disorders of speech, the treatment of which differs not from other disorders of the respiratory tract. Formerly distinguished surgeons operated not alone upon diseases and abnormal structures, but also upon perfectly normal structures, not hesitating to remove cross sections of the tongue and epiglottis, in the hope of curing stammering. To us of the present day this is absurd, for we know that stammering in the great majority of instances is of psychic and not of physic origin, and to cure the affection psychotherapy is quite as important as physiotherapy. What is true of stammering is also true of the other forms of defects of speech.

As the medical profession has been slow in recognizing that stammering and other defects of speech are largely of psychopathic origin and require for their cure psychotherapeutic measures, so have we been slow in recognizing that many forms of asthma, sore throat, and difficult nasal breathing are of similar origin and require similar treatment.

In no specialty of medicine is the importance of these matters so apparent as in our own, for in no specialty is the psychic element so great a factor in the causation not only of functional but of organic disorders as well. In this connection it must not be overlooked that faulty methods of breathing, vocalization and articulation, although at first of psychic origin, frequently result in organic diseases which cannot be differentiated from diseases having purely physical bases.

A study of the psychobiologic phenomena as they appear in a given individual is merely a study of his reactions to his environment; or, in other words, a study of what has been called his mentation, behavior, and personality.

The new psychology, therefore, teaches us not merely how to treat diseases of special organs, but it teaches us how to treat the patient himself or the reactions of the patient to these particular diseases. A knowledge of this psy-

chology will broaden the scope of our work, and it will tend to make a medical education absolutely necessary to those desiring to practice the various forms of the healing art; but so long as physicians generally disregard this fact, so long shall we have non-medical practitioners, such as Christian scientists, osteopaths, hydropaths, and all the others of their kind, actually invading our field of operation.

On the Relation of Diseases of the Accessory Sinuses to Diseases of the Eye, Especially in Children, With a Report of Two Cases.

By J. H. BRYAN, M. D., Washington, D. C.

Diseases of the sinuses occurring in children have been only slightly considered, for the reason that these cavities in the very young are supposed to be so small that there could not be an inflammation sufficiently severe to cause any serious disturbance of the eye.

That these premises are entirely wrong is evidenced by the report of the following cases:

Case 1.—A male, aged eighteen months, had a very marked exophthalmos on the left side following an infection from influenza.

On admission to hospital his temperature was one hundred and four degrees, some secretion flowing from the left nostril, marked bulging of the left eye downward and outward, lids and conjunctivae were edematous, and the periauricular glands were enlarged.

Seen by the speaker in consultation, the diagnosis of orbital abscess resulting from an infection through the ethmoid cells was made.

The radical operation was then done, the incision commencing at the junction of the middle and outer third of the supraorbital ridge, and was carried inward and downward along the inner border of the nose below its middle. The periosteum along the inner wall and the corresponding parts of the roof of the orbit was stripped from the bone, and in doing so a large quantity of pus was evacuated. The whole of the inner wall of the orbit was removed back as far as the sphenoid. The ethmoid cells were found to be badly diseased, especially the middle and posterior portion, and from the condition found it was apparent the orbital abscess resulted from a direct infection from the middle and posterior ethmoid cells. The amount of pus evacuated was enormous, when we take into consideration the age of the child and the stage of development of these parts at this age. The abscess having been thoroughly evacuated, a strip of iodoform

gauze was placed in the orbit back of the eye and brought out through the nose, and a small gauze drain was placed just inside of the inner canthus, and the external wound closed by interrupted sutures.

The child made an uninterrupted and quick recovery, the eye gradually receding soon assumed its normal position. This is the youngest patient the speaker had ever seen with such diseased conditions.

Case 2.—Negro boy, aged eleven years, had bulging of the left eye to a marked degree downward and outward. An abscess of pus anywhere within the nose and no signs of caries or necrosis.

X-ray examination showed no abnormality except that the left orbital cavity was apparently filled with a dense mass which seemed confined to the orbit.

Because of all these negative examinations it was believed that there was a growth in the orbit back of the eye.

An exploration of the orbit showed that at the junction of the middle and posterior portion there was a decided bulging of the ethmoid toward the orbit. With a probe the cells were perforated, and a large quantity of pus was evacuated. The whole of the inner wall of the orbit, including all the ethmoid cells, were removed as far back as the sphenoid, and in doing so a large abscess involving the posterior ethmoid cells and the sphenoidal sinus was found. The sphenoidal cavity was unusually developed and filled with thick, creamy pus. All diseased bone and purulent secretion having been thoroughly removed, an iodoform gauze packing was placed in the sphenoid and ethmoid regions, one end being brought out through the nose and the external wound closed by interrupted sutures. At the end of the second day the gauze drain was removed and the nose gently irrigated with a saturated solution of boracic acid.

The patient made a quick recovery, the eye gradually receding within the orbit, and at the end of the ninth day he was discharged from the hospital.

Case 3.—Male, aged thirty-six years, had thrombosis of the cavernous sinuses. Under ether anesthesia we removed the middle turbinals and opened both sphenoidal sinuses, finding some mucopurulent secretion in both cavities. Examination of the secretion taken

from the sphenoidal sinuses showed both streptococci and staphylococci present. A lumbar puncture showed the spinal fluid under great pressure, filled with pus cells, roughly estimated at 40,000 per millimeter. Polymorphonuclear leucocytes predominated. The condition of the patient grew rapidly worse and he died.

Postmortem Examination.—The head only examined, showed all the sinuses contained dark and semifluid blood; small hemorrhages on the right half of the cribriform plate of the ethmoid bone. Vessels of the pia mater generally engorged, the basilar surface of the brain showed fibrin and a purulent exudate under the pia, especially on the insula and adjacent opercula. A microscopic examination showed the vessels of the brain engorged. Beneath the membrane was a thin layer of brown material intimately adherent to the brain substance beneath. On section the brain substance showed brownish points near the surface, the brown exudate under the membrane showed fibrin, red blood cells and mono- and polymorphonuclear round cells.

DISCUSSION.

Dr. Lewis A. Coffin, New York City: Dr. Bryan's experience is unique, I think, in the extreme youth of his first patient—eighteen months old. My youngest patient was six years old.

I have reported a case before this society in Boston, a case of thrombosis sinus cavernosus, upon which I had operated. That case has been very instructive to me. I think we lose sight of the fact that these ethmoidal veins for the most part empty into the ophthalmic veins. Now, if we know anything at all about a thrombus and its cause, where is there a more favored place for it to develop?

Then there is another thing—when we operate those cases, they bleed profusely. Why other cases do not bleed the way they do I cannot tell. I am reminded of the case of a girl who was absolutely blind in one eye four weeks, with a choked disc. I did a radical operation on her, and it was absolutely impossible for the man with me to sponge it so that I could see from the field of operation. I have had several of those cases of serious bleeding, just the same as if you put a stricture around the leg.

To return to that case of cavernous sinus

which was so interesting and instructive to me. Dr. Coakley saw that patient in consultation with me, and we both felt acute sphenoidal sinusitis was present. Another consultant said: "We think you have probably saved her life by the great bleeding."

What I am going to do now with these cases is to give treatment in the shape of great big doses of lemons and lemonade.

I recall one case which was referred to me in which I really could not make out much sinus trouble, and I told the eye man to put her on big doses of lemonade and keep her on it, and the eyes cleared up. Of course, the whole thing is to reduce the coagulability of the blood. Finally, we must work out the relationships of this circulation.

Dr. Cornelius G. Coakley, New York City: I saw a child two years of age, a robust child, with a swelling around the left orbit, exophthalmos, protrusion of the conjunctiva and swelling down on the face, with a serosanguinous discharge from the left nostril. Bacteriologic examination of nasal discharge showed streptococci; the variety, however, was not worked out. Child had an acute nephritis with a marked amount of albumin and casts—hyaline, granular and epithelial. There was also an endocarditis of sudden onset; the abdomen was also swollen. It looked very much as though it was only a question of time before the child would die, so we all thought it best to try and open up the cheek. Following that the stools had a large quantity of bloody, purulent discharge, and of course the prognosis was extremely bad, for it looked like a general infection. A blood culture was taken and the following morning was reported upon as being very markedly positive. A blood transfusion was done from the father to the child. I expected to hear of the death of the child within three or four days, and two weeks later I heard the child was perfectly well. I think the point is most valuable in the treatment of these cases. On account of the general condition, I advised against sewing up of the orbit.

Some time previous to that, I saw a child of five years in consultation. This condition followed one of the exanthemata. That child was later operated upon.

I also saw a case last winter of cavernous sinus thrombosis, one most interesting as to the source of infection. The patient was a man who had not been feeling particularly

well, and a diagnosis of carious teeth and abscess of a tooth was made. He went to the dentist with that diagnosis. This was not the diagnosis of his own dentist, but had been made by another dentist, and the diagnosis was disputed. Fortunately, the dentist who made the diagnosis had taken radiographs of the teeth and sinuses, and I was much surprised at the good radiograph he obtained of the sinuses. This was a week before I saw him. The frontal sinuses, ethmoid, sphenoid and antrum appeared perfectly normal. He showed me what he called an abscess, which may have developed a swelling around the orbit and along the eye on the opposite side from where a molar tooth of the left upper jaw had been removed. The swelling first began in the right eye. We put a hole in the antrum and drained it and a few days afterwards the opening was practically dry.

I saw the patient of whom Dr. Coffin spoke. I think we have two types of cavernous sinus thrombosis—the type that is infected, and the type that is inflammatory. If you get an infected cavernous sinus thrombosis, you are bound to have it end fatally; but if you get one in which the organism is very mild, why there is a possibility of recovery.

Dr. Hanau W. Loeb, St. Louis: I would like to make a suggestion with regard to the statement made by Dr. Coffin as to our lack of knowledge of the venous relationship. We might of course learn the names of each trunk, but I think we would find that we would not be any better off. But we do know there is a very abundant venous distribution in this region, and having that abundant venous distribution, we naturally have results of infection in the neighborhood, and that undoubtedly accounts for the majority of infective conditions in the orbit coming from the nose. However, there is such a thing as condition resulting from mere nearness to an acute inflammatory condition. For instance, we know that acute edema results in the larynx from inflammation in the neighborhood. A year ago I reported a case before this society in which blindness had resulted from an acute ethmoiditis, and the blindness disappeared within a week after operation upon the ethmoid. At that time, too, I called attention to an observation made from studies in the neighborhood of this region, that whereas the posterior ethmoidal cells replace the sphenoid, the optic nerve, instead of being at a considerable distance from the ethmoid,

runs along the lateral wall of the posterior ethmoid cells. This so happened in three out of thirty cases I had examined on account of the commonness of acute inflammation on the sphenoid. On this account I thought that the condition of results in the eye was as uncommon as it is believed. Now, there is a further observation which I might make, that when we do have a condition of acute inflammation of the optic nerve, it is because the posterior ethmoidal cells have replaced the sphenoid, but the nerve, instead of running at some distance from the sinus, runs right along from the lateral wall.

Dr. Bryan (closing the discussion) had nothing to add.

Sore Throat Clinically Considered.

By SAMUEL JOHNSTON, M. D., Baltimore, Md.

In the clinical study of "sore throat" we should scan the physiognomy of the patient, mark well any changes in the voice tones, and note the odor of the breath before entering into a more detailed examination of the case.

Among the conditions causing changes of the voice may be mentioned paralysis of the soft palate, defections in the conformation of the palatine arch, swollen tonsils, benign and malignant growth in the nasopharynx, laryngeal inflammations, paralyzes, and so forth.

The odor of the breath may call attention to such conditions as uremic poisoning, pulmonary gangrene, ozena, necrosis of the nasal bones, and so forth. The need of careful inspection of the lips, gums, teeth, tongue, palate, pharynx, nasopharynx, lingual tonsils, epiglottis and larynx is emphasized.

In examining the nasopharynx an ulcer, usually of an infectious nature, is found here when least suspected, and in infectious diseases sore throat is by no means uncommon.

The writer's experience has proven that diseases of these regions differ in no way from similar pathologic changes in other parts of the body, and should receive the same therapeutic and surgical treatment.

Conservative and mild measures, however, should be the rule and guidance.

DISCUSSION.

Dr. Lewis A. Coffin, New York City: As we grow older I think we all get to such a position where we feel that perhaps as younger men we interfered too much with the architecture of the upper air passages.

(To be continued.)

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Manual of Psychiatry. By J. ROQUES deFURSAC, M. D. Translated from French, by A. J. Rosanoff. 4th edition. John Wiley & Sons, Publishers, New York. Price, \$2.50.

This popular work is an unusually good presentation of Mental Diseases, not only with regard to the classification but also to various other problems in Psychiatry. Medico-legal problems, prevention, causes, method of examination and treatment of the insane, are all handled with great care and presented in a concise and yet in a complete manner. The book is divided into two parts: General, and Special Psychiatry. In the first, the author discusses various mental phenomena, such as consciousness, memory, association of ideas, orientation, affectivity, delusions, etc. We find there also a description of the most modern laboratory tests necessary for a proper diagnosis. In the second part, the classification of mental diseases is arranged in accordance with the most modern views.

The book is very useful and the translation is excellent.

ALFRED GORDON, M. D.

Diseases of the Eye. By GEORGE E. deSCHWEINITZ, M. D., LL. D., Professor of Ophthalmology in the University of Pennsylvania. Eighth edition, thoroughly revised and enlarged. Octavo of 754 pages, 386 text illustrations and seven lithographic plates. Philadelphia and London: W. B. Saunders Company. 1916. Cloth, \$6 net; half morocco, \$7.50 net.

In this eighth edition, reference to the following subjects appears for the first time: Clifford Walker's Method of Testing the Visual Field; Squirrel Plague Conjunctivitis; Anaphylactic Keratitis; Family Cerebral Degeneration with Macular Changes; the Ocular Symptoms of Disease of the Pituitary Body; Sclerectomy with a Punch (Holth's Operation); Preliminary Capsulotomy (Homer Smith's Operation); Iridotaxis (Borthen's Method); Thread Drainage of the Anterior Chamber (Zorab's Operation); Extraction of Cataract in the Capsule after Subluxation of the Lens with Capsule Forceps (Stanculeanu's Method, Arnold Knapp's Method); Capsulo-muscular Advancement with Partial Resection

(Ziegler's Method); Tenotomy of the Inferior Oblique; Window Resection of the Nasal Duct (West's Operation). All chapters have been revised so as to include important ophthalmic data appearing since the last edition. A new feature is the introduction of metric equivalents of the doses of remedies which were previously recorded only according to the old system. Corneoscleral Trephining, ordinarily known as Elliott's Operation, is described by Lieut.-Col. Elliott. Dr. Wm. M. Sweet describes his revised method of localizing foreign bodies within the eye by X-rays, while the section devoted to Skiascopy, or the Shadow Test, is written by Dr. Edward Jackson. The first edition of de Schweinitz on Diseases of the Eye appeared in 1892, when, although on more modest proportions, its merit was recognized and it received prompt favor. It has been gradually enlarged since then, each succeeding issue recording the advances for the period, until now the volume is regarded as one of the standards of this time. Definitions, details in description of symptoms, treatment, operations, etc., are fully and plainly stated, and the illustrations are all that could be desired. The book will serve not only as a reference for the specialist, but likewise as a text for advanced students of ophthalmic science.

D., of Boston, Mass. Second edition, thoroughly revised. Octavo of 377 pages. Philadelphia and London: W. B. Saunders Company. 1915. Cloth, \$2.50 net.

"What to Eat and Why" strikes at basic principles in the practice of medicine, and the physician who ignores this part in treatment, or who uses it blindly, is as culpable in many instances as the one who uses strong drugs without having given due consideration to the effect. Very frequently, diet has to be varied with the patient in different stages of the same disease, and the non-recognition of this requirement in a given case may lead to serious, if not fatal, consequences. In interstitial nephritis, for instance, the tendency in years gone by has been to limit too closely the diet as a routine in all such cases, with the result that the approach of dangerous complications is actually hurried, and the patient is probably worse off than if he had never heeded such advice. Although there are yet many mooted questions as to what is the proper diet for certain diseases, as in typhoid fever, the author

of this book, though commonly presenting both sides to a controversy, states his own views with a convincing logic. This second edition contains new chapters on "Exercise and Rheumatism," while the different affections of the stomach have all been rewritten, and other sections brought up to date. The marginal index throughout the volume is very helpful. "What to Eat and Why" is quite a useful book.

Editorial.

Greetings:

We wish each of our readers a Merry Christmas and a very Prosperous New Year.

The Soaring Price of Paper

And its scarcity, we regret, makes it necessary for us temporarily to change the grade of paper we have been using. Even this grade costs considerably more than what we have been using. We trust conditions will shortly be such, however, that we may remedy this condition.

Examination of Prisoners Before Trial.

This subject has been prompted by a paper read by Dr. Paul Bowers before the American Academy of Medicine at Detroit, which the writer was asked to discuss there.

It is a truism that if a person is diseased to the point of serious interference with perception, judgment, or will, he cannot be held responsible before the court. The rational course is therefore to ascertain responsibility before court trial.

The very nature of a crime may make it sufficient to show that its author is insane. For instance, self-denunciation, or boasting, or lack of any precautions, or ridiculous purposelessness, are in themselves evidence of mental unbalance, as is an accompaniment of maniacal fury or a sudden impulsion. The physical condition may raise a presumption of insanity, as in puerperal infanticide, alcoholism, or the menstrual epoch, which often is the determining cause of impulsions to steal, arson and *fugue*, or epilepsy, which leads to crimes of violence with amnesia. Delusional ideas, of course, are presumptuous of irresponsibility, especially where they are religious, persecu-

tory, litigious or political. This is especially so in early states of general paralysis.

The psychological disturbances, such as that of the pathological liar, have to be considered, too.

The examination of a prisoner should be made, not by a partisan, but by an expert,—that is to say, a person really qualified to make an impartial estimate of the prisoner's status medico-psychologically. The expert's attitude towards the prisoner must be one of sympathy rather than one of judicial solemnity; otherwise, the subject will scarcely be able not to conceal his real thought, because of fear or defiance. The latter is particularly difficult to disarm in the systematized delusional insane, who are endeavoring to dissimulate their morbid ideas.

The contrary type, those who *simulate* insanity, must also be guarded against by the expert. But it is very difficult to deceive an experienced psychiatrist in this respect, for no insane individual is absurd in everything. This intentional absurdity of answer, the sly look, the lack of a proper expression of excitement, or indifference, or true melancholy, or stupidity, or of pride or inattention, the absence of the denial of his insanity along with the lack of such physical concomitants as insomnia, relative analgesia, constipation, capricious appetite, or the modification of the temperature, pulse, respiration, and vaso-motor innervation, will make the examiner very chary of declaring a prisoner insane; and sedulous observation will then surely unmask the simulator.

The declaration that every simulator is *ipse facto* insane is only possible by stretching of the word insane to comprise every mental abnormality: whereas insanity is merely a convenient term of jurisprudence to apply to those persons adjudged incapable of managing themselves and therefore not responsible to society for their behavior.

TOM A. WILLIAMS, M. B., C. M.

The Lunenburg County (Va.) Medical Society

Met at Kenbridge, Thursday, December 7, for their regular quarterly meeting. Papers were read and cases were reported by Drs. E. M. Mann, R. L. Ozlin and others. The following officers were elected for the coming year: President, Dr. E. L. Kendig, Victoria; vice-president, Dr. W. C. Moomaw, Victoria; secretary-treasurer, Dr. W. S. Snead, Meherrin;

delegate to State Society, Dr. W. D. Kendig, Kenbridge; censors, Drs. T. C. Harris, Kenbridge, E. M. Mann, Kenbridge, and R. L. Ozlin, Nebletts.

After adjournment the members of the Society and their wives were entertained at the home of Dr. Mann.

The Richmond Academy of Medicine and Surgery,

With an attendance of nearly 100 members, held its regular meeting December 12. Following the reading of papers by Drs. W. L. Peple, McGuire Newton and A. L. Gray, the annual reports of the secretary and treasurer were submitted and the annual election of officers was held. The following are the officers for the coming year: President, Dr. Greer Baughman; vice-presidents, Drs. C. C. Coleman, W. R. Weisiger, M. E. Nuckols; secretary, Dr. M. W. Peyser (re-elected for the twenty-fourth consecutive time); assistant secretary, Dr. E. H. Terrell; treasurer, Dr. Jas. H. Smith; librarian, Dr. G. P. LaRoque; judiciary committee, Drs. C. M. Miller, H. H. Levy, M. D. Hoge, Jr., A. L. Gray, McGuire Newton and Robert C. Bryan.

The Southside Virginia Medical Association

Held its last quarterly meeting for 1916 in Petersburg, December 12, Dr. H. A. Burke, of that city, presiding. After the reading of several interesting papers, officers were elected for the ensuing year, as follows: President, Dr. Joel Crawford, Yale; vice-presidents, Drs. F. J. Wright, Petersburg; Jas. H. Hargrave, Hopewell; Edgar W. Young, McKenney; secretary-treasurer, Dr. E. F. Reese (re-elected). Courtland; executive committee, Drs. J. Bolling Jones and J. M. Williams, Petersburg, and Dr. R. L. Raiford, Sedley. Following the meeting a banquet was held, after which the Association adjourned to meet on the second Tuesday in March, at Hopewell.

Dr. Tom A. Williams,

Of Washington, D. C., has been elected for the United States of America, Foreign Corresponding Member of the National Academy of Medicine, Rio de Janeiro, Brazil.

The Association of Surgeons of the Seaboard Air Line Railway,

At its recent meeting in Jacksonville, Fla., elected the following officers: President, Dr. Frank L. Eskridge, Atlanta, Ga.; vice-presi-

dents, Drs. L. J. Picot, Littleton, N. C.; J. W. Smith, Branchville, Va., and Thos. J. McArthur, Cordele, Ga.; new member of the executive committee, Dr. W. C. Powell, Petersburg, Va.; secretary-treasurer, Dr. J. W. Palmer (re-elected), Ailey, Ga. Dr. Joseph M. Burke, Petersburg, Va., is chief surgeon of the road.

The winners of the prizes annually given for the four best papers were Drs. Frank L. Eskridge, Atlanta; H. A. Burke, Petersburg; W. A. Chapman, Cedartown, Ga., and E. P. Lacey, Bessemer, Ala.

The Southern Medical Women's Association,

Which met in Atlanta, Ga., last month, elected Dr. Mary Lapham, Highlands, N. C., president; Drs. M. A. Hopkins, Dallas, Tex., and M. Louise Strobel, Washington, D. C., vice-presidents, and Dr. L. Rosa H. Gantt, Spartanburg, S. C., secretary-treasurer.

Dr. James H. Smith,

Of this city, has been appointed to look after the tubercular work at the City Home.

Dr. Lewis Coleman Morris,

Birmingham, Ala., who recently spent some time at his farm in Hanover County, Virginia, went to New York for a visit early this month.

General Hospital To Be Built in Suffolk.

A charter is now being prepared and plans will shortly be completed for the erection of a general hospital in Suffolk, Va. Drs. L. W. White, J. M. Gibson, John E. Phillips, W. C. Gibson, F. J. Morrison, R. H. Pretlow and C. E. Feddeman are interested in the movement.

Recommendations Suggested For City Doctors in Richmond.

Dr. E. C. Levy, chief health officer of this city, has recommended to the Administrative Board that the seven district physicians of Richmond should have an increase over the \$900 salaries per year which they have been receiving, and that twelve young doctors be employed at \$200 a year for special school work every morning between the hours of ten and twelve.

New Officer at Cape Charles Quarantine.

Dr. F. C. Smith has been appointed the commander of the Cape Charles Quarantine Station at Old Point, Va., succeeding Dr. Hal W. McCaffery, who will become the executive officer of the station. Dr. Smith has entered upon his duties.

Dr. Hugh H. Trout,

Of Roanoke Va., was the speaker at the weekly meeting of the Y. M. C. A., of Roanoke College, early this month, his subject being "Medicine as a Profession."

The Navy Hospital Ship,

Of which Dr. Cary T. Grayson spoke at the Atlanta meeting of the Southern Medical Association, is also referred to by Surgeon-General Braisted, of the U. S. Navy, in his annual report. This ship, which will be the first vessel designed and built for this purpose by any nation, will be provided with every convenience of an up-to-date shore hospital and will be able to accommodate 300 patients in peace times and 500 in war. "She will carry special stabilizers to minimize rolling and pitching, laboratories for medical and surgical work, complete X-ray equipment and, in the holds, will have a full shore-going hospital outfit, including ambulances."

Dr. Samuel Saunders, Jr.,

Who has been doing special work with the U. S. Public Health Service and was recently sent to Toledo, Ill., has again been transferred and is now at Hillsboro, Texas.

Dr. L. B. Sartin,

Until recently of Coalman, Va., is now located at Jewell Ridge, Va.

The Southern Gastro-Enterological Association

Was organized in Atlanta on November 15. Active membership in this society will be limited to those investigators and practitioners of the seventeen Southern states who are engaged primarily in the diagnosis and treatment of diseases of the digestive system. Regular meetings will be held annually, the next place of meeting yet to be announced.

The following officers were elected: President, Dr. J. C. Johnson, Atlanta; vice-president, Dr. J. T. Rogers, Savannah; secretary-treasurer, Dr. Marvin H. Smith, Jacksonville, Fla.; councillors, Drs. S. K. Simon, New Orleans; G. M. Niles, Atlanta, and Seale Harris, Birmingham; committee on admission and ethics, Drs. Geo. C. Mizell, Atlanta; J. E. Knighton, Shreveport, and J. B. Fitts, Atlanta.

Dr. W. B. Blanton,

Son of Dr. and Mrs. C. A. Blanton, of this

city, who is now attached to the Presbyterian Hospital, New York City, has been appointed first lieutenant in the Medical Reserve Corps, U. S. Army.

Dr. S. S. Guerrant,

Callaway, Va., was elected one of the directors of the Virginia Horticultural Society, at its recent meeting in Roanoke.

The American Congress on Internal Medicine

Will hold its first scientific session in New York City, on December 28 and 29, 1916, following the meeting of the American Association for the Advancement of Science. There is to be a "Referat" and two "Co-Referate," according to the system prevailing at the German Congress on Internal Medicine. The referee as well as the co-referees are elected by the officers and the Council of the Congress. The referee on this occasion will be the renowned Sajous, of Philadelphia, the co-referees Drs. Daland and Dercum, from the same city. The Symposium on Duodenal Ulcer will bring out many new points anent the still mooted question of the etiology of this pathological condition.

The primary purpose of the Congress is to corral the men of our country, who are devoting themselves to research and clinical work along the lines of internal medicine, so that such internists may attain prominence and financial remuneration equal to that enjoyed by the members of the profession who devote themselves to surgical work.

The president is Dr. Reynold Webb Wilcox, of New York, and the secretary Dr. Heinrich Stern, 250 West 73d street, New York City.

The Presbyterian Hospital, New York,

In the will of Charles W. Harkness, who died the first of last May, was bequeathed the sum of \$350,000.

Dr. E. C. Levy,

Chief Health Officer of this city, attended a meeting of the executive committee of the American Public Health Association, held in Washington, D. C., early in December.

Dr. W. E. Harwood,

Petersburg, Va., was again elected surgeon of the A. P. Hill Camp of Confederate Veter-

ans, at their annual meeting in that city, early this month.

Christian Scientists to Have Sanatorium.

The *Journal Lancet* announces that the Christian Scientists of Boston have decided to build a sanatorium for the benefit of the "so-called sick." It is understood this building will be erected next year.

Dr. H. C. Beckett,

Scottsburg, Va., was in Richmond on business, early this month.

Automobiles Growing in Popularity.

Up to December of this year, there had been issued licenses to 35,398 machines operating in Virginia. This is a little more than 14,000 over the total number licensed in this State during 1915. Under a law passed by the last General Assembly, the automobile license tax is to be used in this State for the maintenance of roads.

Woman as Army Surgeon.

The first woman to be appointed an Italian army surgeon has recently been detailed to service at the front with the Ninth Army Corps.

Dixie School.

Miss Hinckley announces that she has opened Dixie School as a suburban annex to Home Place, for the scientific treatment of physically and mentally backward children. The number in the suburban school is to be limited to ten children between the ages of three and fifteen. The advantage of having the two schools is that children may thus be better grouped according to individual needs.

Symposium on Medical Profession.

Departing from the beaten paths of having symposiums on diseases treated by the sciences of medicine and surgery, the *Medical Review of Reviews*, of New York City, will, in January, publish a Symposium on the Medical Profession, with contributions from distinguished laymen. The articles, which will be from inventors, editors, politicians, theologians, cartoonists, financiers, etc., should prove of more than passing interest to doctors, and especially so as their verdict is almost unanimous in favoring the doctor.

Health Insurance and Eight Hour Day To Be Discussed.

At the annual convention in Columbus and Cincinnati, December 27-30, of the American Association for Labor Legislation, seven sessions will be held on health insurance and the eight hour day, subjects which will likely be prominent in state and national legislation next year. Further information may be obtained of the secretary of the above named Association at 131 East 23d street, New York City.

Cost of State's Tuberculous Patients.

The annual report of Catawba Sanatorium shows that the per capita cost of maintaining patients at the Sanatorium is \$11.08 per week. Of this amount, \$5 is paid by the patient and the balance of \$6.08 by the State.

Dr. Clyde F. Ross,

Of Anderson, S. C., formerly of West Point, Va., is taking a special course in urology at Harvard University.

"Tin Sickness."

We note from an exchange that a disease known as "tin sickness" is spreading in parts of Germany, especially some of the larger cities, caused by the continual feeding upon preserved foods. It is described as a serious form of blood poisoning.

Serums and Vaccines Not Advanced in Price.

The State Board of Health of Virginia has just completed arrangements for its supply of serums and vaccines for 1917 and announces that there will be no advance in the prices for these during the coming year, when procured through the Health Department, and that some will sell even a few cents lower. The State makes no profit in handling these supplies and dispenses them at absolute prime wholesale cost.

Tuberculosis Society in Dallas.

A branch of the American Society for the Prevention of Tuberculosis was formed in Dallas, Texas, last month, its purpose being to obtain more complete reports than had been available as to the number of cases of tuberculosis in that city. It will be the aim of the

Society to have more hospital facilities and more public nurses to aid in combating the disease.

South Carolina Makes Wassermanns Free.

We note from *Public Health Reports* that the State Board of Health of South Carolina is required to make all Wassermann blood tests without charge as in case of other blood tests provided for by law.

Virginia Hospital, Richmond, To Have Addition.

Bids have been opened by the Administrative Board for an addition to Virginia Hospital, this city. The addition is to consist of a sun-room and a nursery, the bids for which ranged from \$4,300 to \$7,000.

Dr. Frank S. Johns,

Of the Johnston-Willis Sanatorium, this city, was operated upon for appendicitis early this month.

Health Campaign To Be Undertaken in Henrico County.

Under the direction of the State Board of Health, a ninety-day health campaign will shortly be started in Henrico County, Virginia, for better health and better sanitation in the schools and homes of the people. As the corps of workers are now in other parts of the State, the work cannot be undertaken until after March 1, 1917. The County has raised the money needed to secure the appropriation from the State and National Boards of Health to conduct this work.

The United States Civil Service Commission

Announces an open competitive examination for deputy collector, inspector, and agent, under the Anti-Narcotic Act, for men only, on January 2, 1917. From the register of eligibles resulting from this examination certification will be made to fill about seventy-five vacancies in this position in the Internal Revenue Service, Treasury Department, at \$1,600 a year, with actual traveling expenses and subsistence when away from post of duty on official business, and vacancies as they may occur in positions requiring similar qualifications. There is opportunity for promotion to salaries of \$5 and \$6 per diem, with allowance of \$3 per diem for subsistence and actual traveling expenses.

The duties of this position will include the supervision and inspection of the sale of opium and coca leaves and their derivatives under the provision of the Harrison Anti-Narcotic Law approved December 17, 1914, and the detection of violations thereof. Graduation in pharmacy or medicine from a recognized institution, or the possession of a State license to practice pharmacy, is a prerequisite for consideration for this position.

Applicants, who must be citizens of the United States, must have reached their twenty-fifth birthday on the date the written test is given. However, applications will be received from persons who have had at least one year of satisfactory experience in the Internal Revenue Service, who meet the prerequisites for consideration for this position, and who have reached their twenty-first birthday.

Persons who desire this examination should at once apply for Form 1312, stating the title of the examination for which the form is desired, to the United States Civil Service Commission, Washington, D. C.

Obituary Record.

Dr. Henry Rolfe Dupuy,

A prominent physician of Norfolk, Va., died at his home in that city, December 11, after an illness of several weeks. He was born in this State a little more than seventy-one years ago and had lived in Norfolk for twenty-nine years. He was for several years health commissioner of that city. He was an elder in the Second Presbyterian church, of Norfolk, a Mason and a member of the local camp of Confederate Veterans. His medical education was received at the Louisville, Ky., Medical College, from which he graduated in 1874. His wife, two sons and two daughters survive him.

Dr. Samuel Ridout Glover,

Of Midway Mills, Va., after having been in bad health for sometime, died at a hospital in this city, December 5, aged 47 years. He studied medicine at the Medical College of Virginia, from which he graduated in 1907. His widow and two small children survive him. He was a brother of Dr. Perkins Glover, of Arvon, Va.

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EFFICIENCY AND ECONOMY IN THE MANAGEMENT OF THE INSANE.*

By WILLIAM S. GORDON, M. D., Richmond, Va.
Emeritus Professor of Medicine, Medical College of Virginia.

Insanity, whether of physical or psychical origin, is properly considered a disease requiring diagnosis and treatment in accordance with the general scientific principles which apply to other maladies. Its victims are an expensive and increasing burden upon the State. From both the humanitarian and economical point of view the relief of mental disorders is an urgent though difficult problem, for the solution of which it is necessary that early and adequate measures in the hands of experts should be instituted, and that all the available resources of medical science should be invoked. The results of neglect or imperfect treatment can hardly be overestimated.

The management of the insane in past times was a disgrace to civilization, a stigma upon our profession, and a travesty upon justice. It is harrowing to recall the helpless and often hopeless conditions under which the unfortunate victims suffered and died. Let us turn to a brighter picture and review the progress that has been made in our knowledge and treatment of insanity, while considering certain reforms which remain to be made before our full duty shall have been discharged.

It may not be amiss to mention the legal procedures taken in the commitment of the insane, inasmuch as a number of physicians are not conversant with the law. A warrant is issued by a magistrate on the complaint of some person supposed to be acquainted with the circumstances of the case. The magistrate associates with himself two physicians, the three constituting a medico-legal court. One

of the physicians, if it be practicable, must be the family physician. Witnesses are summoned by the magistrate, and the commission of lunacy, so-called, is held either at the patient's home, or, if he cannot be cared for at his home, in the city or county jail. Should the patient be adjudged not insane, he is released. If adjudged, he is either confined in jail or returned to his relatives or friends under bond until he can be sent for by the hospital authorities. When any difference of opinion arises between the two physicians, a third one can be called. The expenses of the commission are borne by the city or county. Subsequent expenses fall upon the State. When the patient or his family is possessed of means, the fees are supposed to be paid by them. Non-residents must be returned to their own States. One of the commission papers is forwarded to the hospital nearest to the patient, and the copy is filed in the corporation or county court. The expenses of an insane patient under bond are borne by his relatives. Harmless idiots are sent to the almshouses. Such, in brief, are the main features of the laws regulating the commitment and treatment of insane patients.

The members of this Society are doubtless familiar with some recent legislation to which Dr. W. F. Drewry has called attention. Persons who are in the early stages of insanity or who are threatened with the disorder, may be voluntarily admitted to any of the State hospitals without undergoing the unpleasant experience of an examination before a commission of lunacy. The cost for maintenance is nominal. Persons who are acutely or violently insane may be immediately admitted and temporarily detained, on the certificate of two physicians, while awaiting a regular commitment. A colony for white feeble-minded female subjects between the ages of twelve and forty-five years was established several years ago at Madison Heights, near Lynchburg, and provision has been made for a similar colony

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

for colored subjects, which will be established with a future appropriation by the Legislature. Chronic alcoholics and drug addicts who are a burden upon their families or the State, or who are dangerous, are now admitted at a small cost, and in some cases at no cost, to the hospitals, after examination before a commission.

Another important measure has given to the State Board of Charities and Correction authority to employ experts in the investigation of feeble-mindedness and mental degeneracy with reference to the adoption of means whereby defectives can receive proper attention and care. Departments for the criminal insane have been established at the Central and Southwestern hospitals. The foregoing are valuable additions to pre-existing laws and are evidences of the fact that the State has awakened in a large measure to its obligations.

There are certain reforms, however, to be made before the ideal in the management of the insane is attained. In the first place, persons not insane are occasionally sent to jail or to the hospital. Warrants may be issued on the complaint of persons who are irresponsible or who are actuated by sinister motives. I have seen in jail old people whose relatives wished to get rid of them by claiming that they were insane. In one instance a man had his wife imprisoned for mental disorder, his purpose being to get possession of her money. I shall never forget the poor woman's distress of mind and sense of humiliation as she pleaded for release, and I recall with satisfaction the fright of the false-swearer after we had finished with him. Nothing but the state of mind to which he was reduced saved him from a penitentiary sentence for perjury.

Again, it is wrong, and in most instances inexcusable, for a patient suffering from the delirium of acute uræmia, the toxæmia of pregnancy, or some other physical disorder to be adjudged insane and removed from their homes or general hospitals. The majority of magistrates feel their responsibility and are careful in the issuing of warrants; but when any doubt exists as to the condition of a patient, the advice of a competent physician should be obtained before a commission is held. The methods of the law in dealing with cases of suspected insanity are imperfect, and such errors as have been mentioned above ought to be made impossible.

Those who have read the title and sections

of the recent law relating to the commitment of inebriates and drug-addicts to the State hospitals have noticed that it is not clear whether all the patients are to be sent to the Western hospital.

In one of his timely articles, Dr. Drewry states that no insane are confined in jails nor almshouses. He means by this that patients are not permanently so confined. As a rule, they are now removed promptly, but some of them, unavoidably at times, are kept in the jails for a number of days. The difficulty of obtaining witnesses, the incompleteness of commitment papers, the disposition of non-residents, and the postponement of commissions in the cases of patients who bid fair to make an early recovery, may render it necessary to confine the patient for a while. Jails and almshouses, however, are not the places for the insane. "The next progressive step," says Dr. Drewry, "should be to have all insane persons placed under the supervision of boards of health, while their mental condition is being investigated or while waiting to be transferred to a hospital, instead of placing them in jail under penal control, as is now sometimes done. Proper care and supervision of discharged and furloughed patients, to prevent another mental breakdown, and the establishment of dispensaries or clinics in the larger cities and at the State hospitals, are other progressive steps that should soon be taken in this State."

The law relating to bonds is peculiar and faulty. The purpose of a bond is to keep the patient out of jail while awaiting transportation to the hospital, or when circumstances permit, to have him treated indefinitely at his home or some other place. All expenses are defrayed by those who have charge of the case. The defect in the law may be understood by reference to a case with which I was concerned, and which subjected all who were concerned with it to an immeasurable amount of worry. A young man, a member of one of the prominent families of this State, was suffering from insanity of a mixed type, and had attempted on one occasion to end his life. It became necessary for a near relative to swear out a warrant, and he was duly pronounced insane by a commission, one of the members of which was an expert in mental disorders. The patient was sent to a private sanitarium, where he improved under restraint, and whence he was discharged. The symptoms returned, and another commission was held, the patient

being confined for good reasons in a comfortable room in the jail hospital. Shortly before the time of his expected removal to the State hospital, some of his friends who pitted their opinions against those of the doctors, took the matter in hand and had him released under bond, given by the magistrate. This action was resented by one of his relatives, who had a lawyer to take the matter before the judge of the Hustings Court. The judge decided that he had no other recourse than to confirm the bond. In the meantime the patient has been roaming over land and water, liable to do himself and society harm, and acting in such a manner as to bring distress, embarrassment and mortification upon his family. He realizes his condition, but is unwilling to surrender himself as a private patient, while defying those who have his interests at heart. The bond limit has expired, and the patient is out of the State. It would thus appear that the effect of the law is to nullify the purpose for which it was enacted.

The fees paid by the cities and counties to physicians for attendance upon commissions of lunacy, and those paid by the State for medical services to the insane confined in the jails are not commensurate with the services rendered. The time consumed in a commission varies from half an hour to an hour or more. The responsibility resting upon the physicians is heavy, and important interests are involved in their decisions. The law allows two dollars and a half for the service. The doctor receives seventy-five cents for a visit to the insane in jail, and fifty cents for each additional patient who may be seen at the same time. Such fees do not dignify the medical profession, or do it justice. On the contrary, they are temptations to incomplete work on the part of the medical attendants, and in some instances deter the best men from serving on commissions at all, and from giving patients the attention which they deserve. Cheap labor is not always economy. It may be stated, also in this connection, that while the law requires non-residents to be returned to their native States, it makes no appropriation for this purpose.

The most important provision, however, which it seems to me should be made, is one which would secure adequate treatment for all of the insane inmates of our State hospitals. The superintendents, however competent and skilled they may be, are unable to individualize their patients. They are handicapped by the

pressure of executive duties with which they should not be burdened, but which should be largely, if not wholly, discharged by business men. When one considers the large number of inmates in the hospitals and the variety of physical as well as mental disorders which demand relief, and when we know that the medical staff is utterly unable to do justice to their charges, we can understand why more patients are not cured and why the expense of maintenance is so great. There is no more useful and inviting field of work than the wards of a hospital for the insane. The scope for humanitarian, educational, and statistical work, and for research, is unlimited. The medical attendants realize their opportunities, but are hampered by outside duties and distractions, and they must feel discouraged when the facilities for thorough scientific work and corresponding results are not provided. The staff of a hospital should be large enough to cover the whole field of medical, surgical and laboratory work, and the remuneration ought to be such as to secure the highest class of men in their respective specialties. Over all should be the alienist untrammelled by innumerable worries and free to apply his knowledge to the best advantage. The expense for salaries would be more than counterbalanced by the cures effected and the consequent reduction in the expense of maintenance.

The prevention of insanity, it is needless to add, is a matter of the utmost importance. From what has been stated it will be observed that this aim is being partly promoted by appropriate measures for the care of the feeble-minded, alcoholics, drug-addicts, and all others whose physical or mental condition may lead to insanity. The concealment of incipient cases by relatives and friends, instead of having them promptly treated, entails a loss of valuable time and may place the subjects in the care of the State for a lifetime. The public should be educated and made to understand that insanity is in itself no disgrace; that the failure to report cases is unjust to the patients and to society, and that the failure to take proper precautions may lead, and has led, to disastrous consequences.

My purpose in this paper has not been to cover all the points suggested by its title, but to call attention to the chief defects in the laws relating to insanity. Radical legislation is needed, and it is to be hoped that the State will, in the early future, revise the laws in

accordance with the progress of medical science. In so doing, insanity will be more frequently prevented or cured, and the public treasury will be less depleted. Surely it is our duty to take the matter under careful consideration and to lend our best and unremitting efforts to the accomplishment of the desired end.

5 East Franklin Street.

THE DIAGNOSIS OF CANCER OF THE BREAST.*

By CHARLES STANLEY WHITE, M. D., F. A. C. S.,
Washington, D. C.

Were the mortality of cancer of the breast showing the same consistent decrease that has been so notable in many other surgical diseases, there would be little reason for a paper dealing with the diagnosis, but we are forced to admit, if we may believe statistics, that the death rate is higher than we should expect. An eminent surgeon is quoted as saying that the final result in cancer of the breast is no better today than thirty-five years ago. The Bureau of Census, in response to an inquiry, informed the writer that the mortality from malignant diseases of the breast, in the registration area, was 7.3 per cent. in 1912, 7.3 in 1913, and 8.2 in 1914 per hundred thousand, or, in other words, 4,431 deaths in 1912, 4,592 in 1913, and 5,423 in 1914.

We may rightfully assume that at one stage all of these cases were curable or at least considered a good surgical risk. Whether we wish to believe that cancer is increasing or diminishing, we must deal with the facts that a larger percentage of deaths are reported from cancer of the breast than ever before. The death rate will never be lowered from an academic discussion as to whether a refined diagnosis or improved pathologic technique has placed in the malignant class tumors which were previously characterized as benign; or whether the present mode of living has made us more vulnerable to this dread disease.

The early diagnosis and education of the laity has been the remedy upon which the campaign against cancer has been waged, but it is largely through the education of the physician that such an effort will succeed. Without the intelligent co-operation of the physician the work amounts to naught, for, after

all, he is the one person who holds in his hand the destiny of the cancer case.

The writer confesses freely his inability to recognize clinically the disease in all of its stages, for too many cases are referred to the surgeon when relief is impossible, because the diagnosis is based upon symptoms which indicate the extension of the disease rather than its beginning.

It is entirely probable that many of us picture cancer of the breast as a hard mass, in a woman over forty, retracted nipple, dimpled skin, and possibly axillary glandular involvement, but an analysis of the symptoms will show a wide divergence and convince one that this stereotyped group of symptoms is of little dependence. There is no group of symptoms or a clinical sign which is infallible or can be relied upon for the correct diagnosis and prognosis of cancer of the breast.

We must not underrate clinical observations, but at the same time we must consider their wide variation and bear in mind always that the cure of cancer lies in its complete destruction or removal.

The family history is at least significant, but, unless supported by pathological reports from a reliable source, loses what little importance may be attached to it. Innocent tumors are not hereditary, but a strong family co-incidence often appears in malignant types.

The personal history should not be neglected, as the effect of trauma, irritation, infection, is direct and leads to a correct diagnosis.

The average age at which carcinoma makes its appearance is about fifty years, although under the age of thirty it is not uncommon, while a benign tumor may be present in the breast of a woman of seventy.

The mobility of a tumor has long been considered a criterion of its innocence, but many carcinomata are movable at an early stage; so, too, a benign tumor may at times become fixed by an inflammatory reaction.

Pain is variable and often a personal equation. The knowledge of the presence of a tumor excites pain in those of a neurotic type, especially as the average woman associates cancer with pain, and the absence of pain lends a false sense of security and defers her visit to the physician. Any tumor of the breast may be associated with pain, and it is not characteristic of malignancy.

The rate growth of a tumor has long been looked upon as an index of its structure, and

*Read before the Medical Society of the District of Columbia, October 11, 1916.

it is sometimes assumed that a tumor which has been present several years* is necessarily innocent.

It is even possible for a malignant tumor to diminish in size at some period, but any steadily growing tumor needs investigation. The patient's statement concerning the change in size is not often reliable, as the tendency to minimize the condition is well known. Dimpling of the skin suggests a tumor without a capsule, but this appearance of the skin is met with in chronic mastitis.

The shape of the tumor is sometimes suggestive. A cyst or fibroid is often globular; chronic mastitis, confined to one or two lobes, is cone shaped, with the apex directed toward the nipple. Enlargement of the axillary glands should not properly be classed as a symptom of carcinoma of the breast, but rather as a complication, and it measures the extent of the invasion.

The physician who waits for a palpable axillary enlargement as a diagnostic aid has increased the cancer mortality. The lymph stream and glands are involved before any method of examination can determine it, and is more rapid than generally believed. The enlargement of a gland with cancer of the breast may not be an extension of the disease, and likewise it does not follow that if the glands are not enlarged the disease is confined to the breast. Clinical evidence is fallacious. The mediastinal glands are the avenue of dissemination, rarely without implication of the glands in the arm pit.

Palpation of the Tumor.—A tumor of the breast often escapes the notice of the patient until the enlargement is almost visible or easily palpable, and is then discovered by chance, and it so happens that advice is first sought for an advanced malignant growth.

No growth in the breast can be too small for a careful examination, and the small tumors can best be detected by pressing the breast firmly against the chest wall and mapping out the entire breast in this way.

Lifting the breast from the pectoral muscle and manipulating it between the fingers often lends color to a diagnosis of tumor, because normal gland, especially in woman who has borne children, imparts a sensation of thickening and irregularity. Fluctuation or high tension in a tumor of the breast suggest a cyst, but all cysts are not innocent.

The occurrence of a tumor in the breast, after

a malignant tumor has been removed from the other, in the majority of cases means malignancy, not that a metastasis has occurred, but probably because the breast is a common site for cancer. We do not believe that with cancer of one breast, the patient is predisposed to cancer in the other, but that the cause or predisposition is largely local. An innocent tumor may follow or be present in a breast having malignant tumor in the other.

Out of a maze of such contradictory symptoms, no group of symptoms can be formulated to portray cancer in the earlier stages. When the symptoms are such that, clinically, the case is an unmistakable one of cancer, then the patient has passed into danger zone from which a large number never safely emerge. It must be manifest, and should be emphasized, that the cure of carcinoma of the breast should be undertaken in its incipiency. Every tumor of the breast and chronic mastitis is a potential danger, which may be converted into kinetic danger without clinical signs of the mutation.

How, then, is the diagnosis made? The answer is brief. It must be made by the pathologist, and at the time of operation. The practice of removing a section of a tumor for microscopical section and study, to be followed by the second operation after the lapse of a few days, is not countenanced by the present day surgical methods. The frozen section is as much a part of treatment of suspected cancer as the operative procedure, and is the one distinct advance in the treatment of these neoplasms. It is a method readily carried out in any hospital, although it may be necessary to use a portable apparatus. We have most successfully employed it in a hospital without a laboratory many miles from Washington.

The frozen section is dependable and its value is recognized by most operators, but it is doubtful if the practitioner realizes its reliability and importance.

There is little we wish to state regarding the treatment, except in relation to the X-ray, and that as an adjunct to the operative treatment. Few Roentgenologists are willing to assume the responsibility of a case of carcinoma of the breast if the treatment is confined to the X-ray, but take the stand that the ray is useful both before and after operation. As a diagnostic aid to determine the extent of invasion, it possesses great merit, and if in all malignant cases we had a plate made of the chest, fewer would be operated upon be-

cause involvement of the rib and lung would be detected long before clinical evidence was produced. It has been the author's practice to subject each suspected case of carcinoma of the breast to preliminary X-ray treatment in massive doses, and after the radical operation, two more series of treatments of the same character.

Briefly summarized, it may be said that cure of cancer of the breast necessitates an early diagnosis; clinical signs are uncertain; the frozen section at the time of operation is a part of the technique, and the X-ray should participate in the treatment.

911 *Sixteenth Street.*

ALCOHOLISM AND PERSONALITY.*

By JAS. K. HALL, M. D., Richmond, Va.
Westbrook Sanatorium.

I realize quite keenly that in speaking of alcoholism I am dealing with a condition almost as old as recorded human history. The so-called alcoholic problem is hoary with age. Noah had scarcely disembarked from the ark and become a husbandman before he yielded to the seductive influence of the grape, and, as a result of over-indulgence, he placed upon one of his sons a curse that is probably symbolic of the hereditary curse of the substance even in these modern days. When David schemed to transfer to his royal palace the wife of one of his subjects he initiated his treacherous plot against Uriah by making him drunk. And when the Great Apostle lay in a Roman prison waiting the day of his execution, troubled and weighed down by the sins and the wickedness of the world, even in these last moments of his life it came to his mind to caution his beloved young friend Timothy against all but the most careful use of wine. So drunkenness has probably cursed mankind since the earliest days of the human race. Its damaging effects have long been known. The ancient conception of alcoholism embraced the feeling, however, that drunkenness implied some peculiar kind of immorality or degradation without much regard to the damage wrought through the physical domain. This ancient attitude persists among many people to this present day.

The scientific objection to the use of alcohol rests, however, on no such immaterial basis, but it is founded upon facts which have been established both by clinical observation and by ex-

perimentation. There is, to be sure, much difference of opinion among observers and investigators about the quality and the quantity of damage done by alcohol to any particular organ. Cirrhosis of the liver, for instance, has never been experimentally produced by the long-continued use of the substance; the kidneys in many drinkers stand up year after year without showing damage; arteriosclerosis is probably no more common amongst alcoholics than amongst teetotalers; and the digestive power of the steady drinker or of the periodic spreer is not infrequently the envy of his more ascetic neighbor. Although the injury done to the human mechanism may not show itself in any particular organ or group of organs, yet it will invariably manifest itself in brain or body work. The use of alcohol, so experimenters tell us, unfailingly reduces the efficiency of mental and muscular effort. Judgment is impaired, accuracy is lessened, and fatigue is hastened. The origin of this lessening of efficiency is probably in disturbance of function of the central nervous apparatus, even though anatomic basis may not be found post mortem.

This modern objection to the use of alcohol is economic and sociologic: the ancient was apparently religious and moral. The first is based upon physiologic ground; the latter, upon religious feeling. From the modern scientific viewpoint, alcoholism is seen as a wrong to the body; from the moralist's viewpoint, as a tarnishing of the soul. Perhaps both views are right.

If the conception of the condition has been wrong, the treatment of alcoholism has been and it still is largely criminal. The intoxicated man of means and of friends is carried to his home or to a hospital to receive medical treatment; the drunken poor man or negro is dragged before a court to receive a sentence to jail or to the chain gang. In the one case the condition is medical; in the other, criminal. Why? Inebriety implies temporary mental abnormality, and extreme departure from the mental normal carries with it the idea of irresponsibility, and the irresponsible is potentially dangerous, either to himself, or to his environment, or to both.

The drunkard's condition calls, therefore, for protection and restraint. But it should not call for punishment. The situation demands the physician or the nurse, but the penologist, as we know him in this country,

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

makes bad matters worse. The best method too frequently fails in reforming certain alcoholics, but punitive measures practically never succeed. "The report of the Board of Prison Commissioners for the State of Massachusetts, for the year 1908, shows that during the twelve month period, 20,779 persons were committed to the penal institution of the State for the simple offence of drunkenness, and of this number 13,548 had been committed from two to over fifty times previously." These figures are rather conclusive proof of the futility of attempting to deal with the situation penologically.

It ought to be interesting and profitable as well to examine into the cause of the unsatisfactoriness of dealing with so serious a problem by these old orthodox methods. Why are these results so disappointing? If I may be pardoned for speaking dogmatically (in order to speak briefly), I would answer by saying that the problem is tackled in the wrong way. Only the symptom of an underlying condition is treated, or rather, dealt with, and symptomatic treatment, we know, is not to be depended upon.

Alcoholism is a symptom. Of what? some one may ask. Of an unstable nervous mechanism. White, of Washington, thinks of it often as the expression of a neurosis, and Williams, of the same city, regards it as improper psychic reaction. Those who are engaged in working with the mentally abnormal frequently encounter alcoholism as an early manifestation of an incipient psychosis. Dementia praecox, in the early stages, often shows itself by over-indulgence in alcohol; the parietic, even the man who may have been abstemious, often surprises his friends by beginning to drink in middle life. Most of the periodic drinkers, however, in my experience, are of that unstable nervous make-up which affords the basis of the manic-depressive psychosis. In this type of individual, as you know, there are alternating periods of depression and exaltation followed or interrupted by an interim in which the individual is apparently altogether normal. Excessive drinking may occur in either phase of the disorder; either during the period of elation, when the bonds of restraint are loosened, or during the depressive phase, when any stimulant may be taken in an effort to lift one's self out of the slough of despond. Not infrequently, in treating a so-called alcoholic, I find that when the acute effects of the

alcohol have been removed there is uncovered an underlying mental abnormality which had been obscured by alcoholism and made unrecognizable by it, yet it is this very underlying condition which serves as the basis of the alcoholic excess, and it is this condition which calls for recognition and for treatment. The alcoholism is only an early and a temporary manifestation. If then the basis of many cases of alcoholism be frank and outspoken mental disorder, why cannot more obscure mental and nervous instability explain other cases of inebriety? There is no doubt of the soundness of this latter assumption. All of you know men who occasionally become restless, sleepless, irritable and uncomfortable in a vague sort of way as a prologue to an alcoholic debauch. You are acquainted, too, with the other type of individual who withdraws himself from the world of his fellowman in a fit of dejection in order that he may draw an opaque alcoholic curtain for a certain period of time between himself and his real or supposed troubles. These two types represent in unrecognized form the manic-depressive psychosis in embryo. In many other alcoholics the indulgence is a reaction against a feeling of physiologic discomfort that cannot be defined, more definitely than the sensation of hunger or pain can be defined, yet the discomfort is no less real. The goal sought by the alcoholic is comfort. In one individual mild elation suffices; in another nothing short of absolute coma satisfies. We are slowly coming to the conclusion, therefore, that the alcoholic, whether he be a persistent drinker or an occasional spreer, is not quite a normal man. Neff is justified in his assertion that "addiction to alcohol is a symptom of an unstable nervous system, and the contrary view expressed by the laity is not justified by clinical experience or observation."

But what boots it now, many will be asking, to place this substance of desire out of reach on the top shelf? How is this abnormal personality to be changed and made anew simply by removing the habitat of the Demon to Baltimore? After November the first, are all these alcoholic cravings around us and in us to cease? Scarcely. But appetite diminishes in the absence of food. Let us understand that neither the abnormal personality nor the alcohol is so bad as the admixture of the two. It is the combination which is destructive.

I am in favor of the prohibition law in

this State. It will not immediately work the wonders which many of its advocates expect, and it will never cause the damage to the State that its opponents fear. It is but another manifestation of the spirit of preventive medicine, and, in consequence of this fact, time will be required for its influence to show itself. The confirmed drinker in mid-life or beyond will be little affected by it. Most of these habitues are joined to their wine firmly, even as Ephraim was to idols. In the generations that are to come, the beneficent effects of the law will be seen. The nervous may be nervous still, and the mentally unstable will be unstable still, but the instability and the abnormality will not be accentuated by added alcoholism. Many defectives will be saved from helplessness, and many sound youths, perhaps, will be prevented from acquiring the drink habit in the club and in the saloon.

More potent for good, however, than all prohibition measures is the changing and the changed attitude of our profession towards the use of whiskey as a therapeutic measure. We now know that alcohol is not a true stimulant, and that, as a consequence, it creates neither muscular force nor intellectual vigor. It is this new knowledge, filtering from the medical profession through the public to the lawmakers, which is writing the epitaph of alcohol across the stretches of the world.

If coming generations are taught aright about alcohol, it can never again assert its political dominance. But the time in which to break the habit is before the habit is formed. I am quoting Aristotle, through Osler: "In the case of our habits we are only masters of the beginning; their growth by gradual stages being imperceptible, like the growth of disease." And what could be more applicable to bad habit-formation than the observation of Montaigne, who looked upon mankind ever with a deep-seeing and yet kindly eye: "I finde that our greatest vices make their first habit in us, from out infancie, and that our chiefe government and education, lieth in our nurse's hands. * * * In youth they bud, and afterward grow to strength, and come to perfection by meanes of custome."

Do you know that

A little cough often ends in a large coffin?

Bodily vigor protects against colds?

Careless sneezing, coughing, spitting, spread colds?

MANAGEMENT OF THE BREASTS.*

By C. J. ANDREWS, M. D., Norfolk, Va.

The introduction of some new work on any subject tends to give a definite impetus to the knowledge and a corresponding improvement in practice as regards the subject affected. This gain is not always due entirely to the new knowledge, but often largely to the fact that through the attention paid to the subject in question we renew our acquaintance with methods and facts which have long before been available and which we have lost sight of by paying little attention to them.

I regret that I may have no new facts to introduce regarding management of the breasts, but hope by calling attention to the subject to renew our acquaintance with methods which we have found to be most useful.

The purpose of management of the breasts is two-fold: first, to prevent morbidity in the mother, and, second, to secure successful nursing for the child. The advantages of maternal nursing are now quite well recognized. The National Society for the Prevention of Infant Mortality, The Better Baby Movement, and various other organizations have made this a special point of attack, and apparently with success. It is quite seldom that I find a mother who objects to nursing her baby, and practically all are extremely anxious to do so. But no matter how anxious a mother may be to nurse her baby, she cannot succeed if she has no milk or if her general health is undermined and breast tissue destroyed by extensive suppuration. A consideration of the subject of successful nursing involves the whole subject of prenatal care. It demands successful obstetrics. But for our present purposes we will consider only the management of the breasts.

Care During Pregnancy.—During the last two months of pregnancy particular care should be paid to careful bathing of nipples with soap and water, this removing any secretions which quickly dry and form convenient lodging places for bacteria; at the same time the nipples become accustomed to the treatment which they will receive from the baby's mouth. There is some difference of opinion as to applications to the nipples, some recommending alcohol, some alcohol with astringents, and others warning against alcohol and advising oils. Those favoring alcohol believe that it hardens the skin, while those opposing say

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the nipples after being hardened crack easily. This is sometimes true. Soap and water alone is, I believe, the best routine. It is to be remembered that handling the nipples may stimulate uterine contractions in patients who habitually abort. It is important that corsets should not be allowed to compress or bruise the breasts during pregnancy or any other time.

Care During the Puerperium.—The milk supply depends upon the condition of the mother, both mentally and physically. A woman who has passed through a pregnancy and labor without morbidity is much more likely to furnish an ample supply of milk than one who has had the reverse experience. A general mixed diet, including a general supply of milk, is essential. During the lying-in period, particularly while the patient is in bed, it is, of course, necessary to avoid over-feeding, but an ample supply of food should be given from the first day. The shorter the lying-in period, the sooner the patient will resume a normal manner of living and the earlier will normal lactation be established. Fruits and other acid foods may cause colic in the baby. Some excellent authorities say this is not true. I have seen annoying attacks of colic follow the use of fruits by the mother, and it seems very reasonable to me that this might be true. Some observers attribute this effect to the essential oil of the fruit which is secreted in the milk. Laxatives and cathartics taken by the mother certainly do give symptoms in the child; particularly is this true of castor oil and cascara.

If the quantity of milk becomes insufficient and it is necessary to give additional feedings, it is best to allow the baby to nurse the breast at each feeding in order to stimulate the secretion of milk. By weighing the child before and after nursing it is possible to tell how much additional food is necessary.

Asepsis is quite as important in handling the nipples as the vulva. I use a muslin or linen breast binder made with straps over the shoulders. This is done for the purpose of giving support to the breasts and holding in place sterile gauze over the nipples. The secretion is carefully removed by swabs of cotton in boric solution after nursing, taking care not to allow the fingers to touch the nipples. Sterile cotton on a swab-stick, as recommended by DeLee, is very convenient. Careful inspection is to be made for beginning cracks; if any are found, apply nitrate of silver solution and use nipple

shields for a few days. If cracks are slow to heal, scarlet red ointment is most efficacious. The nipples are, as a rule, kept in condition much easier when the nursing interval is extended to four hours; particularly is this true if the nipples are tender and disposed to crack. So far the aseptic technique is fairly easy, but each time the baby nurses, this technique is interrupted by the baby's mouth. Some vigorously wash the baby's mouth in the hope of rendering it sterile. I do not believe it is possible to accomplish much in this way, and probably the frequent trauma to the delicate epithelium of the child's mouth is injurious. Fortunately, there is no evidence to show that the baby's mouth is inhabited by pathogenic germs. A pustular eruption on the child's face may be dangerous and is to be guarded against.

Engorged breasts require very little and simple treatment. It is to be remembered that these hard breasts are due not so much to excessive milk as to venous engorgement. If pain is severe, codein internally and ice bag over supporting binder is all that is needed. The breast pump is not indicated. The only manipulation of the breasts which is indicated is that used to milk the ducts where the ducts are so full that the baby cannot take hold of the nipple. This is better than the breast pump but it requires some skill to do it. It is better not to remove the milk than to injure the breast by manipulation or pump. Improperly applied massage is responsible, no doubt, for converting many cases of caked breasts into cases of mastitis.

Mastitis is always due to infections either through cracks in the nipple, through milk ducts, or the blood stream. External infection is the most dangerous, but, granted that we have been able to prevent external contamination, it has been repeatedly shown that streptococci, staphylococci (albus and aureus) may all be found in the outer tubules of the milk ducts. The presence of bacteria in milk ducts is recognized by dairymen who produce certified milk. The first milk is discarded because it is found that the bacteria count is much lower if this is done. However, it is not likely that mastitis often results from these bacteria unless some injury is done to the tubules or to the breast tissue. Milk is an excellent culture medium and the infection once started easily spreads to the gland tissue. Breast infections are sometimes induced by prolonged nursing, when the supply of milk

is insufficient. The child will pull the nipple so vigorously that small painful blisters are raised on the nipple. These form convenient avenues of infection. When the first symptoms of breast infection—chill, fever, pain, etc.—appear, the indications are very clear and positive. Stop nursing the infected breast until symptoms subside. Apply supporting bandage with ice bag over bandage. If only one breast is infected, as is usual, the figure 8 gauze bandage is most serviceable, and, if properly applied, gives much comfort. It should not be tight enough to give pain. The most important things are not to use the breast pump, and not to massage the breast. The laity believe in both these methods and will often apply them vigorously even before the doctor is notified of the trouble. I have frequently used the Bier hyperæmic treatment and believe it is helpful but not essential. Breast suppurations will very seldom occur if treated as I have indicated, but will often occur if the breast pump and massage of the inflamed breast are used. This fact, is shown by the records of some of our largest maternity hospitals, and it has certainly been true in my experience. We would not think of massaging an acutely inflamed appendix or joint, but it is often advised for inflamed breasts.

If suppuration does occur, we should wait just long enough to locate the pus. Usually local anesthesia and a small radial incision are all that are needed. If more than one abscess is present make more than one incision. A pair of hæmostats inserted in the incision, opened and withdrawn, is all the exploring required. Insert gauze drain for twenty-four hours, then small rubber tube. There may be cases requiring large radical incisions but they are certainly rare. Much injury is often done by energetic attempts to break into pus pockets when, as a matter of fact, only the wall of the abscess cavity is broken by the exploring finger.

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THE THYROID IN PREGNANCY.*

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That a close relation exists between the thyroid gland and the reproduction organs is believed by Altens, Spraine, Hunter, Pettit and many others.

Waller believes that it is a sexual organ, substantiating his belief by its enlargement at puberty, the menstrual period at marriage, during courtship, during a period of excessive coitus, accompanying nymphomania, during pregnancy and the puerperium, and at the menopause.

Lange states that the thyroid has an influence on pregnancy, particularly on toxemia and eclampsia. In a normal case of pregnancy the hypertrophy is usually noticed about the sixth month.

Waller thinks that this enlargement is to take the place of certain secretions of the ovary absent during pregnancy; on the other hand, Goodall and Conn think it overcomes an increased secretion of the ovary.

Whatever the cause may be, the fact remains that the thyroid enlarges in almost every case of pregnancy that is doing well.

We are justified, I believe, in agreeing with Lange, that "Hyperplasia of the thyroid gland is a physiological symptom of pregnancy."

Lange, Halstead of Baltimore, Thompson of Chicago, Marine and Leonard have experimented with the effect of the removal of the thyroid during pregnancy, with the result that it is not safe to remove as large an amount of the gland as in the non-pregnant woman.

Kendall, from very recent experiments upon the para- and thyroid functions, suggests that the parathyroid converts ammonium carbonate into urea, while the thyroid secretion is the catalyzer controlling the rate of de-amination of amido acids.

The body proteids are decomposed to a slight extent into amido acids. These, under proper conditions and in the presence of the iodine compound secreted by the thyroid are then either directly de-aminized, being turned into carbon dioxide and water, or are used for the formation of carbohydrates, fats, etc.

Kendall has isolated a crystalline substance containing 60 per cent. iodine, which he believes is the active principle of the thyroid internal secretion.

The removal of the thyroid has the same effect on the domestic animals as on man—in the young it produces cretinism, in the full grown myxœdema.

The acute symptoms following thyroidectomy, such as rapid pulse, dyspnœa, sudden death, are para-thyroid symptoms.

The symptoms of myxodœma are very characteristic. The face becomes broader, swollen,

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flattened, and there is loss of expression; the mind becomes dull, even approaching the idiotic type; increase in weight takes place, accompanied by mucoid, infiltration of the subcutaneous tissue, swollen abdomen, puffiness of the eyes and face, suppression of menstruation, fall of blood pressure, dyspnoea, albuminuria, atrophy of the tissues, susceptibility to cold, hyperactivity of the sebaceous glands, reduced amount of sweat, falling of the hair and constipation.

These symptoms may all be present or only a few of them, depending upon the amount of secretion of the thyroid that is present in the particular case.

It is well to bear in mind that the thyroid may be enlarged and still the patient have symptoms of myxœdema. In this class of cases the thyroid glandular substance has degenerated into a tumor in which the secretion is no longer produced.

In the hyperthyroid cases the eyes are bright, the thyroid is slightly enlarged, the tension is raised, the pulse accelerated, the eyes protrude, the intellect is keener, and the patient is optimistic, telling you that she is feeling better than ever before.

One or more of these symptoms may be present, depending upon the amount of thyroid internal secretion in excess of what is needed for proper body metabolism.

There are two classes of pregnant women—those that are doing well during their pregnancy, and those that are doing badly. Fortunately, most of them belong to the former class. The thyroid is the determining factor in these cases. Those that are doing well have increased thyroid secretions; those that are doing badly have decreased thyroid secretion.

Plummer says:

1. In thyroid disturbances the effects are due to a change in the rate of a normal function.

2. The stimulating effect of increased thyroid activity is not felt in any particular set of organs or tissues alone, but the stimulus is active throughout the body.

The lack of thyroid secretion in pregnant women has a very important bearing upon their general feeling of well being, also upon their tendency to the toxemias; it has also a very important effect upon the non-pregnant women.

I have had charge of three hypothyroid cases of phantom pregnancy. These women were all entirely persuaded that they were pregnant.

Two thought they were in the sixth month,

and one I saw upon the day that she was attempting to deliver herself of a phantom tumor. The last case had all of the baby clothes made and the husband was calling up every hour to find out about the progress of labor.

All of these cases had cessation of menstruation, distended abdomens, breast changes, but normal uteri. They had the fixed idea that they were pregnant. All three were delivered of the enlarged abdomens, and the self-deception by a course of thyroid. One has since been pregnant and was delivered of a normal child.

One case not among those mentioned above that had a phantom tumor, cessation of menstruation, fixed idea of pregnancy in which thyroid extract brought back a menstruation that had been absent for a long time, dispelled the tumor, put her in a happy frame of mind, prepared her for impregnation, will be used to illustrate both the effect of lack of thyroid secretion upon the non-pregnant and the pregnant woman.

Mrs. V. F. T., age 34. Was first seen January 7, 1914. Mother menstruated regularly and continued to menstruate until the age of 54.

She had all the infantile diseases, but had not had scarlet fever, diphtheria, typhoid or syphilis.

She was regular in menstruation until a baby was born dead, in 1907. After the birth of a dead baby she did not menstruate for two years. She continued to have milk in her breasts for the two years following the birth of her baby. When the menstruation was re-established, it was irregular, the intervals being one to three months, and the flow was very scant. She began to put on flesh after the birth of her baby.

May 28th, 1913, was the first day of her last menstruation. She thought that she felt movement from October 15th, 1913, until I saw her, January 7th, 1914. She had gained a great deal in weight, beginning from the date of last menstruation. Shortness of breath was a prominent symptom. She had cold feet and was very wretched in cold weather, having fixed idea that she was pregnant.

Examination.—Height 5 ft., 3¼ ins. Weight 168½ (last weight December 1, 1913, 162 lbs.) Tension 120. Montgomery glands enlarged. Broad, doughy looking face. Abdomen enlarged over the lower portion because of in-

creased subcutaneous tissue. Uterus normal in size, with a slight cervical tear.

Thyroid slightly enlarged.

Urine normal.

Diagnosis.—Hypothyroidism.

Therapy.—Armour's thyroid tablets, 1 grain three times a day.

Jan. 22, 1914. Weight 167. Feeling better. Urine normal. Thyroid continued.

February 7, 1914. Weight 166. No menstruation. Urine normal. Thyroid continued.

February 22, 1914. Weight 161. Menstruated from February 15th to 19th, with slight flow. Tension 120.

June 11, 1914. Weight 152. Menstruated four days, from May 24th to 28th—normal flow.

June 12, 1915. Weight 160. Up to this time patient has menstruated, since I saw her, eighteen months ago, six times.

September 14, 1915. I curretted her for an inevitable abortion three months old.

The obstetrician should be constantly on the lookout for hypothyroid symptoms in his cases of pregnancy and should promptly institute the very simple treatment of thyroid extract when such a condition arises.

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GREEK AND ROMAN SURGERY.*

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With the early Greeks their surgery, like that of all primitive people, was confined to relief of those injuries received accidentally, or in personal encounter, or in war, or the hunt.

All savages practice the staunching of hemorrhage by pressure, the extraction of foreign bodies, crude bandaging, and primitive methods of adjusting fractures. Internal bodily ailments are usually ascribed to the influence of evil spirits and are treated by incantations, but injuries caused by manifest means are

otherwise considered, and thus occurs the early but then unformulated division between surgery and internal medicine. Naturally the injured came to be treated by the medicine men or priests who treat the sick, and in Greece this special class of practitioners were the Asklepiads, the descendants, actual or alleged, of Asklepius (Aesculapius).

Aesculapius himself belongs to Greek mythology, and at Triikka, at Kos, at Knidus, at many other places in Greece and especially at Epidauris, he was worshipped as Zens Asklepius.

The many families or gentes known as Asklepiads dwelt usually near the temples of Asklepius and devoted themselves to the relief of the sick or injured. All these claimed Asklepius as their progenitor and worshipped him as a God. In the fabulous genealogy of Arcadia he was connected with the higher Gods as the son of Apollo. Apollo placed him in care of the Centaur Cheiron, who, in addition to his vast knowledge of all the arts, was versed in medicine and surgery, and instructed Asklepius in them all. From this instruction as well as from inborn, superhuman aptitude he derived and exhibited a mastery of medicine and surgery never before known.

In early manhood he was one of that mythologic crew of buccaneers who, with Jason and, with Hercules as a shipmate, accompanied by the God Orpheus to cheer their weariness and reconcile their quarrels with his harp, sailed the Grecian main on the Argonautic expedition in the good ship Argo in search of the Golden Fleece. During the many vicissitudes of that memorable expedition Askeplius doubtless practiced, as he had many opportunities of doing, the crude military or naval surgery of his time, and upon return to Greece shared in the honors of his companions; thereafter the fame of his powers of healing spread through all Greece.

But, while his fame was great, his practice, if we judge by the writings of Plato, Plutarch and Pindar, was very primitive. He dressed wounds with herbs—proper for arresting hemorrhage and relieving pain,—cured old ulcers, and for diseases employed agreeable drugs, drinks, external medicines and sometimes incantations. In addition he employed that most ancient of practices, prayer and invocation to the Gods.

*Read before the Medical History Club of the District of Columbia.

Thus Pindar in the Third Pythian Ode describes the practice of Asklepius:

"Those whom nature made to feel
Corroding ulcers gnaw the frame;
Or stones far hurl'd, or glittering steel,
All to the great Physician came.
By summer's heat or winter's cold
Oppressed, of him they sought relief.
Each deadly pang his skill controll'd,
And found a balm for every grief.
On some the force of charmed strains he tried,
To some the medicated draught applied:
Some limbs he placed the amulets around;
Some from the trunk he cut, and made the patient
sound."

The last line indicates that amputations were done in those early days though it was not until hundreds of years later that the operation was formally described.

However crude, according to modern ideas was the practice of Asklepius, Diodorus Siculus affirms that his cures were many and that as, consequently, Pluto's empire so failed to increase in population, the angered god prevailed on Jupiter to destroy one who so interfered with the growth of his domain and the great physician fell a victim to a thunder-bolt hurled by the Cyclops and hurled by Jove.

The early adventurous spirit of Asklepius which took him upon the Argonautic expedition was transmitted to his two sons, Machaon and Podalirius, for they accompanied the Greek expedition against Troy and commanded the contingent from Trikkia during the Trojan War, where they so distinguished themselves by both their valor and their skill in medicine and surgery that they are ranked by Homer among the chief Greek heroes.

Mehelaus, wounded by an arrow, and Philoctetes struck by a poisoned javelin were cured by Machaon. After the war Machaon lived in Massenia until his death at the hands of Eurypylos. Our chief interest in Eurypylos lies in the fact that having been wounded, the treatment he received is described by Homer:—

"Patroclus cut the forky steel away,
When in his hands a better root he bruised;
The wound he washed, the styptic juice infused,
The coloring flesh that instant ceased to glow,
The wound to torture, and the blood to flow."
(Iliad, Book XI.)

Podalirius, the brother of Menelaus, has two especial claims to distinction, i. e., that of having done the first recorded phlebotomy, and of having received one of the largest surgical fees on record.

On his return voyage from Troy he was cast

ashore on the Isle of Scyros, where he was cared for by King Damoetus. The King's daughter, Syrna, having fallen from a roof, her life was despaired of but Podalirius bled her in both arms. She recovered her health, and King Damoetus thereupon gave her in marriage to the successful surgeon, with the whole peninsula of Caria as a dowery. This is the first recorded instance of surgical blood-letting, but it had undoubtedly been practiced before or Podalirius would not have attempted it upon so distinguished a patient.

Following the time of Menelaus and Podalirius, their descendants, the Asklepiads, became disseminated throughout Greece; and, as before noted, important temples to Asklepius were erected in many places of which the Asklepiads had charge. Persons to be admitted to these temples for treatment were required to undergo purification, and elaborate rituals were practiced including sacrifices to the Divinity. Following this, the afflicted received from dreams and oracles direction for treatment. Thus, Aristides, who was dropsical, was advised by the oracle to alternate emetics with blood letting, another evidence of the early use of phlebotomy. In this connection it is of interest to note that during the last illness of Alexander the Great, several of his principal officers slept in the temple of Serapis, in the hope that remedies would be suggested to them in dreams, and as evidence of supernatural intervention in disease it is stated that Venus in the shape of a dove appeared to the celebrated Aphasia and cured her of an ulcer on the chin.

Under such conditions of belief in divine intervention together with more or less primitive practice and priestly domination in medicine by the Asklepiads and from such ancestry of divine or semi-divine rank was born (about B. C. 460) in the first year of the 80th Olympiad, Hippocrates, the great exponent of Greek medicine and surgery. Living as he did during the age of Pericles—the Golden age of Greece—when in art, in architecture and in literature the Greeks reached their pinnacle of attainment, it is but natural that medicine, also, then presented its greatest exponent.

The Persian wars had been brought to glorious conclusion. Athens was rebuilt and surrounded with walls, Themistocles had created her navy, Aristides had conciliated her allies, Cinon increased her reputation, and Pericles

had enlarged her resources, formed alliances and conquered her enemies.

The Propylaea, the Parthenon, the Temple of Victory on the Acropolis and the Theseum were erected. During this century architecture and sculpture reached their highest excellence and the greatest names in Greek literature appear; in comedy, Aristophanes; in history, Herodotus and Thucydides; in tragedy, Aeschylus, Sophocles and Euripides.

It is with these that are linked in this age of Athenian Supremacy the writings known as the Hippocratic collection which give every evidence of finish and elaboration. Of these writings some are those of Hippocrates himself, others are those of his predecessors, contemporaries and followers. Altogether they present Greek Surgery and Medicine as they then were, and as what they had grown to be through the patient study and practice of the Hellenes.

Of the advancement shown in the Hippocratic writings, much is due to Pythagoras who brought the light of philosophy to bear upon the practice of the healing art. Thus, the school which he founded at Crotona produced Democedes who was retained at the court of the Samian Tyrant, Polycrates, but having been made captive by the Persians cured Darius of a sprained ankle after the Egyptian physicians had failed and he also successfully treated Atossa, daughter of Cyrus and wife of Darius, for a tumor of the breast.

Pythagoras inspired the schools of Cindos and Cos, and a century later it was under the influence of the latter school that there appeared the great genius, Hippocrates.

The practice of Hippocrates may be divided into his medical, his surgical and his dietetic. It is with his surgical writings that we are most concerned in this paper, although they are in many ways so closely related to his other works that it is difficult to consider them separately. Thus, he practiced blood letting in acute diseases, and in dropsy where the patient was young and robust.

Hippocrates is said to have been the first to invent the art of formal bandaging. In severe wounds he advocated rest, the placing of the limb in the easiest position and prescribed a strict diet.

He believed that heat was of value as an aid to the healing of wounds, and used emollient cataplasms but rejected oil and all moist applications.

For wounds of the head he often administered an emetic, believing that the vomiting so common in such cases was an effort of nature toward relief. He carefully laid down the conditions under which he believed the trephine or the trepan necessary, and advocated their use both in wounds of the head and for persistent headache. In these operations he directs that the integument be raised and the bone scraped with a scalpel to determine its condition before applying the trephine. In addition to these bold operations on the skull, he recommended tapping the chest for fluid in the pleural cavity and nephrotomy for calculus lodged in the kidney, operations which have not until comparatively recent years been acknowledged to be legitimate surgical resources. He was familiar with operation for ranula, nasal polypi, the treatment of fistulae and of hemorrhoids by ligature. For fractures he first made extension and counter extension, then applied a bandage, and over this splints moderately tightened so that they might compress the limb. He gives the time at which fractures usually consolidate, but states that age, sex, and other conditions may hasten or retard the process. In fracture of the forearm he advised that the patient use a sling and walk about after ten days.

For dislocation of the large joints he used machines which appear to us complicated, rough and crude, but treated luxation of the lesser articulations in a very simple manner.

In fact, both in medicine and in surgery Hippocrates advocated and practiced a multitude of procedures which have been vaunted as new discoveries by the moderns but on account of defective control of hemorrhage he limits major operations to such measures as allow the bleeding to cease of itself or through the influence of syncope, or arresting the flow of blood by the use of cold water.

Following Hippocrates, the dogmatists rose and flourished. Thessalus and Draco (about B. C. 380), sons of Hippocrates, with Polybus, were the founders of this school; which, however, soon largely abandoned the principles of Hippocrates and drifted rapidly into empty speculations, so that even anatomy, was construed by them in accordance with theoretical considerations.

This tendency to theoretical speculation was fortunately checked by the philosopher Aristotle. Aristotle, himself, was the son of a phy-

sician; his family of the Asplepiads, tracing their origin to Machaon, son of Asklepius. As a pupil of Plato and the tutor of Alexander the Great, Aristotle formed one of the chief links which connected the Greek practices of Hippocrates with that learning which carried from Greece to Egypt by the conquests of Alexander, was to found the great Alexandrian school under Alexander's successors, the Ptolemies.

With one of the highest gifted intellects of all the ages, Aristotle in wealth of scientific knowledge, in unbiased judgment, in constructive power, and in the depth and breadth of speculative insight, stands unsurpassed in ancient or modern times.

As anatomy is the basis of surgery, Aristotle stands high in the history of surgery as being the first great thinker who devoted study and writing to this subject. To our present knowledge his errors were many, but, notwithstanding these, he is worthy of high fame for having checked the vain discussions of the dogmatists and started the practitioners of healing upon the road of investigation and deduction from observed facts.

The time of Aristotle and of the successors of Hippocrates is marked by several surgical advances worthy of mention. During this time is recorded the opening of the abdomen by Praxagoras of Cos for intestinal obstruction—the first record of this bold procedure. The same surgeon incised the fauces for cynanche. Diocles of Crystus devised sundry bandages particularly for wounds of the head and improved the *beloukoy*, an instrument invented during the Peloponnesian war for extracting arrow heads and darts.

During this period also was first recorded two important advances, the placing of ligatures about limbs to prevent hemorrhage, and the discovery of the distinction between arteries and veins.

Chrysippus of Cuidos (about B. C. 340) placed encircling ligatures about limbs to prevent hemorrhage, thus 300 years before the Christian era instituting that procedure which later developed the tourniquet and the now so much practiced constriction by rubber tubes or bands.

The discovery of the difference between arteries and veins was made by Proxagoras of Cos (about 335 B. C.)

Proxagoras also has the distinction of hav-

ing been the teacher of Herophilus, the founder of one of the great Alexandrian schools of medicine, the Herophilists. This connection of Greek teacher with a pupil whose great work was done in Egypt is another instance of how Greek medicine and surgery was carried to Egypt to there flourish in the Alexandrian schools.

As political domination passed from Athens to Macedonia, so by that great Macedonian conquerer, Alexander, Greek domination, influence and learning, were carried to Egypt.

Upon Alexander's death the Macedonian hero's empire was dismembered and Egypt (B. C. 321) fell to the lot of Ptolemy, his brother-in-law. He and his successors governing a rich, fertile and commercial country, had both the means and the inclination to foster learning, and under royal patronage arose the golden age of Alexandrian erudition.

Greek learning mingled with Egyptian and under royal patronage Alexandria became the center of information, to which, from every country of the civilized world, flocked philosophers, rhetoricians and physicians.

Here lived, taught and founded their schools, Herophilus of Chalcedon and Erasistratus of Chios. The former carried on what were for his time advanced anatomical studies which greatly influenced surgery.

Erasistratus, also distinguished as an anatomist, is reported to have been a bold surgeon, even excising portions of the liver and spleen. To him is ascribed the invention of the metal catheter.

Of all the operations practiced and improved at Alexandria, that of cutting for stone in the urinary bladder most merits attention.

Lithotomy had long been practiced in Greece, even before the time of Hippocrates, but in Alexandria this operation rose to the rank of a specialty, certain surgeons practicing it exclusively and were consequently called lithotomists, a term preserved to the present.

In this connection, it is to be noted the invention by Ammonius of Alexandria, surnamed Lithotomus, of an instrument for crushing vesical calculi too large to be extracted through the ordinary incision, the forerunner of the lithorite invented by Civiale to crush and to remove concretions through the urethra.

Meantime Rome had been gradually fighting her way to universal empire. Greece and finally Egypt passed under Roman domination,

and Rome, the great absorber, gathered to herself and utilized not only the religion, the arts and the philosophies of her subjugated provinces, but took to herself the medicine and surgery of Greece and Egypt which, elaborated and correlated by Celsus, and later by Galen, was to govern the medical world for fifteen hundred years.

Roman medicine and surgery prior to the invasion of Greek learning was that usual to primitive people. What Roman practice was we are best informed of in Cato, the Elder's, book of formulas. He regarded cabbage as a universal remedy and treated dislocations by absurd and meaningless expressions and magic songs. Already in Cato's time (B. C. 234-149) the invasion of Greek manners, tastes, ideas, and vices had begun, and Cato particularly distinguished himself by aversion to the Greeks and an implacable hatred of Greek physicians. But the opposition of Cato and other like minded Romans was in vain. More and more the customs and arts of Greece gained entrance to Rome and, with the final political supremacy of Rome, the medical and surgical practices of Greece and Egypt entirely superseded the original primitive Roman methods. The history of Roman surgery is but a development and advancement of the Greek and Egyptian practices already outlined.

Archagathus is said to have been the first Greek surgeon to establish himself in Rome, but his fondness for the knife and cautery led to his expulsion by the populace.

It was Esclepiades, the contemporary and friend of Cicero, who established Hellenic practice in Rome. His practice was mainly medical, but he is credited with often doing the operation of tracheotomy.

First to note of Roman medical authors is Aulus Cornelius Celsus (B. C. 25-30 and A. D. 45-50); termed the medical Cicero from the elegance of his writings. His works contain much of the teachings of the Greek and Alexandrian schools. He advised amputation for gangrene and gave the first detailed description of amputation now extinct. Plastic operations to restore the nose, lips, and ears and many ophthalmic operations are described by him. The treatment of hernia by taxis and by operation with the application of the actual cautery to the wound after the reduction of the hernia, as well as lithotomy as practiced in Alexandria, are given. Trephining was given

prominent place as with the Greeks, and subcutaneous urethrotomy for blocking of the urethra by calculus was advised. He recommended the ligature for varices and hemorrhoids, improved the operation for lithotomy, treated of fractures and luxations in detail, it is believed was the first to point out that rupture of intracranial blood vessels may occur unaccompanied by fracture, and dwelt at length upon too many surgical procedures to be here particularized.

In the history of surgery, Archigenes of Apamea (A. D. 48-117) deserves special mention, as he is the first to describe amputation with preliminary ligation of the main vessels and subsequent cauterization of the smaller ones. More than this, he first retracted the skin and bound a bandage about the limb above the place of amputation. This brilliant surgeon therefore practiced proximal constriction of the limb fifteen hundred years before Morel invented the tourniquet and ligation in amputation fourteen hundred years before Pare.

We now come to that great authority, Claudius Galen (A. D. 131-201 or 210), whose writings ruled the medical world for nearly fifteen hundred years. Born in Permagos, he studied at Smyrna, Corinth and Alexandria, and settled in Rome, thus bringing to that city his accumulated Greco-Alexandrian knowledge. More a gifted savant than a practitioner, he distinguished himself by advancing a complete eclectic system of his own which held authoritative sway in medicine until hundreds of years later, through the growth of anatomy and original investigation, the medical and surgical reformation displaced it.

Galen practiced surgery early in his career and resection of part of the sternum and ligation of the temporal artery are ascribed to him. In the twenty-sixth chapter of his fifth book is the remarkable passage in which he advises ligation of the vessel both above and below the bleeding point when the hemorrhage cannot otherwise be controlled.

During the period of the Empire, Antillus, Leonidas, Rufus and Heliodorus are renowned.

Antillus (about A. D. 300) is famous for his operation for aneurism, the first recorded operation for that condition, and one which is still described in surgical text-books and practiced in a modified form. Antillus operated by ligating the vessel above and below the aneurism, incising and packing the sac, the wound

then healing by granulation. He also operated for cataract, for contractures by something like tenotomy, and removed glandular swelling of the neck, ligating the vessels before cutting them.

Rufus and Heliodorus are said to have practiced torsion for hemorrhage, and the latter operated for scrotal hernia and treated stricture of the urethra by internal section. Both Leonidas and Heliodorus in amputation practiced the flap method.

With Paulus of Aegina (A. D. 650), we may bring the era of Roman surgery to a close. Of his seven books the sixth is entirely devoted to surgery. It is the most complete system of operative surgery which has come down from ancient times and brings the whole surgery of the ancient world to a focus. Paulus is credited with the principle of local, as against general, depletion, the lateral operation for stone, with an operation for aneurism like that of Antyllis, with amputation of the breast for cancer and the treatment of fractured patella.

In the foregoing brief, and therefore necessarily incomplete, sketch of Greek and Roman surgery, we see that the art gradually developed from the simplest procedures; and that, hampered by lack of anatomical and physiological knowledge, no great development such as we now know of was possible. We are impressed by the fact that as great as were the Greeks in art, in architecture, in literature and in philosophy, their mental trend was toward the perfection of externals as exhibited in their art and toward philosophic theorizing as shown by their philosophy, rather than toward investigating the underlying facts in nature. The medicine and surgery of the Greeks, amplified in Egypt and carried to Rome, were, therefore, a mixture of empiricism and philosophical theorizing, and the healing art necessarily remained in this condition through the ages, until research and the development of science laid the foundation for a rational superstructure of practice.

Out of 330,179 school children examined in the city of New York in 1914, 194,207, or 58.8 per cent. suffered from defective teeth. This exceeded the sum total of all the other defects noted by nearly 80,000. Defective teeth impair general health and impede school progress. A good tooth brush made part of the daily training of each child will aid in correcting these defects.

Proceedings of Societies, Etc.

ROANOKE ACADEMY OF MEDICINE.

Regular meeting, December 18. Dr. Ralph W. Brown presiding.

Dr. Garthright presented a paper, "A Tried and True Trio," written in his usual felicitous style. He urged the use of the better known and proven drugs, calomel, castor oil, and turpentine being especially dwelt upon, but incidentally other as well known medicaments were brought under consideration. A well-sustained discussion was evoked, in which Drs. Gill, Pedigo, Tompkins, Trout and Watson participated.

Dr. J. R. Garrett gave an interesting resume of the meeting in Memphis, which he recently attended, bringing out matters which concern the general practitioner as well as the specialist. The questions asked him attested the interest of his auditors.

Dr. Preston, in a short talk on vaccines and sero-bacterins, asked as to the experience of those present, especially as to use of influenza bacterins. Drs. Willis, Gill, Luck, Armistead, Powell and Watson gave their testimony, pro and con.

The resignation of Dr. S. M. Terrill was regretfully accepted, he having moved to California.

The Roanoke Academy looks forward with pleasurable anticipation to the evening of January 15th, at which time two invited guests.

Drs. Harvey B. Stone and Bertram Bernheim, of Baltimore, have promised to read papers.

The regular meeting scheduled for January 1st (New Year's day), by common consent, was annulled.

E. P. TOMPKINS, M. D., *Secy.*

SOUTHWESTERN VIRGINIA MEDICAL SOCIETY.

December 21st and 22nd was the date of the twenty-seventh convention of the Southwest Virginia Medical Society. It was held in Roanoke, with an attractive program. Unfortunately the attendance of doctors, other than Roanoke men, was quite small. This was a disappointment to the Roanoke fraternity, who had made ready to show all possible hospitality, in the way of meeting the trains with autos for guests, entertaining between sessions,

badges, and a supper. A fairly large percentage of the local men and nearly all the visitors were present at the feast. Dr. Brady was toastmaster and it was conceded that he surpassed even himself in the exhibition of keen wit and ready repartee on this occasion.

Dr. S. W. Dickinson's presidential address was delivered at this time, entitled "Some Professional Recollections," a very scholarly production. Many were heard to express the hope that he would publish it, as the information given was of more than passing value.

He was followed by Dr. Brown, president of the local organization in a few minutes' talk. Then Dr. Garthright, on "The Married Doctor," and Dr. Pedigo, on "The Unmarried Doctor," held the attention of the tables. Many and loud were the laughs provoked by their humorous sallies, and keen thrusts, and the midnight hour had struck before the company dispersed.

The entire morning of the second day was devoted to the Symposium on Tuberculosis. Many took part in the discussion and all found it well worth while.

E. P. T.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Post-Mortem Examinations. By WILLIAM S. WADSWORTH, M. D., Coroner's Physician of Philadelphia. Octavo volume of 598 pages with 304 original illustrations. Philadelphia and London: W. B. Saunders Company. Cloth, \$6.00 net; Half-Morocco, \$7.50 net.

The author of this volume has had not only extensive experience in post-mortem examinations—including the study of more than four thousand cases,—but he is able to state the knowledge thus obtained in a very lucid and practical way. While what he has to say is based chiefly on his work as coroner's physician to the City of Philadelphia for many years, the book contains all necessary details for post-mortem examination under practically any circumstances, and is useful, therefore, as a guide in the study of diseased processes to the hospital pathologist, laboratory worker, etc., as well as to the coroner. The subject of post-mortem examination and its technique should, however, be of

more than passing interest to every practitioner of medicine, for, wherever located, he is occasionally called upon as a witness in case of sudden death, and the innocence or guilt of a prisoner may be established largely by his evidence. Certainly, under such circumstances, his testimony assumes tremendous proportions, and indicates the necessity for a careful study of proper procedures in the search for facts at post-mortem examination. The book before us abounds in excellent illustrations, is well written, and leaves the impression upon the reviewer that it will prove authoritative for years to come.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics, Materia Medica and Diagnosis, Jefferson Medical College, Philadelphia. Assisted by LEIGHTON F. APPLEMAN, M. D., Instructor in Therapeutics, Jefferson Medical College. Volume XVII. Nos. 1, 2, 3 and 4. Lea and Febiger, Philadelphia and New York. Paper. 8vo. Subscription price, \$6 per annum.

These four numbers of *Progressive Medicine*, which contain from 307 to 445 pages, are illustrated and contain articles on a varied and large number of medical and surgical subjects by physicians and surgeons of renown. They will be found to contain much interesting and instructive matter.

What to Eat and Why.* By G. CARROLL SMITH, M. D., of Boston, Mass. Second edition, thoroughly revised. Octavo of 377 pages. Philadelphia and London: W. B. Saunders Company. 1915. Cloth, \$2.50 net.

"What to Eat and Why" strikes at the basic principles in the practice of medicine, and the physician who ignores this part in treatment, or who uses it blindly, is as culpable in many instances as the one who uses strong drugs without having given due consideration to the effect. Very frequently, diet has to be varied with the patient in different stages of the same disease, and the non-recognition of this requirement in a given case may lead to serious, if not fatal, consequences. In interstitial nephritis, for instance, the tendency in years gone by has been to limit too closely the diet as a routine in all such cases, with the result that the approach of dangerous complications is

*Our printer "balled up" this notice in our December 22, 1916, issue, leaving off the title line, etc. Ordinarily, he does his work well, but like the rest of us, he is human, and occasionally makes a mistake. However, in justice to the author and publisher, we republish the notice in its entirety.

actually hurried, and the patient is probably worse off than if he had never heeded such advice. Although there are yet many mooted questions as to what is the proper diet for certain diseases, as in typhoid fever, the author of this book, though commonly presenting both sides to a controversy, states his own views with a convincing logic. This second edition contains new chapters on "Exercise and Rheumatism," while the different affections of the stomach have all been rewritten, and other sections brought up to date. The marginal index throughout the volume is very helpful. "What to Eat and Why" is quite a useful book.

Editorial.

Mental Defects and Wassermann Reaction.

Formerly the problem of mental deficiency could be solved only from data concerning the parents. Such information was found frequently to be inaccurate or else could not be obtained at all. Unless evidences of gross nature were present—such as syphilitic lesions of secondary or tertiary nature, or else symptoms of organic nervous diseases, tabes or paresis,—mental deficiency in the offspring could not definitely be determined etiologically. Moreover if formerly the syphilitic parent, following a persistent and rigorous treatment, remained free from tertiary symptoms, the offspring may have not presented gross signs of inherited syphilis although at the same time he had a potential syphilis. In such cases mental anomalies of the offspring could not readily be explained.

Presently we are in possession of powerful and accurate means of detecting and tracing a syphilitic make-up in children. The Wassermann and other tests of blood and spinal fluid have rendered incalculable service to humanity. A vivid example of the latter contention can be seen from a study of 78 cases undertaken by the writer. They embrace imbeciles, idiots, feeble-minded of various degrees with and without functional or organic nervous disorders, epileptics. The blood was examined in every one of these cases and the spinal fluid in 17 cases. It was interesting to observe that 50 per cent. of these subjects presented a positive serum reaction and that in 14 cases the Wassermann test ran parallel in the serum and spinal fluid. The signi-

ficance of such findings is of interest not only from the point of inheritance, but also from a therapeutic standpoint. Fournier, Nonne and Ziehen cite many instances of children who, suffering from various nervous and psychic disorders, remained unaffected when treated with remedies not syphilitic, but who rapidly improved as soon as anti-syphilitic treatment was instituted. How many children were formerly condemned to continue their pathologic existence when the relation of syphilis to their mental status was not recognized for want of clinical manifestations? Our position at present is totally different from that of our elders.

In the above mentioned series of cases every one of the positive cases was treated with anti-syphilitic remedies according to the modern methods. Improvement in general health was observed in every positive case. As to the defective mentality, the idiots and the genuine imbeciles remained unresponsive to the treatment. The feeble-minded with epilepsy, on the contrary, showed decided improvement. Two of these patients have shown such a remarkable progress that a successful attempt was made in giving them instruction in languages and arithmetic; their retentive faculty showed a notable improvement. In three out of five feeble-minded children with petit mal, the attacks disappeared totally, and one of them commenced to learn book-keeping. The two other children were sent to school where the teacher reported continuous progress. The same degree of improvement in the intellect was noticed in seven patients with tremors and choreiform movements. The most striking degree of improvement was obtained in the feeble-minded children without functional nervous disturbances. Speaking generally, the younger the children and the more prolonged the treatment, the more rapid and better results followed.

The conclusion which forces itself is the urgent necessity to perform a test for specificity on blood serum and the cerebro-spinal fluid in every case where mental deficiency is present. The practical, viz., sociological, value of such a test is enormous.

ALFRED GORDON, *M. D.*

The Warren, Rappahannock and Page Counties (Va.) Medical Society

Held its last quarterly meeting at Luray, December 12, Dr. W. L. Hudson, the retiring

president, in the chair. Drs. J. H. Deyerle, Harrisonburg, and W. H. Goodwin, University of Virginia, read papers prior to the luncheon, after which a public meeting was held. The speakers at this section were Drs. B. L. Taliaferro, Catawba Sanatorium, W. A. Brumfield, Lynchburg, and Hunter H. McGuire, Winchester.

Front Royal was selected for the next place of meeting in April, 1917, and the following officers were elected:—President, Dr. E. R. Browning, Flint Hill; vice-president, Dr. R. B. Cullers, Bentonville, and secretary-treasurer, Dr. E. W. Brown, Washington, Va.

The Seaboard Medical Association of Virginia and North Carolina,

At its annual meeting in Washington, N. C., last month, Dr. David T. Tayloe, of that place, presiding, elected the following officers for the coming year:—President, Dr. Kirkland Ruffin, Norfolk, Va.; vice-presidents, Drs. Jos. L. Spruill, Columbia, N. C., Robt. L. Payne, Jr., Norfolk, Va., Ira M. Hardy, Kinston, N. C., and R. L. Raiford, Sedley, Va. Drs. Clarence Porter Jones Newport News, Va., and Geo. A. Caton, Newbern, N. C., were re-elected secretary and treasurer, respectively. Norfolk, Va., was decided upon for the 1917 place of meeting.

New Member of State Board of Medical Examiners.

Dr. H. Aulick Burke, Petersburg, Va., was on December 26 appointed by Governor Stuart as a member of the State Board of Medical Examiners from the fourth congressional district, to serve the unexpired term of Dr. O. C. Wright, of Jarratt, who was killed in an automobile accident last summer. His term of office will last until April 1, 1919.

Halifax County Medical Society Adopts Schedule of Fees.

The following schedule of fees was adopted by the Halifax County Medical Society, December 5, 1916, for the County of Halifax:

Day calls in South Boston, Clover, Houston, Scottsburg and Virgilina, \$1.50. Night calls, between 9 p. m. and 7 a. m., \$3.00.

Office calls, \$1.00 up.

Obstetrics, attendance during labor, \$15.00 up. Instrumental cases, \$25.00 up.

Country visits, \$2.00 for the first four miles. Each additional mile, 50 cents one way. Night calls, double between 9 p. m. and 7 a. m.

Consultation visits, \$5.00. Mileage added for country visits.

Reduction of fractures and dislocations of arm or leg, \$10.00 up. Plaster casts, \$5.00 up.

This schedule went into effect January 1, 1917. In this connection, a delinquent list will be furnished to every member of the society.

Married—

Dr. Stephen Hurt Watts, Charlottesville, Va., and Mrs. Sarah Peel Tilt, Atlanta, Ga., December 27, 1916.

Dr. James D. Hagood and Miss Eleanor Bustard, both of Scottsburg, Va., December 30.

Dr. Lewis Brown Hill, who was appointed to St. Elizabeth's Hospital, this city, after his graduation from the Medical College of Virginia last session, and Miss Ida Gladys Christian, of this city, December 23.

Dr. Charles F. Strosnider, Wilmington, N. C., and Miss Nellie Clyde Edgerton, Goldsboro, N. C., the middle of December. Dr. Strosnider was a former resident of Strasburg, Va., but is now connected with the medical department of the Atlantic Coast Line Railroad in Wilmington.

Dr. Courtney Edmond, Clifton Forge, Va., and Miss Emma Luxford Shiplett, of Highland Park, Richmond, December 20.

Dr. John M. Emmett,

Of this city, early in December, enjoyed a hunting trip of several days, in the vicinity of Oxford, N. C. He was accompanied by Dr. William Sharpe, of New York City, who stopped for a short time in Richmond, on his way home.

Dr. E. R. Hart,

Who has for several years been associated with Dr. F. J. Morrison, in conducting St. Andrew's Hospital, in Suffolk, Va., it is announced, has sold his property and will make his home in Wilmington, N. C., where he will engage in hospital work.

The Lynchburg and Campbell County (Va.) Medical Society.

At its regular meeting the middle of December, elected the following officers for the ensuing year:—President, Dr. C. E. Busey;

vice-president, Dr. Elisha Barksdale, and secretary-treasurer, Dr. Simon Rosenthal, all of Lynchburg.

Dr. H. C. Grant

Has returned to his home at Crozet, Va., after studying in New York City for several months.

The Loudoun County (Va.) Medical Society,

At its last meeting, elected Dr. Henry G. Plaster, Bluemont, president, and Dr. Robert M. Kilgour, also of Bluemont, secretary-treasurer.

Dr. Joseph T. Buxton,

Newport News, Va., announces that after January 1, 1917, his practice will be limited to surgery, office and consultation work.

Dr. J. Allison Hodges,

Of this city, attended the American Congress of Internal Medicine in New York City, in December, and, while there, was elected a fellow of the American College of Physicians, an association recently formed for the advancement of scientific medicine.

Dr. Richard M. Pearce,

The John Herr Musser professor for medical research at University of Pennsylvania, and an expert for the Rockefeller Foundation, will sail from New York on January 15, to make a medical survey of the Argentine and Uruguay. He will confer with leading medical men of these countries and hospitals.

Dr. James P. Roy

Has been reappointed one of the inspectors of the City Jail of Richmond.

Appropriation Asked for Marine Hospital.

Representative Holland, of this State, introduced a bill in Congress, December 21, asking for an appropriation of \$500,000 for an adequate site and buildings for a marine hospital at Norfolk, Va.

Dr. Benjamin C. Moomaw,

Of Roanoke, Va., enjoyed a hunting trip with a friend in Campbell County, Virginia, the middle of December.

Epileptics Greater Financial Care than Insane.

The annual report of the Commissioner of State Hospitals, by the following figures as to number of patients and per capita costs, shows that it costs more to care for epileptics than for insane persons:—Eastern State Hospital gives a per capita cost of \$141.15 with 941 patients at end of year; Southwestern State Hospital, \$135.01 with 709 patients; Central State Hospital, \$109.86 with 1,763 patients; Western State Hospital, \$117.55 with 1,248 patients, and Epileptic Colony, \$156.47 with 540 patients. It may be that the higher rate in the last named hospital was due to the fact that it costs proportionately more to care for a smaller number.

Dr. A. E. Turman,

Of this city, recently returned from a visit to his daughter in New York City.

Seventh District, N. C., Medical Society.

At the meeting of this Society held in Monroe, N. C., in December, Dr. H. D. Stewart, of that place, was elected president, and Dr. Silas R. Thompson, of Charlotte, secretary.

Dr. H. Frank Givens,

Who has for some years made his home at Glen Wilton Va., will be located at Kingsport, Tenn., after January 15.

Dr. Robert Tilden Givens, recently of St. Charles, Va., will succeed his brother at Glen Wilton.

Prevention of Smallpox

According to *Public Health Reports* of December 29, 1916, the County Board of Health of Henry County, Ky., attempted to enforce a rule of the Kentucky State Board of Health, which required all teachers and pupils in the public schools to be vaccinated against smallpox at least once every seven years. Suit was brought to prevent by injunction the enforcement of the rule, which seems to have been violently opposed in at least one school district.

The Court of Appeals of Kentucky decided that a matter of such vital importance to the community should not be left to the whim of individuals, and the action of the board of health was sustained.

St. Elizabeth's Hospital

Is the name by which the U. S. Government Hospital for Insane, Washington, D. C., is now known. The name was changed by Congress.

Worthy Charity.

The Children of America's Fund has sent a circular to the various publications making a plea for help for millions of little children in the war countries who face the bitter cold of winter without food and in rags; many of them separated from their parents are starving. They state that ten cents will give a starving child one day's life; three dollars, one month's life; thirty-five dollars, one year's life.

If you will help, *do it now, no matter how little.* Checks can be made payable to Children of America's Fund, Federal Trust Bldg., 85 Devonshire Street, Boston, Mass., or Mechanics and Metals National Bank, 20 Nassau Street, New York City.

Dr. Fred L. Potts,

Who for the past few years has made his home in Spartanburg, S. C., has returned to North Carolina, in which state he formerly practised. He will be located in Vanceboro, where he expects soon to open a private surgical hospital.

New Tuberculosis Sanatorium for Kentucky.

Work is in progress on the Fayette County, Ky., Tuberculosis Sanatorium, which it is planned to open the first of July, this year. Dr. Bernard L. Wyatt, at present connected with the Trudeau Sanatorium at Saranac Lake, N. Y., will be in charge of the Sanatorium.

Dr. A. C. Sinton, U. S. N.,

Visited his parents in this city, during the holidays.

The American Academy of Ophthalmology and Oto-Laryngology,

At its annual meeting in Memphis, Tenn., last month, elected Dr. William L. Dayton, Lincoln, Nebr., president, and re-elected Dr. Lee M. Francis, Buffalo, N. Y., secretary. The next meeting is to be held in Pittsburgh.

The Indiana University, School of Medicine,

Early in December, suffered the loss of its laboratories by fire. They were located in the upper stories of one of the buildings and the damage was estimated at about \$35,000. Provision has been made for the classes until this department can be rebuilt.

Dr. and Mrs. William Harman Evans

Have returned to their home in Lynchburg, Va., after spending their honeymoon in St. Petersburg, Florida.

The Baltimore City Medical Society,

At its annual meeting, elected Dr. Thomas S. Cullen president, and re-elected Dr. Emil Novak, secretary.

Dr. Samuel M. Cottrell,

Of Louisa, Va., accompanied by his family, recently visited this city for a short time.

South Carolina College to Admit Women.

The trustees of the Medical College of the State of South Carolina, at Charleston, have unanimously agreed to admit women to its classes. It was also decided to establish a chair of public health as soon as practicable.

The Southern Surgical and Gynecological Association,

At its annual meeting at White Sulphur Springs, W. Va., in December, decided upon St. Augustine, Fla., for the 1917 place of meeting, and elected the following officers:— President, Dr. Wm. D. Haggard, Nashville, Tenn.; vice-presidents, Drs. J. Ernest Stokes, Salisbury, N. C., and Francis R. Hagner, Washington, D. C.; secretary, Dr. Hubert A. Royster, Raleigh, N. C.; treasurer, Dr. Le Grand Guerry, Columbia, S. C., and new member of council, Dr. Thos. S. Cullen, Baltimore, Md., the retiring president.

Among the Virginia doctors in attendance, were Drs. Hugh Trout, Roanoke, Lomax Gwathmey and R. L. Payne, Jr., Norfolk, E. Howe Miller, Danville, R. C. Bryan, Chas. M. Hazen, W. P. Mathews and Greer Baughman, Richmond.

Dr. and Mrs. Fred M. Hodges,

Of this city, spent the Christmas holidays with relatives in North Carolina.

Dr. Russell L. Cecil,

Of New York City, has been the recent guest of his parents in this city.

Danville Hospital Advances Prices.

The Danville, Va., General Hospital has announced an increase in rates owing to the higher cost of hospital supplies. The price of private rooms in the hospital has been increased from \$3 to \$5, while attendance in some cases, will likewise cost more.

Hospital for Insane in Canada Destroyed.

Owing to its inaccessibility and lack of aid to assist in rescue work, forty-five women inmates and one sister of charity nurse lost their lives in the fire which destroyed the Insane Asylum for Females at St. Ferdinand, Quebec, on the night of December 30. The sisters succeeded in saving 135 inmates and 30 girls attending a school housed in a wing of the structure.

Doctors Will Assist in Social Economy School.

Drs. Beverley R. Tucker and B. M. Rosebro have accepted an invitation to serve on the board of directors of the Richmond School of Social Economy, to be opened in this city, the first week in March. Dr. James H. Smith, also of this city, has been appointed to assist in preparing the plans later to be adopted by the school.

Dr. W. S. Slicer,

Roanoke, Va., has associated with him in his work, Dr. W. M. Otey, a recent graduate of the Medical College of Virginia.

Name of Journal Changed.

The *Louisville Monthly Journal of Medicine and Surgery* has been made the official organ of the Mississippi Valley Medical Association and has been given the name of the *Mississippi Valley Medical Journal*, beginning January, 1917. Dr. Henry Enos Tuley, Louisville, Ky., is editor.

Dr. O. C. Brunk,

Of Richmond, Va., was the guest of his parents in Harrisonburg, Va., during the holidays.

Dr. William Lloyd Sheep,

Of the Medical Corps, U. S. A., stationed at Llano Grande, Texas, was a recent visitor in Lynchburg, Va.

Dr. Simon Flexner,

Director of the Rockefeller Institute for Medical Research of New York, has been elected foreign associate member of the Academy of Medicine.

Negro Hospital to be Started Soon.

Contract has been awarded for building the negro pavilion of Memorial Hospital, this city. When completed and fully equipped, the pavilion will cost approximately \$175,000. It is to have seven stories and a basement with accommodations for 146 patients—forty private and one hundred and six ward. The contractor promises the building by November 1, 1917.

Dr. D. N. Twyman,

Appomattox, Va., has been elected worshipful master of the local lodge of Masons.

Dr. and Mrs. W. Wallace Gill,

Of this city, spent Christmas at Old Point Comfort.

Nurse Elected Bacteriologist.

Miss H. D. Whitehead, a graduate of St. Luke's Hospital, this city, has been elected city bacteriologist of Petersburg, Va. She served her apprenticeship under Dr. K. D. Graves, city bacteriologist of Richmond.

Dr. Dan H. Witt,

Of New York City, a graduate of the University of Virginia in 1914, was a recent visitor at his old home in Charlottesville, Va. He has recently accepted a position as interne in Bellevue Hospital, New York City.

Medical Inspection in Schools,

As tried in Richmond for the past five years, has proved a success and worked great improvement in health and sanitary conditions, according to Dr. N. T. Ennett, medical director of the city schools, in his annual report. He states that in this time, the department has made 46,635 examinations, 113,205 inspections, sent 19,985 children for treatment to the family physician or dentist and 2,590 to the dispensary or hospitals for free treatment. The nurses treated mild skin and scalp diseases as well as wounds and abrasions and in all gave 29,800 treatments.

The Tri-State Medical Association of the Carolinas and Virginia

Is to have its annual meeting in Durham,

N. C., February 21 and 22. Dr. J. A. Hodges, Richmond, is president, and Dr. Rolfe E. Hughes, Laurens, S. C., secretary-treasurer.

Whooping Cough Vaccine.

The Virginia State Board of Health has again announced that whooping cough vaccine may be ordered by any responsible person. It is regarded by many physicians as a most excellent preventive of whooping cough and gives excellent results in many cases. Prophylactic treatments can be purchased through the Board at wholesale prices—60 cents for treatments in syringes and 21 cents for treatments in ampoules.

Meeting in Chicago.

The Congress on Medical Education, Public Health and Medical Licensure, conducted under the auspices of the American Medical Association, the Federation of State Medical Boards of the United States and the Association of American Medical Colleges will be held at Congress Hall, Chicago, February 5 and 6.

Dr. Charles M. Clendennen,

Of Damascus, Va., spent the Christmas holidays with relatives in Bristol, Va.

The U. S. Civil Service Commission,

Washington, D. C., announces an open competitive examination for assistant epidemiologist, for men only between the ages of 23 and 40 years, on January 30, 1917. The examination is to be held to secure eligibles to fill vacancies in this position in the Public Health Service, at salaries ranging from \$2,000 to \$2,500 a year. Prospective applicants should secure full information from the above address at once.

Obituary Record

Dr. George Ben Johnston,

A leading citizen of Richmond, Va., and prominent in this and other States, as surgeon and teacher, died suddenly at his home, December 20, after being in failing health for several months. Dr. Johnston was born in Tazewell county, Virginia, July 25, 1853, and spent his early life in the southwestern section of the State. Upon completing two years'

of study in the academic department of the University of Virginia, he entered the medical department of that school, later going to the University of the City of New York, from which he graduated in 1876. After practising in Abingdon, Va., for two years, he located in Richmond in 1878, where he had since made his home. Shortly after coming to this city, he became identified with the work of the Medical College of Virginia, having at various times occupied different positions, and was a recognized spirit in the development of the school. At the time of his death, he was emeritus professor of surgery in that school and a member of its board of visitors. He was also one of the owners and surgeons of the Johnston-Willis Sanatorium. In 1879, he performed the first operation in Virginia under Listerism, which was the beginning of antiseptic surgery.

Dr. Johnston had been the recipient of many honors, professional and otherwise. He was a member and ex-president of a number of medical societies, among which may be mentioned the Medical Society of Virginia, Richmond Academy of Medicine and Surgery, Southern Surgical and Gynecological Association, and American Surgical Association. The degree of LL. D. had been bestowed upon him by two colleges.

He was twice married, his first wife living only a few months. On November 12, 1892, he married Miss Helen Coles Rutherford, of Rock Castle, Va., who, with four daughters, survives him. Several organizations have already met and passed resolutions upon the death of Dr. Johnston. His funeral was held from St. Peter's Catholic Church. The vast concourse in attendance was evidence of the great esteem in which he was held in this vicinity and and throughout the State.

Resolutions on the Death of Dr. George Ben Johnston.

The following preamble and resolutions were adopted at a meeting of the Richmond Academy of Medicine and Surgery, held on December 21, 1916:

Whereafter, after many longings for the recovery of our honored and highly esteemed colleague, Dr. George Ben Johnston, we now learn with profound sorrow that death has called him from his labors in the midst of a singularly useful career; and

Whereas, in the death of Dr. Johnston the Richmond Academy of Medicine and Surgery has sustained the loss of a brilliant and distinguished member and former president, one who was gifted with a peculiar charm of personality difficult to portray, with amazing strength assiduously cultivated, with fearless determination, strengthened by opposition; with loyalty to friends which recognized no limi-

tations; with ideals and principles that were direct, strong and always honorable; with methods that rarely failed because of the clear vision and ripe judgment that inspired them, and in his loss a glorious example to the profession of the South has been removed; therefore, be it

Resolved, That we give expression to the feelings of heartfelt sorrow that overwhelm us because of his untimely death; that we know by his departure mankind has lost an ardent friend and helper, his family a devoted husband and father, and the science of surgery a forceful ally; and be it further

Resolved, That we extend our sincere sympathy to his sorrowing family and to the community which he served so well; that these resolutions be spread upon the minutes of the Academy, and that copies be sent to the family, to the daily papers and the Virginia Medical Semi-Monthly.

At a Called Meeting of the General Faculty of the Medical College of Virginia, assembled at 12 o'clock noon, December 21, 1916, it was resolved:

First. That the general faculty of the Medical College of Virginia has learned with deep sorrow of the death of George Ben Johnston, M. D., LL. D., emeritus professor of surgery, member of the board of visitors and of the executive committee of the board of visitors of the Medical College of Virginia.

Second. That the faculty realizes that in the death of Dr. Johnston the Medical College of Virginia has sustained the loss, not only of a loyal and valued friend, but of a man whose attainments, courage and personality have steered the course and shouldered the burdens of the college through difficulties almost insurmountable, until it has reached its present high position culminating in the amalgamation with the University College of Medicine and the co-operation of both faculties with the plans originated and fostered by him.

Third. That this city, state and country have lost a surgeon of eminent skill, recognized ability and deserved success, and a citizen of lofty ideals, far-reaching vision, untiring energy and splendid accomplishment. As a surgeon, Dr. Johnston stood in the front rank of his profession, and he was honored with the highest office in the United States, that of president of the American Surgical Association. As a citizen he has been unselfish in giving himself to public health and civic work and his reward has been the highest respect and admiration of his fellow citizens. In his private life Dr. Johnston was a devout Christian, a chivalrous gentleman and an inspiration and example to all who were so fortunate as to come in touch with his wonderful personality. Born of an ancestry distinguished for its pioneers, its warriors, its statesmen, and its physicians, all of these qualities were so blended in him that he gathered greatness as the years rolled on, until he died at the zenith of his power, before old age had dulled his faculties—a truly great man. Dr. Johnston was a man of breadth, power and absolute fearlessness, but withal a man of gentleness and kindness. It was known that he never refused a call for aid nor did he ever complain of being imposed upon. His benevolence was such that at no time was he too busy to listen to and advise those who came to him for help, whether they were great or humble. It might be said of him that he embodied the characteristics which we like to believe should belong to a loyal friend, a good citizen and a great physician.

Fourth. That we tender the family of Dr. Johnston our sincere sympathy in this, our common be-

reavement, and request that these resolutions be spread upon the minutes of the faculty, be published in the daily papers and various medical journals and that a copy be sent to his family as a token of our esteem.

BEVERLEY R. TUCKER,

Chairman.

EDWARD MCGUIRE.

W. G. CHRISTIAN,

ENNION G. WILLIAMS,

JOS. A. WHITE.

Resolutions adopted at a Called Meeting of the board of visitors of the Medical College of Virginia, Thursday, December 21, 1916.

God, in His infinite wisdom has taken from us our beloved friend, George Ben Johnston.

Few have so well discharged the duties of father, son, husband and brother. None had more devoted and loyal friends.

Vigorous and aggressive, he provoked antagonisms, but he scorned a small or mean act and was ever ready to recognize a fault or repair a wrong. He was devoted to his native state and to this city, and was profoundly interested in all that concerned them or their welfare.

In his chosen profession he found the broadest field for his splendid qualities of head and heart and earned a reputation as a surgeon which was international. Cheerfully giving his services where needed, he was rewarded by the love of those to whom he ministered.

He was for years a potential force in the Medical College of Virginia, and did much for its advancement. He inspired the movement for the Memorial hospital and was a most potent factor in the establishment of this institution.

He probably did more than any other one person to bring about the merger of the Medical College of Virginia and the University College of Medicine.

For some years he had been a member of the board of visitors of the Medical College of Virginia and of its executive committee, and as such has rendered valuable service.

Each member of the board feels that in his death he has lost a friend, this board and its executive committee one of its most brilliant members, surgery one of its most brilliant representatives, and the state one of its highest and most patriotic citizens.

Resolved, That we place upon our records this poor expression of our affection and of our appreciation of the noble qualities of our beloved and honored friend and that this resolution be sent to his family and a copy of it published in the papers of Richmond.

Dr. Benton F. Tatum,

Of Stuart, Va., died December 29, after a painful illness of about two months with cancer of the pancreas. He recently underwent an operation for this trouble in Richmond, but sank rapidly, after returning to his home. He was born October 18, 1871 and studied medicine at the University of the South, Sewanee, Tenn., from which he graduated in 1901. He passed the Medical Examining Board of Virginia in

1901 and joined the Medical Society of Virginia in 1902. He was a member of and president of the Patrick-Henry Medical Society in 1907-8 and its secretary-treasurer for two years. He was also secretary of the Patrick County Board of Health and coroner of the county for several years. He was a good physician, a high class man and will be greatly missed in this part of the State.

R. S. M.

Dr. Benjamin Franklin Hopkins,

For many years a prominent physician at Hot Springs, Va., died at the home of his son-in-law, Dr. J. S. DeJarnette, in Staunton, December 26, on the eighty-eighth anniversary of his birth. He was a native of Louisa county, this State, and studied medicine at the Jefferson Medical College, Philadelphia, from which he graduated in 1855. One son, Dr. Frank Hopkins, of Hot Springs, and four daughters survive him.

RESOLUTIONS ON DEATH OF DR. BENJAMIN F. HOPKINS.

The Bath County Medical Society, at a special meeting held at Hot Springs, Va., December 29, 1916, adopted the following resolutions:

This Society has heard with regret of the death of Dr. Benjamin F. Hopkins on the eighty-eighth anniversary of his birth. Dr. Hopkins was graduated from Jefferson Medical College, Philadelphia, in 1855, and during the sixty-one years of his professional life had made many friends in this County where he was well known for his courteous manners and high professional attainments.

This Society wishes to acknowledge his worth and to extend its sympathy to his family.

Dr. T. M. Cherry,

A prominent physician of the southwestern part of this State and secretary of the Wise County Medical Society, died at his home in Norton, Va., December 11, from cerebral hemorrhage. He was 54 years of age and had graduated from the College of Physicians and Surgeons, Baltimore, in 1891. His wife survives him.

Dr. Matthew Watson O'Brien,

For many years a prominent surgeon of Alexandria, Va., died at his home in that place December 28, after having been in failing health for a couple of years or more. He was born in Baltimore, Md., sixty-one years ago, and graduated from the Medical College of Ohio, Cincinnati, in 1876, later taking a post-graduate course in New York. He practiced for a number of years in Barnesville, Ohio, and moved to Alexandria thirty-two years ago. He was a prominent Mason and was identified with a number of medical organizations. His wife survives him.

Dr. Kenton H. Trimble,

Of Monterey, Va., died suddenly at his home December 22, while sitting in his chair. He was 58 years of age and had graduated from the University of Virginia in 1884, later taking a post-graduate course at Bellevue Hospital Medical College, New York City. He is survived by a large family connection including his wife and three children.

Dr. Claude Lamont Wheeler,

One of the editors of the *New York Medical Journal* since 1909, died of pneumonia December 30, at his home in Brooklyn. He was born in Montreal in 1864 and graduated from McGill University, Faculty of Medicine, in that city in 1889.

Col. Henry S. T. Harris,

A native of Virginia and chief surgeon of the western division of the U. S. Army, was found dead in his bed at the club in San Francisco, where he lived, December 18. The cause of his death is supposed to have been apoplexy. He was 53 years of age and had graduated from the George Washington University Medical School in 1884. He entered the Army as an assistant surgeon, in 1886. He was unmarried.

Dr. Thomas Fleming White

Died at his home "White Oak," Hanover county, Va., December 18, aged 90 years. He was educated at William and Mary College, later studying medicine at Jefferson Medical College, Philadelphia. He was unmarried.

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THE DEPENDENCY ON EARLY DIAGNOSIS OF THE ULTIMATE RESULTS IN THE TREATMENT OF PULMONARY TUBERCULOSIS.*

By E. E. WATSON, M. D., Salem, Va.
Physician-in-Charge, Mount Regis Sanatorium.

Pulmonary tuberculosis, consumption, or phthisis, was crudely described on tablets taken from the Babylonian remains, which tablets represent the earliest known human records. It surpasses all other diseases in the number of its victims as well as in the cost to society. Hippocrates, 400 years B. C., believed in its curability and treated it by hygienic methods. From then till now scientists have labored indefatigably in an effort to find a cure for this dread malady. What results have been achieved by the colossal outlay of brains and energy?

When we are reminded that today there are in the United States 1,500,000 cases of active tuberculosis, with an annual mortality of 150,000, and in our own state of Virginia there are 20,000 actively tuberculous, with a yearly mortality of 4,000, we are forced to admit that the morbidity as well as the mortality rate is vastly too high.

Since the discovery of the tubercle bacillus, by Koch, in 1882, we have gradually learned more and more concerning the routes and modes of infection, until now, by proper and careful training, an open case need no longer be a menace to society. The omnipresence of the tubercle bacillus is proven by the fact that 94 per cent. of adults are infected. Baldwin's dictum is now universally accepted, i. e., "Childhood is the time of infection, adolescence the time of super-infection and that from the extension of the primary focus" and that

"healthy adults are little if any endangered by contact with open cases of tuberculosis." Thus, we readily see that, while isolation and protection for the child is imperative, the most vital prophylactic measure for the adult is to keep his resistance at its maximum by leading a careful, well balanced life, i. e., sleeping in the open air, avoidance of overwork and dissipation, things which we all know render the organism susceptible to a "lighting-up" of a latent childhood infection. If by regulating our manner of living, which is virtually what sanatorium treatment is, we who are already tuberculous can arrest the progress of an active lesion, certainly by impressing the importance of avoiding the pitfalls mentioned above upon those with whom we come in contact, they will be able to avoid a breakdown, thus diminishing this appalling morbidity rate above cited.

Here I wish to digress from the main theme of this paper in order to register a protest against the unfortunate prevalence of phthisophobia, or a foolish fear of tuberculosis. Too often, ignorance on the part of society at large, employers, and, I regret to say, even physicians, is the cause of uselessly adding hardships and sufferings to the lot of the already over-burdened patient and family.

Estimating conservatively, I would say that at least 70 per cent. of the 20,000 cases of tuberculosis in Virginia did not obtain a diagnosis until they had become far advanced. Each of them for months and often years has subjected, unwittingly, friends and loved ones to the dangers of infection, and finally, obtaining a diagnosis too late, is now a helpless invalid, often crowded in unsanitary surroundings with a large family of children who will in turn fall victims to the ravages of the disease.

What results are we able to obtain in those cases that can avail themselves of the advantages of sanatorium treatment? Of those dis-

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

charged from the Adirondack Cottage Sanatorium during the past twenty-five years—which is comparable to the results achieved by other sanatoria throughout the country—86 per cent. of the incipient cases are living; of the moderately advanced, 57 per cent., and of the far advanced, only 19 per cent. Unquestionably this 19 per cent. is composed largely of those discharged during the last few years and who have not much longer to live. Thus we see the curability of the disease in its incipiency compared with the hopelessness of the far advanced stage. Another consideration is the fact that the vast majority of advanced patients who live do not regain their earning capacity and are merely a drain on society.

In view of the foregoing, what, then, is the best means at our command of preventing the occurrence of new cases and of obtaining “apparent cures” in the already actively tuberculous? There can be only one answer, and that is *early diagnosis*.

The next question which confronts us is—how are we to procure early diagnosis? Every case of tuberculosis reaching the advanced stage before getting a diagnosis does so because—(1) Either the patient fails to seek medical aid in time, or (2) the physician fails to recognize the disease in its incipiency. To overcome the first, or the failure of patient to seek medical aid, we must in every way possible, educate the laity to recognize the danger signals and to apply to the family physician immediately. The ways of imparting the information most effectively is a sociologic question requiring a great deal of thought, and which I cannot attempt to take up here. The second, or failure of physician to recognize the lesion in its incipiency, is what interests us most essentially today.

The most noticeable short-coming of the profession as a whole, in regard to the subject of tuberculosis, is a lack of enthusiasm; lack of a real, whole-hearted, vital interest. You probably doubt this and are thinking now how any kind of a paper on tuberculosis evokes, as a rule, generous discussion. Frequently in conversation with medical friends who are most emphatic in their assurances of interest in the great tuberculosis problem, I have heard such remarks as these: “When I have a patient who coughs and expectorates, if the sputum is positive, I get rid of him as quickly as possible. I’m afraid of tuberculosis.” Or, “I saw a patient the other day who looked well

but expectorated some blood and has some very suggestive symptoms, but the sputum was negative. Guess he ruptured a small blood vessel in his throat.” Assuredly, such an attitude is not conducive to early diagnosis.

The first most important step in early diagnosis of pulmonary tuberculosis is to throw away the microscope and the stethoscope—the microscope because the majority of early cases show negative sputum. Of 59 incipient cases admitted to Mt. Regis, only 2 showed positive sputum after repeated and repeated examination. Certainly to await the appearance of tubercle bacilli in the sputum is to take away the patient’s best chances of recovery, for, as a rule, positive sputum means that the disease has progressed beyond incipiency.

I say throw away the stethoscope, because the average practitioner can only detect a moderately or far advanced lesion by physical examination. This is not surprising in the face of the fact that the most skilled diagnosticians frequently have to resort to the tuberculin test.

On a thorough knowledge of the early symptoms and a careful detailed history must the early diagnosis depend. The following symptoms or groups of symptoms usually characterize the onset of tuberculosis. There may be a history of susceptibility to colds and coughs, especially in winter; next the patient takes what is apparently a severe cold or grippe, which hangs on unduly long; he does not regain his usual vigor and feels generally below par. Careful examination of lungs reveals tuberculosis. Often the cough and expectoration begin insidiously and may exist for months while the patient and family comfortingly blame the symptoms on our old friends—“bad cold,” “catarrh,” “cigarette cough,” or “bronchial trouble.”

Another symptom complex is embodied in that vague and over-worked term “rundown.” There is gradual loss of weight and strength, fatigue, languor, anorexia, slight rise or sub-normal temperature, rapid pulse on slight exertion and possibly slight cough and expectoration.

So-called idiopathic pleurisy, as well as the slightest hemoptysis, when the latter occurs in the absence of serious renal or cardiac disease, means in practically every instance pulmonary tuberculosis, regardless of how strong and well-looking the patient may be.

Probably the most frequently overlooked

cases are those ushered in with the gastrointestinal symptoms predominating. In Cabot's series of cases, he found, in those consulting him for the relief of "dyspepsia," that tuberculosis was the second most frequent etiological factor.

It has been definitely proven by Head that neurasthenia is frequently only the manifestation of a latent tuberculous lesion and should be diagnosed as such instead of neurasthenia.

I will not attempt to go into the details of the diagnosis of pulmonary tuberculosis, but will mention briefly some of the points which are particularly helpful: (1) A careful detailed history, (2) a two-hourly temperature and pulse record for a week, (3) careful, painstaking examination of chest with patient stripped to the waist. In this connection I wish to emphasize the importance of light percussion, and to describe the technique of eliciting the latent rale. The patient is told to exhale deeply, give a slight cough, and quickly inspire. This frequently brings out rales distinctly which cannot be heard on the deepest inspiration. This is by far the most valuable point in the technique, and no examination of the chest is complete without it; (4) the subcutaneous tuberculin test, (5) the X-ray.

In conclusion, I wish to emphasize the danger of the very prevalent tendency among us all, when in the presence of symptoms we are unable to find a lesion, to wait from month to month for the development of more conclusive proof of the existence of the disease. In every city in the state there are diagnosticians who are particularly well equipped in this work and to whom we can turn for assistance in these early cases.

While the diagnosis of early tuberculosis is less spectacular than a hysterectomy for early carcinoma, or the drainage of an appendiceal abscess, the end-results are identical—the saving of life.

ETIOLOGY AND PATHOLOGY OF GASTRIC AND PYLORIC ULCER.*

By C. W. PRITCHETT, M. D., Danville, Va.

The subject assigned me is one of vital interest to every physician and surgeon. A careful search of the literature is sufficient to convince anyone of the small amount of accurate knowledge we possess as to the etiology and pathology of gastric and pyloric ulcer. Gastric ulcer

has been recognized for many centuries, but the first accurate anatomic description and clinical histories were given by Matthew Baillie in the year of 1793. Gastric ulcer begins with a more or less progressive destruction of the mucosa, extending to, and even through, the deeper layers of the stomach wall. The ulcers form only where the gastric juice flows, and are, therefore, found only in the lower end of the esophagus, the stomach itself, and in the portions of the duodenum above the opening of the common bile duct.

Gastric ulcers are classified either as acute or chronic, which may or may not show a tendency toward healing and cicatrization. There is loss of substance, and the shape is usually round or oval,—in the acute, the edges are clean cut, and in the chronic they are irregular.

The main etiological factors of simple ulcer of the stomach are a destruction of the gastric epithelium, a disturbance of the circulation, and increased acidity of the gastric juice: the combination permitting or causing auto-digestion. Ulcers are called acute or chronic according to rapid or slow course. The stomach under normal conditions acts as a temporary store-house for food. The five-sixths to the left is concerned in storage and maceration; the one-sixth lying to the right and consisting of the pyloric end, carries on the grinding process.

For some little time after ingestion, motor action of the stomach is slight, the food forming a composite mass, the outer surface of which is being acted upon by the rapidly secreting hydrochloric acid and pepsin, while the center is still being acted upon by the alkaline salivary secretions. In the course of about half an hour, the food begins to pass into the pyloric end of the stomach and the grinding process begins.

When digestion has reached a certain stage the pylorus relaxes, and by a series of gastric contractions the acid chyme is ejected into the duodenum where it is neutralized by the bile and alkaline pancreatic secretions. The digestive processes are the result of chemical stimulation rather than nerve force. Ewald says, in the development of an ulcer we are dealing either with the consequences of a mechanical, a chemical or a thermic lesion of the mucous membrane, with the disturbance of the circulation at the point of the lesion, or else such

*Read before the South Piedmont Medical Society, at South Boston, Va., November 21, 1916.

disturbances (this being the case most frequently) have arisen without a preceding coarse lesion in a circumscribed vascular area. A limited destruction of the tissues follows because the gastric juice attacks those areas which are no longer normally nourished. The first step in ulcer formation is perverted function and change in the acid secretion of the stomach.

The second factor is the traumatism inflicted on the grinding pyloric end of the stomach and that portion of the mucous membrane of the duodenum which receive the physical impact of the acid chyme as it is ejected through the pylorus. Nine-tenths of all gastric ulcers proper are situated in the pyloric end of the stomach, and a large proportion of duodenal are in the upper part of the duodenum, or near the pylorus.

Anemia may be a third factor in the production of gastric ulcer. The protection to the mucous membrane which prevents self digestion lies within the mucous membrane itself and is associated with the blood supply.

An ulcer once formed has a tendency to penetrate into the muscular coat and is periodically irritated by muscular contraction and by the introduction of food particles into its depths, giving rise to pain which is characteristic of the disease.

When an ulcer has existed for some time there will be induration followed in time by cicatrization in some parts of the area. Gastric ulcer may be single or multiple. The situation, as before stated, is usually near the lesser curvature and may project down upon both the anterior and posterior walls of the stomach. Ulcer of the duodenum is generally single. Chronic ulcer is essentially a disease of adult life, but does sometimes occur in children.

Mayo says ulcer occurs in the stomach of both sexes with about equal frequency, but in the duodenum three-fourths are in males. Ulcer of the pyloric end of the stomach and first portion of the duodenum usually interferes with motility, and often introduces mechanical difficulties in the process of healing, giving rise to obstruction and retention of food. The cicatrization of large ulcers of the stomach may produce hour-glass appearance.

Occupation has a doubtful relation to ulcer as no walk of life is exempt. It is claimed that tailors and shoemakers, on account of the cramped position which they assume in the

performance of their work, are especially prone to this disease, but it does not seem to be conclusively proven. As a causative factor trauma should not be overlooked. It may be either external or internal. Internal arising from hot foods, corrosive foreign bodies, and mechanical or chemical irritants. External, as from a blow over the stomach, tight clothing and corsets. I have recently had under my care a young woman in whom the ulcer was undoubtedly produced or greatly aggravated by wearing an ill-fitting and very tight corset. We have all heard of gastric ulcer being produced by, or being the result of extensive burns of the skin.

Certain diseases, such as anemia, chlorosis and some infections, dysentery, etc., may be put down as frequent causes. Among other diseases we would enumerate arterio-sclerosis, endo-carditis, and previous gastric disease.

Dietetic errors should not be forgotten, especially the habit of eating rapidly, and bolting the food without proper mastication. In the enumeration of causes we should not forget that worry, overwork, irregular habits of every kind, are frequently etiological factors.

Virchow assumed that ordinary round ulcer of the stomach in man is, in most cases, the result of the plugging of a small blood vessel with a thrombus or an embolus because of various diseased conditions of their walls. Whatever the cause, an ulcer, once formed, the irritation generally causes an excessive secretion of the gastric juice which in turn greatly irritates and aggravates the ulcer.

As regards pathology, little is actually known, but as previously stated in this paper the shape of gastric ulcer is generally round or oval, the border sharp with sloping walls—the appearance of a shallow funnel. The base of the ulcer is almost always clean, and microscopic section shows the gland tubules unchanged and reaching out into the surface of the ulcer.

In time a reactive inflammation or induration develops around the necrotic area leading to cicatrization. The ulcer may involve the superficial coat of the stomach, the muscular wall, or down to the serous coat, and even perforate it. In size, ulcers vary greatly. Most frequently the posterior wall of the stomach and lesser curvature, near the pylorus are the points of attack, but the greater curvature is by no means exempt. As stated before, in the

healing forces of large ulcers, very serious obstructions and distortions may be produced.

Obstruction at or near the pylorus leads to the retention of the stomach contents and subsequent dilatation. In deep ulcers there may be perforation leading to peritonitis or else the stomach will adhere to some neighboring organ. If adhesions form before perforation, there may be a localized or circumscribed abscess which, according to location, may empty itself into the pleural cavity, transverse colon, pericardium or lung. The ulcerative process may involve a large blood vessel giving rise to serious hemorrhage.

THE SURGICAL TREATMENT OF GASTRIC ULCER.*

By W. LOWNDES PEPEL, M. D., F. A. C. S.,
Richmond, Va.

Associate Professor of Clinical Surgery, Medical
College of Virginia.

The place of surgery in the treatment of gastric ulcer has not been definitely fixed; for men of wide experience differ materially as to certain steps and methods, and also as to the interpretation of results obtained.

Throughout all, however, we see rational procedures being evolved that will stand the criticisms of practice as well as theory.

The day when gastro-enterostomy was regarded as a specific for all ulcers has passed.

The symptomatic ulcer, incapable of demonstration, is no longer treated by this method.

Incidentally, fewer gastro-enterostomies are being undone. We are arriving at a truer appreciation of our limitations.

Röntgenologists have shown us with the bismuth-meal that the function of the stomach is not based on the principles of mechanics and hydrostatics.

We can not trap the stomach as a plumber would a pipe, and make it work.

Half or more of the stomach-contents will be propelled through the pylorus, even though partially obstructed, when our gastro-jejunal stoma is amply wide and properly placed.

At least some of the things that can and can not be done are definitely settled.

All men are agreed that a perforating gastric ulcer should have the same treatment as though the wound were made by a bullet—the hole should be sewed up,—but this is as far as they all go together. <

Some advocate gastro-enterostomy at the same sitting in practically all cases, the exceptions being those in which the ulcer is on the lesser curvature or well toward the cardia.

The treatment of chronic ulcer is still the center of controversy and divergent views.

The essentials of this too, however, are on a fair way to settlement on a rational basis.

Formerly, a certain specified number of months of medical treatment, without improvement, was the criterion for declaring the case surgical.

Little was said of the kind of treatment. This has now been more or less standardized.

It must be dietetic and medicinal, accompanied by rest in bed, under proper control.

No case should be declared surgical until the best has been tried faithfully, and its details carried out with skill and intelligence.

There is one question in the treatment of chronic ulcer which may be said to have been placed beyond controversy. When an ulcer is so located that it can be excised without crippling the stomach, this should be done.

The real problem in gastric ulcer is to know just how much and how little to do, when the abdomen is open and the ulcers are revealed. It is the personal equation again; the judgment and skill of the surgeon deciding what is best and safest for the case in hand.

Shall we do gastro-enterostomy and stop; or shall we do an excision of the entire ulcer-bearing area, thus removing potential cancer?

Shall we do it in one operation or in two stages?

Shall we block the pylorus and compel the stomach-contents to use the hole we have made for it?

There are no hard and fast rules to tell us; each operator must decide at the time how he is to solve his own peculiar problem.

When simple ulcer of the pylorus or duodenum is blocking the outlet, and food is retained and fermenting, the results of a properly executed gastro-enterostomy are truly wonderful. No class of cases is more grateful; none gives the operator a feeling of greater pride in his accomplishment.

But when is an ulcer simple? Which ones will become cancerous? Where shall we stop?

That many cancers develop on ulcers can not be gainsaid. But if the rank and file undertake pylorotomies, will not the operative mortality rise higher than the cancer mortality?

*Read before the South Piedmont Medical Society, at South Boston, Va., November 21, 1916.

In speaking of excision operations, Coffey says that "in our experience the adoption of the two-stage operation has been the most important single step we have taken in abdominal surgery of any kind, for some time."

This is especially true of the obstructive cases with marked emaciation.

The new outlet gives the patient time to refill his vessels and plump out his tissues and generally increase his resistance.

Several operators have been astonished to find on re-opening the abdomen that the mass had disappeared, and the necessity for the second step no longer existed.

It is claimed by some that the undoubted cures of gastric ulcer are due, not to the relief of friction of food passing over the raw area, but to the bathing of the gastric mucosa in the alkaline jejunal contents regurgitated through the artificial stoma.

Crile believes that the immunity of the duodenum to cancer is imparted to the stomach by this means, for it is a fact that few stomach ulcers go on to cancer-formation after gastro-enterostomy has been done.

If this be true, and it sounds plausible, should we not be able to find some way, or devise some plan, of alkalinizing the stomach and keeping it so, that is simpler and safer than operative procedure?

Pyloric occlusion by means of sutures or purse-string tapes, for the purpose of protecting ulcers of the pylorus and duodenum, is not now generally practiced.

Fluoroscopic examinations show that the occlusion is only temporary and at times dangerous, as the silk or tape may ulcerate and cut into the lumen, and cause perforation.

The plan seems not to take into account the possibility of a cure. I recall such a case: a duodenal ulcer in which gastro-enterostomy had been done and pyloric closure made with a tape. On re-operation his ulcer was gone, the gastro-jejunal stoma was very large, and the pylorus about one-fourth its natural size with a cicatricial ring about the tape. Had the tape not been used his gastro-enterostomy, which was making him most unhappy, might have been undone, restoring him to normal. He is doubtless still very uncomfortable.

There have been few radical changes in the technique of gastro-enterostomy. The stoma is made closer to the pylorus, in deference to the normal gastric function.

Chronic gut throughout is replacing silk and linen, as the non-absorbable suture seemed to be the direct cause of secondary ulcer at or near the suture line.

The no-loop operation, with the jejunum lying in the easiest, most natural position, is universally recognized.

The after-care of ulcer cases has not received the careful attention that it deserves.

No one would start a man to plowing as soon as a leg ulcer was healed, or to setting type as soon as a corneal ulcer was well, yet some advocate an early return to a rather full diet in ulcer cases that are healed.

I note that Crile lays especial stress on the after-care of these cases, lest they recur.

A hole in the stomach made by a bayonet thrust is well when it is healed. A gastric ulcer is well only when the conditions which made its development possible no longer exist.

1209 West Franklin Street.

TWISTED OVARIAN CYST—WITH REPORT OF CASES.*

By JOHN W. WINSTON, M. D., Norfolk, Va.

I am reporting three cases of ovarian cyst with twisted pedicle simply because of confusion in the diagnosis.

Case 1.—Miss D., weight 110, age 17, unmarried, American. Family history—negative. Past history—free from diseases. Menstruation first at 13½ years with pain each time, and always very free and prolonged—at times very profuse. Taken in morning with severe pain in right lower quadrant of abdomen. Pain and tenderness over McBurney's point; considerable rigidity of muscles on right side, temperature 101° F., pulse 100, urine normal; blood count not done. Rectal examination omitted. McBurney incision and normal appendix removed. Examination through incision showed slightly twisted ovarian cyst on right side. Incision closed and tumor removed through low mid-line incision. Convalescence normal and recovery complete. Second incision preferred to prolonging small first one.

Case 2.—Mrs. S., weight 250, age 54, American, married, four children—2 living and 2 dead. Father died with growth in larynx. Husband and two children living and healthy. Husband has intolerance for sugar. Menstrual

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period stopped two years ago—no sign since. Flow free and slightly prolonged during menstruation. Had in the past several spells of profuse bleeding lasting ten or fifteen days. No miscarriages. For years had very irregular heart, with slight enlargement—suffered with shortness of breath and asthma, at times lasting for weeks. For several years had much discomfort from aching of lower limbs and slight swelling. Did not suffer from constipation or indigestion. No history of typhoid.

Six months ago while in store had acute pain in right lower quadrant. One month ago had severe pain and tenderness in same region, lasting 24 hours. This was thought to be mild attack of appendicitis. Present attack started with very severe pain in right lower quadrant along course of ureter—tenderness and rigidity in same region—temperature 100° F., and pulse 110. Pain too severe for appendix as it was not thought to be a rupture of that organ. First diagnosed as kidney colic, but urinary examination was entirely negative and diagnosis was changed to appendicitis. Patient taken to hospital and blood count found to be 15000 with 85% polymorphonuclears. Half grain morphine given in beginning by hypodermic for intense pain was followed by slight nausea and vomiting. Diagnosis still pointed to appendix and pain thought to be too severe. Before operation on third day, rectal examination showed fullness in mid-line above uterus. Heart for twelve hours before operation irregular. Digitalin, gr. 1/100, given by hypodermic every four hours for twelve hours before operation and for four days afterwards. Operation on third day with patient apparently improved and with little pain but uncomfortable and restless. Incision made in mid-line and twisted ovarian cyst found on right side the size of a baby's head and full of blood which was removed. Patient made uneventful and rapid recovery.

Case 3.—Patient, age 17, American, weight 120 lbs. Had noticed abdomen enlarging but did not mention same because of timidity. Was suddenly attacked with violent pain in lower abdomen.

Incision was made in mid-line and a twisted ovarian cyst the size of an adult head, filled with free blood was removed. Recovery uneventful and rapid.

The first two cases were operated on by myself and the last by another surgeon. The

last case is mentioned because of its likeness to pregnancy—a mistake that is sometimes made, especially in virgins, and in such cases it shows the wisdom of a guarded diagnosis, as a wrong one would be a grave error. The first two cases are reported because of their likeness to other troubles and to emphasize the importance of always making a rectal or vaginal examination. In men and virgins where the vaginal examination is, in the first place, impossible, and, in the second, unwise, a rectal examination should always be made when the trouble appears to be in the lower abdomen or pelvis.

As was prettily brought out in a recent article by Dr. John Staige Davis, early pneumonia, especially in children, simulates lower abdominal troubles, and rectal examination proves to be a valuable aid in differential diagnosis. I do not care how skilled the operator may be or how sure he is of his diagnosis, I am strongly convinced that no lower abdominal or pelvic operation should be undertaken without first a rectal or vaginal examination, which is less liable to mistakes if done the second time under an anesthetic.

Without this precaution, I have seen pus tubes, also urethral calculus taken for a diseased appendix.

It is true that most ovarian cysts contain when operated on, fluid that is harmless, but this is not always true, as those strangulated, or partly strangulated for sometime, may have become infected through the circulation—some may contain infection derived from the ovary or tube. Dark-brown and nodular tumors may be malignant. We never know exactly what they contain and, therefore, it is wise to protect the peritoneum and, in every instance possible, remove these tumors without allowing fluid to escape. If the tumor happens to be sarcomatous, the escape of fluid removes any chance that the patient has of getting well.

But for a rectal examination, Case 2 would have had a right-sided incision. This would have been a great mistake as the abdominal wall was fat and thick and the operation, which was simple and quick, would have become a long and dangerous one.

3303 Colonial Avenue.

Do You Know

Open air exercise cures colds?

Overheated, air-tight rooms beget colds?

SOME RESULTS IN RADIO- AND ELECTROTHERAPEUSIS.*

By CHAS. M. HAZEN, M. D., Richmond, Va.

It may be a little troublesome for a programme committee to decide whether a title like the above should be listed as medical or surgical. The field is a wide one and touches on almost every part of medicine and surgery. I shall, however, in the following brief paper make no extended survey, nor take issue with a surgical classification. The lines of work and cases to be mentioned are not new, but well established and in good standing; and I shall speak from my own knowledge and experience.

Radio-machinery being largely electrical, it is natural that radio- and electro-therapy should be practiced together; and since the use and care of such apparatus requires special study and skill, we have of necessity the dividing off of a great specialty. This is not however, the separation of a distinct department of diseases, since all structures are to some extent affected by these agents, skin, internal organs, nervous system and blood.

Thus, electro- and especially X-ray, diagnosis have quite a wide range; and their therapeusis is important, or adjuvant, at least, to other agencies throughout almost the whole dominion of medicine and surgery.

But, I would again limit what I have to say at this time to a few instances in which radio- or electric treatment as a surgical method is a good method or the method of choice.

1. *Roentgen-Ray Treatment of Tubercular Lymph-Adenitis.*—These cases are usual in the cervical region, sometimes superficial and sometimes deep. The ray is indicated when tonic and alterative drug treatment have been duly applied and hygiene (especially fresh air) has been attended to, when the nose and throat have been looked after; when the condition is not sufficiently well-marked for surgical treatment, or is too diffuse for such treatment, or following such treatment, or when operation is refused.

Sometimes an already suppurating gland will be hastened and thus come to earlier operation. There will always be improvement justifying the method and frequently most gratifying in promptness and permanence.

What the ray does here is not known. An essential feature will be the stimulation of the life of the lymphatic elements, possibly just along the lines of normal physiology, possibly to the formation of antigens; but particularly, I believe, of the connective tissue cells and their congeners in the blood, even to the extent of interstitial or scar-tissue formation at the expense of the gland cells.

We are not justified at present in extending hopefully this line of treatment to bronchial, mediastinal, or mesenteric glands.

The dose required in these cases is moderate; massive treatment is not necessary and in young patients should not be used.

Case 1.—Miss P., Ray treatment ten years ago for diffuse cervical adenitis recurrent after operation by a competent surgeon; cured. Slight return after five years, treatment again, and well at present.

As stated, treatment should not be severe; it may be fractional dosage, or the more modern method,—a few treatments with the Coolidge tube, and I have used both methods with satisfaction.

The results are sufficient to give it a place by itself in the therapy of tubercular adenitis of the cervical glands.

See articles by Crane, Boggs and others in current Roentgen literature.

2. *Roentgen-Ray Treatment of Eczema.*—These cases are abundant and the usual results beautifully satisfactory.

The extent of the lesions is no bar to the method, but when the case presents considerable area, and is chronic and debilitated, tonics and alteratives are indicated, particularly arsenic.

Zinc oxide in ointment or powder is helpful; except that if there is any question of over-treatment by the ray, grease of all kinds should be forbidden and alkaline washes employed. Water and soap should be limited, as well as mechanical irritation.

The fractional method with small doses is the best in this condition; stimulation of the skin by the ray to a more active and natural state is largely the effect desired. Permanent results may be expected.

Case 2.—Miss Y. was treated ten years ago, being at that time seven years old. She presented extensive and varied lesions on neck, shoulders and arms; yielded to a short course of treatments and has remained well ever

*Read before the Surgical Section of the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

since. This was one of my first cases; many successful ones since have failed to afford as great satisfaction as this one.

3. *Roentgen-Ray Treatment of Psoriasis.*—Here the permanency is decidedly more doubtful, but the immediate results are sufficient to make it worth while. The cases are comparatively rare.

The fractional treatment is the proper one, with caution against over-treating. The psoriatic skin is a susceptible one to the X-ray; one-third as much treatment will suffice as compared with eczema.

Case 3.—Mr. M., recently referred by Dr. M. D. Hoge, has a history of many years' affliction; lesions on entire body and limbs, from scalp to heels: a few mild treatments over each area have largely but not entirely cleaned up the skin and so far the improvement holds. The relief afforded is great.

Another psoriatic, Dr. B., comes about once a year for a few treatments of scalp and forearms.

4. *Roentgen-Ray Treatment of Epitheliomata.*—In well selected cases this may be the treatment of choice. You are acquainted with the *pros* and *cons* in this line of practice, and are aware that these conditions call for radical measures. Roentgen-ray treatment if used, must be massive; fractional treatment has a good effect on the skin, but at the same time stimulates the tumor to further growth.

Epitheliomata at the skin-mucous juncture are especially difficult; I have given permanent relief in some cases and failed in others; and would never agree to treat one except in consultation with a competent surgeon.

Among successful cases, I would name—

Case 4.—Epithelioma of lower part of face in front of angle of jaw; type of rodent ulcer, one-half inch in diameter. I undertook this case with considerable doubt and rayed it severely. This was four years ago; it was in favorable condition when I last heard from it a year ago.

Case 5.—Mr. F. is a similar case, but in a more unfavorable locality, about the outer end of left eyebrow. He did well for a time, but growth recurred and was finally removed by Dr. Horsley. He found an extension to bony structures.

5. *Radium Treatment of Keratoses, Papillomata, and Selected Epitheliomata.*—The small quantity of radium bromide which I

have, gives satisfactory results used in two-hour sittings once or twice in each case. Its action can be better localized to a small area than the X-ray. Cases of keratosis or papilloma present themselves for cosmetic reasons, or when they threaten to become malignant. The effect of radium is believed to be the same as the hard rays from an X-ray tube.

Case 6.—Mr. H., referred by Dr. T. Dew, has suffered many things on account of facial cancer and has had a malignant condition beneath left eye. He is of advanced age. Roentgen ray produced good results, but had to be limited for the sake of the skin and the optical organ. Radium has produced a beautiful result in destroying the malignancy and restoring the skin.

On the face of this man and of many others I have used radium, fractional X-ray and *fulguration* to destroy papillomata and keratoses not as yet malignant.

6. *Fulguration* is performed by using a spark from a properly tuned high-frequency current. This spark possesses a selective action for abnormal tissues, but does not harm the skin. Its action is a desiccation and it is most suitable for dry growths. It is a handy method in suitable cases, the action being prompt and the pain momentary.

One patient will suffice for illustration:

Case 7.—Mrs. I., a young Jewess of foreign extraction, presented the facial blemish of a black mole on her right cheek. It was increasing in size and thus challenged her attention; it also promised to become malignant. Two applications of the fulguration spark removed it entirely and permanently up to the present date, which is two years after treatment.

7. I mention last *Roentgen-ray* treatment of *recurrences* in the scar of operated *mammary cancer*. This should be massive and the new technique, using the filtered ray from the Coolidge tube, is a great improvement. Yet the following case, which has had both methods, shows that the older method is by no means to be decried.

Case 8.—Mrs. D., referred by Dr. L. C. Boshier, who operated about seven years ago, breast being removed. She had, some months afterward, slightly enlarged lymphatic glands in front of the axilla. These disappeared under fractional dosage. Last year she was again referred with recurrence on the surface of the

scar. Coolidge tube treatment has controlled this growth, but patient has a heart-lesion and treatment has not been pushed on account of invalidism.

The listing of the above lines of treatment will not be understood as a criticism of others not mentioned. For instance, the well established post-operative Roentgen-ray exposures, which should always be made, although their actual value in each case may not be demonstrable by visible results, the ray treatment of exophthalmic goitre with thymic involvement, the ray treatment of sarcomatosis, etc.

A few definite, but not exclusive therapeutic facts are the subject matter of my brief resume, summarized as follows:

Summary of a few well-marked conditions and treatments, with illustrative cases.

1. Moderate Roentgen-ray treatment of cervical adenitis.

2. Fractional Roentgen-ray treatment of eczema.

3. Fractional Roentgen-ray treatment of psoriasis.

4. Massive Roentgen-ray treatment of some epitheliomata.

5. Radium treatment of keratoses, papillomata, and some epitheliomata.

6. Fulguration of same conditions as in 5.

7. Roentgen-ray treatment of recurrences in operation-scar of mammary cancer.

114 North Fifth Street.

PSEUDOMYXOMA OF THE PERITONEUM— WITH REPORT OF A CASE.*

By JOSEPH D. COLLINS, M. D., Portsmouth, Va.

When a pseudo-mucinous cyst of the ovary ruptures, either spontaneously or as the result of manipulation during the operation for its removal, the cells which find lodgement on the peritoneal surface usually live but a short time and then disappear; but, occasionally, however, they multiply and grow throughout the abdominal cavity, giving rise to the condition known as pseudomyxoma of the peritoneum. These epithelial cells secrete pseudo-mucinous material which in time will completely fill the peritoneal cavity. These secondary growths may properly be called "implantation metastases." Virchow consid-

ered this a primary disease of the peritoneum and suggested that it be called "chronic myxomatous peritonitis." In 1884, however, Werth clearly established the relationship between myxomatous changes in the peritoneum and pseudo-mucinous cysts of the ovary. He suggested the name pseudo-myxoma of the peritoneum and it has been permanently adopted.

This condition is comparatively rare. In 1891 Strassman could only collect from the literature thirty-six cases; and in 1908 Schuman was able to add twenty more. Wilson in 1912 reported six cases that came under his personal observation. Lewis in 1914 reported one case.

The period elapsing between the removal of pseudo-mucinous cysts and the development of pseudo-myxoma of the peritoneum is very variable. Usually an interval of seven or eight years elapses, but the interval has been as short as five months and in one case reported it was twenty-two years. Such long intervals, however, are exceptional.

No case has been diagnosed prior to operation. It would seem possible, however, that in cases of obscure ascites in women, especially when there is a history of previous pelvic operation, a diagnosis might be made by withdrawing some of the fluid through a cannula and submitting it to Hammersten's test for pseudo-mucin.

The report of my case is as follows:

Mrs. J. E. C., white, age 34, presented herself for examination on November 25, 1915. She complained of general weakness, swelling of the abdomen, a sensation of pressure at the vaginal outlet, chronic constipation, and a constant desire for micturition. Her family history was negative. She had had the usual diseases of childhood, but had not been sick in bed since, except during her confinements. Menstruation began at fourteen and occurred regularly, but scantily, every twenty-eight days. She had had three children, the youngest being still-born six years ago,—no miscarriages. She stated that about the middle of her last pregnancy she suffered with paroxysmal pains in her left iliac region, which at times became very severe. During an unusually severe paroxysm the pain suddenly ceased and she has never since felt it. After the termination of her pregnancy her abdomen remained somewhat distended and had gradually increased in size.

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Physical examination showed marked emaciation. Her heart, lungs and urine were normal. Her abdomen was very much distended and was flat on percussion except over the epigastrium. There was no pain nor tenderness anywhere. Her perineum was relaxed from an old tear and a rectocele was present. Bimanual examination was negative owing to the tenseness of the abdominal wall. Her cervix was normal.

A tentative diagnosis of ovarian cyst was made, and on December 2, 1915, after a preliminary perineorrhaphy her abdomen was opened. As soon as the peritoneum was incised there was a gush of straw colored jelly-like fluid which completely filled the abdominal cavity. Large masses of semi-solid mucoid material were found lying free in the dependent portion of the abdomen. The whole peritoneum, both parietal and visceral, was covered with small cysts which converged so closely that there was no normal peritoneum to be seen. About four quarts of this jelly-like fluid were withdrawn from the abdominal cavity. In this there were countless numbers of small free cysts of varying size. In the region of the left ovary there was a large mass of closely clustered cysts which was densely adherent to the broad ligament and extended over the uterus to the bladder. This mass was with considerable difficulty removed. The omentum, which was completely permeated with the growth and enormously enlarged, was removed. I sent a portion of it to Dr. Mary E. Roche, Pathologist to St. Vincent's Hospital, and she rendered me the following report:

"Specimen sent laboratory consists of a polypoid mass of soft gelatinous tissue weighing about twelve hundred grams, which is made up of numerous cysts varying in size from one-half to ten centimeters in diameter, of a round or oval shape, clear and transparent, except a few which have a brownish or grayish color. The capsules are thin and transparent, except near the pedicles where a fine network of blood-vessels may be made out spreading over the capsules. On cutting into the cysts a soft mucinous substance exudes, leaving the capsules intact.

"Microscopic examination shows the cyst wall made up of a fine connective tissue with many small blood-vessels. The lining of the walls of the cysts show very few epithelial

cells. A few columnar epithelial cells are present in some of them. The cyst cavities contain a homogenous substance which stains lightly with hematoxylin."

Diagnosis.—Pseudo-Myxoma.

The abdominal incision healed promptly and the post-operative convalescence was uneventful. At the present time there is no sign of any recurrence. She has gained thirty pounds in weight and attends to all her household duties.

In this case spontaneous rupture of a pseudo-mucinous cyst of the left ovary probably took place when the patient experienced the sudden relief from the pain felt during her last pregnancy. The pain was due, no doubt, to a partial torsion of the cyst on its pedicle.

Ultimate prognosis in these cases is not good, as the peritoneal cavity tends to refill with the pseudo-mucinous material and is reformed again and again after removal. Most of these patients finally succumb to mechanical interference with the normal activity of the stomach and intestines, or to the secondary development of malignant diseases. Very rarely spontaneous cure may occur.

PREMATURE DETACHMENT OF THE PLACENTA.*

By J. J. McCORMICK, M. D., Norfolk, Va.

In discussing the subject of premature detachment of the placenta, I have been encouraged by the fact that in a comparatively limited obstetrical experience I have had three cases to occur, a rather unusual number, as Williams, of the Johns Hopkins, reports only a similar number in his experience. The hemorrhage in these cases occurred either in the latter months of pregnancy or during labor, and should be distinguished from placenta praevia and hemorrhage into the substance of the placenta or rupture of the sinus circularis of the placenta. Hippocrates is credited with having been the first to refer to premature detachment of the placenta, but he erred in that he believed that all hemorrhage complicating pregnancy and labor was due to this condition. Rigby in 1775 was probably the first to diagnose between the premature detachment of the placenta and placenta praevia. The

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

former he ascribed as accidental, the latter as unavoidable.

De Lee of the Chicago Lying-In Hospital advances the theory that many of the mildest cases of accidental hemorrhage are due to the detachment of the placenta, situated low in the uterus, but just above the boundary of the zone of dilatation.

Goodell, in 1869, had collected 106 cases in the literature; Holmes in 1901, collected 200 additional cases. De Lee in 15,000 confinements at the Chicago Lying-In Hospital, reports that there were 12 cases of complete placental detachment with threatening internal hemorrhage, but there were in addition, 31 cases of partial detachment, the placenta showing a firm ante-partum clot. The authorities claim that the condition occurs oftenest at the beginning of or during labor at full term, but it may occur during the last three months.

The primary causes are not well understood. Many different theories have been advanced. Traumatism, and diseases of the placenta and of the decidua are the most probable causes. Endometritis from any cause is an important factor. Winter was the first to point out the frequency of nephritis in the history of these cases. It is well to bear in mind, however, that nephritis is a very common complication in pregnancy, whereas premature detachment of the placenta, or *abruptio placentae*, as De Lee has named it, is a very uncommon complication.

Degeneration of the decidua endometritis, disease of the placenta, acute infectious diseases, Basedow's disease, arterial sclerosis, a severe mental shock, or a trauma may start a slight separation of the placenta and the *vis a tergo* of the arterial circulation will do the rest, the degree of hemorrhage varying from a small organized clot, adherent to the raw surface of the placenta to a profuse hemorrhage dissecting up the placenta and membranes.

During labor, accidents which may cause the detachment of the placenta are, traction on the cord, due to an abnormally short cord, or a cord shortened by being wrapped around the foetus, the operation of version, or a sudden lessening of intrauterine pressure by the escape of a large amount of amniotic fluid, on the delivery of the first twin. The hemorrhage having started, the blood may pursue different directions. It may distend the uterine wall

towards the abdominal cavity; it may fill an extensive space between the uterine wall on one side of the placenta and membranes on the other; it may break through the liquor amnii, or it may seek an exit through the cervix and vagina. The first three varieties are classed as concealed hemorrhage.

In my three cases, one was concealed, one was external and one was first external and then concealed by the head of the child.

The severity of the symptoms depends upon the amount of hemorrhage. A history of trauma, sudden severe pain in the abdomen, at the site of the placenta of a tearing character followed by colic pains are usually the symptoms; if the hemorrhage is extensive, acute anemia and shock with concomitant symptoms. Blood is apt to appear externally, the small amount of which is out of proportion to the severity of the symptoms.

Examination of the abdomen will show the uterus abnormally large and usually tense. The movements of the child are apt to be accentuated at the time of separation and then cease to be noticeable. The foetal heart sound usually ceases to be heard.

Fortunately, labor is apt to come on at once and the delivery of the child is followed immediately by the placenta, blood clots or fluid blood.

Atony of the uterus is a frequent complication, due no doubt to the acute anaemia, and over-distension.

The cardinal symptoms, upon which the diagnosis is based, are the sudden onset, local pain, increase in size of uterus, hemorrhage if exhibited, absence of foetal heart sounds and movement, acute anaemia and shock.

The progress will vary with the type and degree: be it said, however, that it is one of the severest accidents with which the obstetrician has to battle.

As for the treatment, rapid delivery is the keynote. Since the child is usually dead, the principal consideration should be the quickest delivery consistent with the condition of the mother. The most important consideration in the delivery is the condition of the cervix. If the cervix is soft or partly dilated, the indication are forceps or version, due importance being attached to the history of previous confinements. The uterus being emptied, ergot and pituitrin are indicated. Should the cervix

be tightly closed and the symptoms indicate that hemorrhage is continuing. Caesarean section should be performed.

Dickson Building.

Clinical Reports.

CASE OF EXTREMELY SMALL PULSE PRESSURE.

By FRED. M. HODGES, M. D., Richmond, Va.

H. M., male, white, single, age 24, farmer, examined May 24, 1916:

Chief complaint.—Hoarseness and painful deglutition.

Family History.—An orphan and knows nothing of his family.

Past history.—Negative.

Present illness.—For four months had some sore throat and for the past two weeks has had a great deal of difficulty in swallowing. Has spit no blood.

Physical examination.—Rather pale, thin and emaciated man, is weak, but able to walk around. Eyes, ears, nose, negative.

Throat.—Examination made by Dr. John Dunn. Extensive, superficial grayish ulceration invading the mucous membrane of the fauces, and entrance to the larynx, including the epiglottis and arytenoids. Neck, negative. Glandular system, negative.

Chest—Lungs.—On the right side from the apex to the 4th rib in front and to the 7th dorsal spine posteriorly, there is a high pitched, woody note, harsh expiration, no rales. Both the tactile fremitus and vocal resonance are increased over this area. There is a lagging of the right apex.

Heart.—Apex impulse in the 5th interspace one finger's breadth within midclavicular line. Left border one finger's breadth within midclavicular line. Right border one finger's breadth to the right of the sternum. Muscular sounds very weak, no murmurs; pulse 80.

Blood pressure.—Systolic 90, diastolic 80, by the auscultatory method. Exercise in moving around the room very rapidly brought systolic blood pressure down to 86-88; diastolic remained at 80. This was taken several times and with different instruments, and the same readings were obtained.

Abdomen.—Negative, except for rather flabby muscles; lower pole of right kidney palpable.

Reflexes slightly exaggerated. No Romberg's, clonus or Babinsky.

Blood examination.—Hemoglobin 70, differential count normal. Urinalysis negative. Temperature 99 3/5.

X-ray examination showed a filmy shadow over the upper part of the right lung, extending as far down as the 4th rib anteriorly, posteriorly about the 9th spine. Heart was in medium position, about two centimeters inside the midclavicular line, and about the same distance to the right of the sternum. One sputum examination, negative.

Diagnosis.—Tubercular laryngitis, fibroid T. B. of the right lung. About ten days after this examination, Dr. Dunn and I examined him again very carefully, and found his systolic blood pressure averaging between 78 and 80, diastolic between 70 and 72. At this time the pulse was around 110. Temperature 102 3/5. Patient was much weaker than on previous examinations. Patient died June 16th. Unable to get post-mortem.

The above blood-pressure readings were made with three different instruments, and some of the readings with the aid of the Pilling special bracelet stethoscope. The readings were made on both arms and by both palpation and auscultation. The pulse pressure averaging from 8-10 m. m.; after exercise, at one time, 6 m. m. The second and third phases were practically absent. It would have been necessary to use terms of split millimeters to express the second and third phase lengths. This showed a weak myocardium which we considered due to inanition plus the effect of the tubercular toxins on the myocardium. The same toxins must have been responsible for the light grade of vasoconstriction which existed. Dr. Goodman, of Philadelphia, through personal communication, states that he is certain that he has seen such cases, and two others have been reported by Munzer. None of these cases, however, showed a pulse pressure less than 10, and as far as we have been able to learn, this is the lowest pulse pressure ever reported in a patient capable of taking moderate exercise.

The findings were of especial interest to us, as it hardly seems possible for a head-on force from the heart of only 6 to 10 m. m., to be compatible with life for any length of time.

501 East Grace Street.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

(Continued from page 462.)

The Diagnosis and Management of Vasomotor Disturbances of the Upper Air Passages.

By J. L. GOODALE, M. D., Boston, Mass.

In a large proportion of vasomotor diseases of the upper air passages the disturbances are dependent upon the entrance of a foreign proteid into the system. The method of entrance may be through contact of the proteid in question with the mucous membranes of the respiratory or of the gastrointestinal tract, by inhalation or ingestion, respectively. Foreign proteids may perhaps also develop in or upon these mucous membranes through autolysis of pathogenic or saprophytic bacteria. The application of the skin test to these conditions is of diagnostic value when employed with a recognition of the phylogenetic relationships of animals and plants as determined by studies in serobiology.

Proteid material for testing should be prepared both from the keratin and sera of domestic animals, from the pollen of the chief causes of hay fever, and from the various articles of food which enter commonly into the diet. Bacterial proteids derived from the various invaders of the respiratory tract should be available, either in solution or in the soluble form.

When the skin reactions to the various classes of proteids have been determined, the management of cases will depend largely upon the relative preponderance of the local reactions in relation to the clinical history. If the cause is found to be seasonal, as in hay fever, immunizing treatment by injection of pollen extracts is likely to prove of service. The sensitization returns during the following winter, and treatment must probably be repeated annually. If the cause is perennial and is due to inhalation of foreign proteids, it is wiser to avoid the cause rather than to seek to effect a cure by immunization. If the disturbing proteid enters into the ordinary articles of diet, a tolerance may be gradually established by feeding the substance in progressively increasing doses. Disturbances of bacterial origin have not yet been sufficiently studied to enable the formulation of a definite plan of treatment,

but the results of these investigations confirm our present methods of treatment, and emphasize the importance of draining regions which can retain the products of bacterial activity. Septic foci should be removed. Vaccine therapy is likely in such anaphylactic cases to be more accurately guided than in the ordinary individual.

DISCUSSION.

Dr. John F. Barnhill, Indianapolis: I would just like to ask one question with regard to whether the matter has been brought down to a working basis. For instance, if a patient comes to Dr. Goodale, what plan does he adopt for determining what the sensitization may be? Has he come to any conclusions?

Dr. Robert Lery, Denver: We were very much stimulated by Dr. Goodale's work last year. I should like to ask him two questions. First, what is his mode of procedure when we have a multiplicity of sensitizations? I would like to have that more at length. And secondly, having determined for a certain individual his sensitizations to a number of proteids or inhalations (I have particular reference to inhalations), what method does he proceed with in the treatment of these individuals?

Dr. Hanau W. Loeb, St. Louis: I would like to ask Dr. Goodale to tell us if lactate of calcium and calcium chlorid salts have, in his experience, had the effect of reducing the sensitization.

Dr. J. L. Goodale, Boston (closing the discussion): If I had read the whole of my paper, all of these questions would have been answered. Answering the first, as to how we proceed, I think the best plan is this: See whether the symptoms are present throughout the year, or whether they come at a definite time. If seasonal, they are probably due to something in the air; most commonly, of course, pollen. If they may occur at any time during the year, we inquire as to whether they stand in relation to colds or conditions of acute infection of the bronchial tubes. If you see the individual is entirely well throughout the summer and winter, and once in the fall or spring has a severe cold and develops asthma, we can, under those circumstances, rule out cases of foods that he takes into the stomach, and also rule out the question of animals: consequently, it is one of these other products

On the other hand, it may not be fully a seasonal infection in that it may come in November or January, or at whatever time it may be, and in that case I should proceed to investigate with special reference to bacterial proteids, and look for those organisms that we know may invade the mucous membranes of the upper air tract. Now, if the symptoms are throughout the year, without much influence from season or travel, or various modifying circumstances, I should look for asthmatic animals—especially in the case of children—cats and dogs. Children don't know cats or dogs trouble them, but they may have asthma entirely due to that. I have a recent letter from a man whose daughter had been the victim of asthma when four or five years old, who looked like a little old woman. It was really pathetic. I found it was due to nothing but the cat, and we kept the cat away. The little child has now resumed the bloom of youth and the parents are very greatly gratified.

This is the manner in which you proceed. You bring the season, the occurrence, the incidence and mode of development of the symptoms into relation with the patients, and that simplifies it very much indeed. The use of lactate of calcium and the chlorid has made no material difference.

Further Progress in the Use of Radium in the Field of Laryngology.

By D. BRYSON DELAVAN, M. D., New York, N. Y.

Decided advances have been made during the past year in our knowledge of the application of radium in diseases of the upper air passages, while the number of the conditions in which it is found effective is being steadily increased. Several institutions, notably the General Memorial Hospital of New York, have been fortunate in acquiring amounts of radium large enough to meet all probable demands; while those administering it are gaining experience in its use and learning how it may best be utilized and controlled.

Uses of Radium.—Closely allied to our department may be mentioned the success of radium in "vernal catarrh," or that form of conjunctivitis which occurs during the spring, and often, when established, lasts throughout the year. Abbe has observed ten cases, recurrent for many years, and asserts that improvement always begins soon after the first treatment. Even patients who had been previously

treated by the removal of hypertrophied masses, cauterization, and caustics received uniform benefit from radium and were ultimately cured.

A second interesting condition in which radium has no rival is in the reduction of lymphoid tumor cases, as found in tumors of the tongue, called hemolymphangioma.

The treatment by radium of papillomata of the larynx, as with warty growths in general in other parts of the body, is being attended with ever increasing success.

Leucoplakia of the tongue, Abbe believes, is as capable of cure by radium within the mouth as is the skin hyperkeratosis. In the mouth, however, the duration and the method of application require more judgment and skill to attain good results. The treatment is associated with transient painful irritation, but this seems essential to success. Chronic abrasions and fissures of the lip are curable by radium.

In the treatment of nevus, excellent results are being obtained.

New growths of nonmalignant type are receiving an increasing amount of attention, with excellent results. Thus, Abbe has shown a case of myeloid tumor of the lower jaw completely cured.

Tumors of the larynx of various kinds have been caused to disappear, with complete return of the singing voice.

In the field of nasopharyngeal fibroma the use of radium is most encouraging, particularly so in view of its success in the treatment of fibromata of the uterus.

Two cases observed by the writer, of sphenoid carcinoma, are worthy of notice. Both originated in the left side of the throat, close to the wall of the larynx, probably extralaryngeal. Both were seen late, long after operation would have been possible. Both patients were men in the early fifties, hitherto in perfect health, active, vigorous, and of good antecedents. When first seen, the disease in both had invaded the interior of the larynx, the left lateral wall of the pharynx, the pyriform sinus, the tonsil, and the base of the tongue. In both, ulcerations were present and there was marked aphonia and dysphagia. Both were treated at the same institution, exposed to large doses of radium, and in both the results were materially the same. The first effect locally was an almost immediate control of the secretions of the throat. From having been abundant and fetid, they promptly ceased. Following this,

the areas of ulceration rapidly diminished in extent, and in the less severe of the two cases disappeared, while in the other case they seemed to do so. The swellings, which had appeared over extensive areas of the affected parts, decreased markedly, and the infiltrated tissues were reduced in size, became soft to the touch, and more natural in appearance. Meanwhile the voice became clearer and deglutition improved so that both patients were able to swallow without pain and to largely increase the variety of their food. The general improvement was remarkable. Digestion became normal, and sleep more prolonged and restful. Strength increased steadily, and there was an almost normal condition of good spirits. One patient, a physician, was able to resume office practice and operative work for a period of over two months. Both have agreed that if the further progress of the disease should be entirely unfavorable, the benefit gained in the relief of suffering and the added comfort afforded would well have repaid them for any inconvenience which the radium had caused, whether from burns of the skin or from any other result.

Already results worthy of profound consideration have been obtained. Far from being discouraged, there is every reason why persistent and continued effort should be made to finally solve the existing problems and give to the world a successful cure.

DISCUSSION.

Dr. Cornelius G. Coakley, New York City: The great trouble with the use of radium is that one can find little or nothing to be used as a guide in the dosage of this material. *Dr. Delavan* mentions in his paper "the application of a tube of strong radium for fifteen minutes." Now, that does not mean anything to those working in it. I would like to know the actual amount of that to be a guide to other men.

Another great difficulty with the use of radium is the enormous expense of the material. At the present time we are having placed at our disposal by the Crocker Institute about one hundred grammes of radium, the cost of which is somewhere over \$10,000. We use it on various pathologic conditions. That is a prohibitive cost for most men in the practice of medicine, so they never use it.

Our greatest difficulty is that it burns, and it burns very severely. We have not yet been able to properly screen this material when

placed in the mouth, or in the nose, or nasopharynx, or on the exterior of the body so as to have it reach the object of the pathologic process without getting more or less burning. If you use too little, you do not get enough action; if too much, you get terrific burns which occur not at the time; but even months later, as happened in one case treated by radium at Johns Hopkins. The patient had an application of radium a year ago last March, and the appearance of the burn did not manifest itself until August of last year. In one of my own cases in which we applied it, a portion of the nose had been burned off as a result of the action, the burn coming on six months after the application. The radium destroyed the growth of the nose, but also almost all of the nose as well. It caused external thrombus and finally destruction.

Those are some of the things with which we have to contend. We know nothing ourselves, and there is very little in the literature to guide us in escaping those factors.

There is one other point in relation to malignancy. If you use it you will unquestionably stimulate the action of the malignant process in the same way as you would if you curette or cauterize it. If you are going to use radium, you have got to get it right into the mass and have an amount which the ordinary practitioner cannot afford to invest in, so that you get enough of it to do more than merely stimulate the growth.

Dr. Jacob H. Hartman, Baltimore: There is a case I would like to report in this connection, a most unusual experience.

In August, 1913, there was a patient, a gentleman, sent to me by his family physician with an intralaryngeal growth, of a red, angry color, filling up a large part of the larynx and interfering with the respiration. I gave him an unfavorable prognosis and advised him to have another opinion. He was taken to *Dr. Winslow* for consultation, who agreed that the growth was undoubtedly malignant in character, an inoperable case. On September 4th two small portions were removed very carefully for pathologic examination. The microscopic examination was made and the specimen reported malignant. On September 14th, a tracheotomy was performed. On September 21st radium was applied externally for three hours; I do not know which rays, though I believe the gamma rays—at any rate, the most penetrating. On September 24th radium was

again applied for nine hours, and was followed by most extensive burns all over the neck, and the patient suffered intensely. On October 6th there was almost complete obliteration of the growth, and on October 23rd, the patient was again examined and there was no vestige of the growth at all, only a slight thickening of the mucous membrane over the arytenoid space. The larynx is absolutely normal. The last time I saw him, April 12, 1916, the larynx was thoroughly clean, and there was no evidence of growth noted at all. The patient had gained thirty to forty pounds and was remarkably well and absolutely free from any trouble of this kind.

Dr. Harmon Smith, New York City: About three years ago a young boy, twelve years of age, who had a large growth, was sent to the General Memorial Hospital in New York City, where we now have some of the strongest radium in this country. At that time the application of radium only increased the growth, but we had not the strength of radium as we have at present. The boy was sent to me and had the growth removed on two different occasions with considerable hemorrhage, nearly fatal, each time. Injections of ammonium chlorid and trichloroacetic acid failed to hold it in check. The condition progressed gradually, the boy became anemic, and the growth extended out into the jaw and filled up the cheek. Some weeks ago he was sent back to the General Memorial Hospital, where they applied radium once for a period of three hours. Following that he had a hemorrhage, and a few days after the hemorrhage an edema of the larynx set up which necessitated tracheotomy, and the boy died as a consequence of it.

I recall a case of similar character where removal had not completed the disappearance of the growth and it had recurred, so this young boy, about nineteen years of age, was sent to have his application of radium at the same time. He had an application of strong radium which set up such inflammation in the cheek and the tissues adjacent to the growth, that for a space of at least a week the boy was unable to swallow at all. We had to feed him by rectum and it became a very serious proposition. So that, in my opinion, we should know more about the action of radium before applying it indiscriminately. Yet this radium was in the hands of an expert, and applied

at a hospital where radium is being used experimentally as well as practically.

I also had three cases of cancer of the larynx which required tracheotomy, and a tube of radium was inserted to be left as long as was seen fit. Those cases went on without any apparent benefit to death.

Dr. John R. Winslow, Baltimore: It was my privilege to see the case mentioned by Dr. Hartman from the beginning until the end. The last time I examined him there was no evidence of the growth, nor any indication of the site of attachment of the growth. One who had not seen the case previously would have been unable to determine whether there had ever been any pathologic condition in the larynx. Of course, the case is an absolute cure of a condition which, as far as my experience and judgment go, would have been an absolutely incurable and inoperable one.

An interesting thought occurs to me as to what happens to these growths. I took particular pains to inquire of this patient whether he had had any increased expectoration or secretion in any way pointing to a breaking down by ulceration, or similar process, and he admitted no such condition. The growth simply apparently disappears.

Dr. Cornelius G. Coakley, New York City: I would like to ask, with reference to Dr. Hartman's case, whether the growth of the larynx was ulcerated, and what was the strength of radium used.

Dr. John R. Winslow, Baltimore: We are, however, greatly handicapped, for while we have practically one of the largest collections of radium in the country, it belongs to an incorporated, private institution, which is conducted largely on a commercial basis. The cost of an application of radium is somewhere in the neighborhood of \$100, if not more. That, in itself, is almost prohibitive in many cases, so that it can only be used exceptionally. There is no one who has obtained a loan of radium, and so far as I know there is no government institution for this purpose. It seems to me it is a field in which the government should take a hand and incorporate a national radium institute for the benefit of the public.

Just before I came away I saw a case of epithelioma of the nose, completely filling the nose and invading the ethmoid, as well as causing protuberance of the eyeball, in which I expect, if possible, to have the radium applied. It is a case which is absolutely in-

operable. The patient is seventy-nine years of age, and the tumor myxomatous in appearance, bleeding on touch. While there has been no opportunity of removing a specimen for examination, I have no doubt but that it is an epitheliomatous growth.

Answering Dr. Coakley's question as to whether the growth in the larynx was ulcerated, and the strength of the radium used in Dr. Hartman's case, there was no ulceration and no involvement of the glands. I do not know in what strength the radium was used, but I know it was very strong.

Dr. Robert Clyde Lynch, New Orleans: I have had two or three experiences with the use of radium. The first case was that of a patient with sarcoma of the nose, treated two years ago. I did the first stage of the Caldwell-Luc operation and put in the radium, unscreened—simply the little capsule with the glass container which holds the radium into the nose and antral cavity. This was a fifty-five millimeter tube. The diagnosis of sarcoma had been made by microscopic examination, and the nose had been blocked up completely. In the course of four weeks there was free nasal respiration, and an examination with the Holmes laryngoscope did not reveal any evidence of the growth at all.

The second case was one of an intrinsic laryngeal growth in which an extension occurred, necessitating something else being done. Seventy-five milligrams of radium were applied externally, fifty on the diseased side and twenty-five on the opposite side, the radium being screened with brass, then four rows of sheet lead, then the same thickness of aluminum, then gauze, and finally a rubber cot. This roll was applied to the outside of the larynx and left for twelve hours. Two days following the application there appeared the most beautiful sunburn, the larynx was extremely red and the patient complained a little. The growth became pale, white and dry; it gave the appearance through the mirror of being dry. There was a rest of five days and then a reapplication for eight hours, accompanied by a recurrence of this burn, though not quite so much. Then there was a rest of one week and a reapplication for twelve hours. After this there was an apparent retraction of the growth. The surface remained dry and gave one the impression as if the deeper tissues of the growth, that is, the deeper invasion of the growth towards the cartilage, was becoming

less. I have devised an intubation tube for the intralaryngeal application of radium. In reporting an application of radium, I think we ought to lay special stress upon the size of the dose and the length of application.

Dr. Henry L. Swain, New Haven: In a case exactly similar to the one cited by Dr. Winslow, in which he is expecting to use radium, we used the capsule as mentioned by Dr. Lynch. In this case we merely put the capsule into the substance of the growth, and it bled profusely for a little while. The capsule was allowed to remain in over night and the patient sent home in the morning. An external burn resulted from the application and marked recession of the growth. Dr. Winslow said he was interested to know what became of these growths. This was one of those pale, flat growths, and it became rosy hued, and all of this rose hued area eventually disappeared by mild ulceration. The whole growth was not exposed to this application of radium, so a second application was given about six weeks after the original application, at this time the radium remaining for nearly five hours. It is now only three months since the second application and the growth has practically disappeared; at least we cannot find any trace of it with a careful search. I think it is extremely valuable for us to recite our experiences in this way and discuss them from so many angles.

Dr. Cornelius G. Coakley, New York City: Seventy-five milligrams of radium, when put into the growth and left there, will cause an enormous amount of destruction. Seventy-five milligrams applied on the outside of the neck for involvement of the larynx, or tonsil, or pharyngeal mucous membrane, will not do very much. You must have an enormous amount, four hundred or one thousand milligrams, if you wish to get results from external applications through healthy tissue to malignant tissue. This must be left in about three or four hours. I think the best results are obtained by strong doses applied for a short time, and then reapplied at short intervals of about two or three days.

Dr. D. Bryson Delavan, New York City (closing the discussion): There are some things which belong to the laboratory. Radium does, because it requires large amounts to produce effects. The general practitioner has no more to do with radium than the driver of a hackney coach with the New York Central

Railroad. It is something the general practitioner cannot, in the nature of things, know about. It is something that even Dr. Abbe, who for many years has spent such a large amount of study upon the subject, does not know enough about yet to specify. It is something which is so new and the discussion of which is so fresh that of course there is no literature to guide us. There is nothing which we can use as a guide but the work being done in a few places by a few men.

The largest amount of radium in this country is at the laboratory with which I have the honor of being slightly connected. There are two other institutions in New York doing the best work they know how to do and trying hard to learn just how to do the work—the one to which Dr. Coakley referred, and the other is one under Dr. Bissell, at Johns Hopkins. Our institution will soon have two grammes of radium, and I don't know any place in Europe that has as good a supply. Radium has not yet proved a cure for cancer, but it has a possibility, and that possibility is worthy of following. Radium will burn. Well, it hurts to be operated upon in any way. It is not pleasant to take ether and be laid up for a month or two, or five months, after painful surgery, but it is a very beautiful thing to be well and among your friends. And so it is with the use of radium. Suppose it does burn? In those two cases quoted, both patients suffered severe burns, but they rejoiced at it, even though they did not result in cures, but only in temporary benefit.

If there is nothing in it, why we have tried and done our best; if there is, there is a great prize in store.

(To be continued.)

Analyses, Selections, Etc.

Traumatic Aneurism of the Temporal Artery.

Dr. J. Shelton Horsley called attention to the infrequency of traumatic aneurism which differs from the so-called idiopathic aneurism of diseased arteries. (Southern Surgical Association, Dec. 11-13, 1916). A traumatic aneurism is caused by a trauma in a previously healthy vessel, and really results from the organization of a hematoma which is produced by this injury. Usually when an artery is injured by a trauma, the patient either bleeds to

death or the vessel is occluded by the pressure of the thrombus. When this does not occur, a traumatic aneurism may result from a pocket or lake which occurs in the clot where the artery is injured. The conditions which promote this may consist of some deficiency in the elements of the blood or tissues that produce prompt clotting, or may be mechanical and result from a flap of the intima being detached, or by pressure of the hematoma causing an eddy in the blood at this point. The temporal artery is very superficial, and with its terminal branch, the anterior temporal is much exposed to trauma. It has but little protection by soft tissues either above it or below it. Since 1896 a rather thorough search of literature has shown only five cases of traumatic aneurism of the temporal artery and its branches. Dr. Horsley gives brief abstracts of these five cases, and reports two cases of his own. In neither of his cases was there any evidence of syphilis or other disease of the arteries. One was in a youth 19 years of age, who received an injury in the right temporal region while playing basket-ball. This was immediately followed by a large hematoma which was partially absorbed, but resulted in a small pulsating aneurism about one-half inch in diameter. Operation was done seven months after the injury under local anæsthetic, the sac being excised after the arteries were ligated. The second case was in a young boy nine years of age, with a somewhat similar history, being injured while wrestling. This aneurism formed in the temporal artery just above the zygoma. It was excised under local anæsthetic. There was no recurrence in either case.

Cancer of Mammary Tissue Misplaced in Axilla.

Dr. J. Shelton Horsley called attention to the fact that primary malignant epithelial growths in the axilla are rare. (Southern Surgical Association, Dec. 11-13, 1916). The growths usually found are metastatic through the lymphatics. He reports a case in an unmarried woman, forty-six years of age, who had two sisters with cancer. This patient noticed a growth in the right axilla which became quite painful. There was no evidence of any primary lesion elsewhere. A block dissection of the axilla was made. An examination of the tissue removed showed it to be

malignant, and Dr. Bloodgood after pathological examination reported that it was cancer of mammary tissues. The symptoms of pain which are unusual in early cancer were probably due to pressure on the intercostohumeral nerve. There seemed to be a tendency for the pain to become worse about every three or four weeks. Probably the presence of early pain and of increased pain during menstruation may be significant symptoms. Three years and four months after the operation, the patient was examined and found to be entirely free from recurrence.

tions fully sustains this high estimate of him not only as a surgeon but as an author. The publishers deserve much credit for presenting the volumes in such attractive style.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Abdominal Operations. By Sir Berkeley Moynihan, M. S. (London) F. R. C. S., Leeds, England. Third edition, entirely reset and enlarged. Two octavo Volumes totaling 980 pages, with 371 illustrations, 5 in colors. Philadelphia and London. W. B. Saunders Company. Cloth, \$10.00 net; Half Morocco, \$13.00 net.

In the issuance of this third edition, a considerable revision has been necessary, certain chapters have been entirely rewritten, over 150 pages of new matter and 80 illustrations added, and for ease in handling, the work has been issued in two volumes of convenient size rather than one so large as to be cumbersome. Two new chapters are those on *excision of gastric ulcer* and *complete gastrectomy*. The author has adhered strictly to the original purpose of the book, and has described in detail only those abdominal operations and methods that are practiced by himself. Surgery of the kidney and the bladder are not included, nor are the various operations for hernia. The operations described are those in general use, though it is remarked there is purposely no detailed reference to any mechanical appliance, button or bobbin, for intestinal anastomosis, as their interest is regarded now as only historical. Moynihan has for many years been regarded as one of the leaders of surgical practice, and his work on Abdominal Opera-

Bandaging. By A. D. Whiting, M. D., Instructor in Surgery at the University of Pennsylvania. 12mo of 151 pages, with 117 original illustrations. Philadelphia and London, W. B. Saunders Company. Cloth, \$1.25 net.

The author states that the present volume is practically a repetition of his instruction in bandaging in the class room. It is intended for beginners, and therefore, an attempt has been made to follow the course of each bandage in detail. The illustrations used are reproductions of photographs, as it was thought these would give a better idea of the completed bandage than diagrams. The rollers used in applying the bandages for the photographer were blackened on the edges with waterproof ink, so that "spaces," "crosses" and "spicas" could be made more prominent. The subject matter is treated under three general headings,—(a) The Roller Bandage, which discusses the making of a roller bandage, plaster bandages, application of the roller bandage, the fundamental bandages, and special bandages; (b) The Tailed Bandages; and (c) Handkerchief Bandages. Adhesive Strapping is apparently not mentioned, though this omission seems to have been intentional, possibly as not coming within the scope of the book. Dr. Whiting presents the details of bandages in as attractive a form as possible, and the book is apt to satisfy those who are exacting.

Editorial.

Virginia Medical Schools to Introduce Course in Military Training.

In response to a suggestion made by the Council of National Defense, which is working for the co-ordination of the resources of the nation in the interest of national defense, the Secretary of War called a meeting for January 6th in Washington, D. C., which was attended by representatives of eighty-seven

medical colleges. The plan brought before the meeting called for the introduction into the curricula of medical colleges of the country of a course especially adapted to medical, sanitary and surgical training, and resolutions highly commending the plan were unanimously adopted. Practically all the medical schools of the country, including the Medical College of Virginia and the medical department of the University of Virginia, pledged themselves to inaugurate this course, which will consist of thirty-two lectures by U. S. Army officers. It will be compulsory and regular attendance will be required, but the results of examinations conducted at the end of the course of lectures will not be counted against the students on their final marks for graduation this year. The idea is not to get physicians or surgeons for the army or navy, but is primarily for the purpose of making medical college graduates eligible for commission in the Medical Reserve Corps in case of war or other public need. The course will include lectures on army regulations, field service regulations and military law in reference to medical officers, as well as on medical, surgical and sanitary subjects.

At the Medical College of Virginia, the lectures will start early in February and, for this year, will be given to the Seniors alone, but it is probable the course will be extended to include all classes in the future. It is also likely that summer camps for practical training will be held but, in this event, attendance upon this may be optional with the student. Sixteen lectures will cover the detail work, eight will be required to cover military hygiene and eight for military surgery, which includes the treatment of all kinds of wounds to be expected in warfare.

Report of U. S. Public Health Service.

The 1916 annual report of the Surgeon-General of the Public Health Service chronicles the activities of that department in the prevention and cure of blindness, scientific studies of pellagra, the protection of the health of industrial workers, the prevention of the introduction of typhus fever, investigations of child labor and health insurance, the eradication of communicable diseases and the control of the pollution of navigable streams. Especially may be mentioned the work done by the Service in the study of pellagra, on the theory that it is caused by a restricted diet

and that it may be prevented and cured by means of a properly balanced ration. There has already been a reduction in the prevalence of this affliction and it is believed that in another year even more marked improvement will be observed.

In the eradication of trachoma, marked success has been obtained. During the year, 1,700 persons were operated upon for the relief of partial or complete blindness, nearly 2,000 received hospital treatment, while more than 19,000 were treated at hospital dispensaries and clinics. The total cost of this undertaking, including the remodeling of buildings and every expense in connection with the feeding and care of patients, was less than \$39,000 for the year.

During the past three years, 80,270 homes in fifteen different counties of thirteen states were visited and complete sanitary surveys made of the premises. In every instance definite recommendations were given to remedy such evils as existed, as for example the pollution of wells, the presence of disease bearing insects and the improper disposal of excreta. In addition, 22,234 homes were revisited, mostly at the request of the owners, in order that the government agents could inspect the improvements instituted. This work has been followed by a marked reduction in the prevalence of typhoid fever, hookworm, malaria and other preventable diseases.

Over 32,000 children attending the public schools, especially in rural districts, were examined during the year in order to determine their mental status and the causes and percentage of mental retardation and deficiency. In addition, 7,000 physical examinations were completed for the determination of physical defects.

Energetic efforts have been made to prevent the introduction of all communicable diseases and to control those already with us. Typhus fever has been combated at all points on the Mexican border and disinfection plants established where the clothing and persons of all incoming aliens have been disinfected. At one station alone, El Paso, Texas, 26,000 persons were inspected and treated in such a manner as to insure their freedom from this highly fatal infection.

Plague eradication measures at New Orleans have been continued and no human case of the disease occurred during the year. Meas-

ures for the control of other diseases have been continued as heretofore and the results obtained have been most gratifying.

In the medical inspection of immigrants alone, has the work of the Service shown any diminution during the year; but this has been compensated for by the more thorough examination accorded. Four hundred and eighty-one thousand, two hundred and seventy aliens were examined for the purpose of determining physical and mental defects. Of these, 16,327 were certified for deportation, proportionately a greater number than has ever been recorded. The percentage of mental defectives certified is also steadily increasing.

At the Marine hospitals and relief stations of the service, approximately 69,000 beneficiaries received medical or surgical treatment, a number greater by 10,000 than for any previous year.

The Dinwiddie County (Va.) Medical Society,

At its recent meeting, elected the following officers for the ensuing year:—President, Dr. Claiborne T. Jones; vice-president, Dr. Fletcher J. Wright; secretary, Dr. W. C. Powell; treasurer, Dr. A. P. Bagby; delegate to the State Society meeting, Dr. W. C. Powell, with Dr. George H. Reese as alternate. Essayists for the next meeting are Drs. E. L. McGill and J. M. Williams, their subjects being respectively, "Serums and Vaccines," and "Medical Diagnosis."

The Last Annual Report of the Surgeon-General, U. S. Navy,

Is most interesting and creditable. It would be hard for the families and friends of the young men who enter the Navy to realize how carefully guarded as to health conditions they are. According to statistics, the mortality rate for these men, had they remained in the cities or on the farms, would have been 8 per 1,000 while last year only 4.48 per 1,000 of the naval personnel were lost by death. The three predominant causes of death were drowning, tuberculosis and pneumonia, though these showed an improvement over preceding years. In the number of sick days, all venereal diseases combined headed the list, while mumps held easily the first place among contagious diseases. Medical officers detailed for observation purposes with the warring nations gained valuable information in the medico-military

aspects of naval life. The European conflict has demonstrated the necessity of a modern hospital ship, which is now in course of construction. During the year ended June 30, 1916, eleven medical officers were admitted to the corps, while six were lost by retirement, resignation or dismissal, leaving the total strength of the medical corps at that time, 332. Owing to the shortage of medical officers, it was necessary to continue the services of a number of officers of the Medical Reserve Corps, and to place additional officers of this Corps on a duty status.

George Ben Johnston Memorial Hospital.

At an enthusiastic meeting of a large number of prominent citizens of Abingdon, Va., and vicinity, January 18, it was decided in the near future to erect a \$50,000 modern public hospital building on the site of the present hospital. The money is to be raised by private subscription to be taken throughout the Southwestern Virginia counties. The movement is the result of the oft-expressed wish of the late Dr. George Ben Johnston to erect and maintain in Abingdon, his old home, a fine hospital for Southwest Virginia and, as a memorial to him, will be known by the above name.

Married—

Dr. William Lee Dalby, Bridgetown, Va., and Miss Mary Elizabeth Wilkins, daughter of Dr. John T. Wilkins, Jr., Cape Charles, Va., Wednesday morning, January 3, 1917. Dr. and Mrs. Dalby will spend part of the winter in Cuba.

Dr. William H. Craig, South Richmond, Va., and Miss Della P. Morris, Pittsburgh, Pa., January 16.

Dr. Manley Hunter Eames, Oak, Va., and Miss Mary Virgilia Warburton, Williamsburg, Va., December 18.

Mortality from Cancer.

Mortality from cancer and other malignant tumors has been increasing in the United States almost continuously for the past fifteen years. Whether or not this increase has been due to more accurate diagnoses and greater care on the part of physicians in making reports to registration officials, it is impossible to estimate. Some of the important facts brought out in the 1914 report on the above

subject prepared by the director of the Bureau of the Census are that cancer is greater in urban than in rural localities; among females than among males; among whites than among negroes, and among persons in middle life and old age than among the young. Cancer of the stomach, liver, pharynx and esophagus accounted for the greater proportion of the total deaths from this disease.

Among the registration states, the lowest five rates are shown by Utah, Kentucky, Virginia, Montana and North Carolina, respectively, and the highest five rates by Vermont, Maine, Massachusetts, New Hampshire, and California, respectively. The lowest rate was 45.8 per 100,000 and the highest, 109.9 per 100,000. Virginia's rate was 48.9.

The Lynchburg (Va.) Health Department

Reported for December 1916, the smallest number of deaths ever reported in that city for any one month. The total death rate including non-residents, was 8.9 per 1,000 population. The white death rate dropped to 6.4 and, excluding non-residents, was 5.4 per 1,000. One hundred and three cases of measles were reported, which indicates that measles has started the season earlier than usual.

Dr. E. R. Hart,

Who has been practicing medicine in Suffolk, Va., for the past sixteen years, and who was the owner and chief surgeon of St. Andrew's Hospital, has sold his hospital in Suffolk to the Virginia Hospital Association and will on the first of February 1917, locate in Wilmington, N. C., as a specialist in surgery and gynecology.

The Buncombe County (N. C.) Medical Society

Elected the following officers for 1917:—President, Dr. Gaillard S. Tennent; vice-president, Dr. Jos. B. Greene, and secretary-treasurer, Dr. Chas. H. Cocke, all of Asheville, N. C.

Two Medical Men Made Rear-Admirals in U. S. Navy.

According to the last naval appropriation bill providing for two rear admirals to head the list of medical directors of the U. S. Navy, the President on Jan 18, nominated Surgeon-General William C. Braisted, medical director

(commander), and chief of the Bureau of Medicine and Surgery, and Dr. Cary T. Grayson, the President's naval aid and personal physician, to this position. Dr. Grayson is a native of Virginia and entered the Navy in 1903.

Dr. H. M. Miles,

Wise, Va., who has been doing post-graduate work in eye, ear, nose and throat work at the New York Polyclinic, for the past few weeks, will return to his home in this State about the middle of February and engage in this special practice.

The New Hanover County (N. C.) Medical Society

Elected Drs. Ernest S. Bulluck and George E. Bowdoin, both of Wilmington, president and secretary-treasurer, respectively, for 1917.

Dr. Hermann M. Biggs,

Commissioner of the New York State Department of Health, was sent by the Rockefeller Foundation early this month, to study the tuberculosis situation in France, to learn along what lines outside help in combating this disease may be made most effective.

In this connection it has been stated upon good authority that tuberculosis has increased 300 per cent. in Germany and that thousands of French soldiers have been sent back from the trenches suffering from pulmonary diseases, while the conditions in Belgium are frightful.

Use for Human Derelicts.

Johns Hopkins University has found that many of the human derelicts who each winter gather at one of Baltimore's charitable institutions may be made of service by using them in transfusion cases. Those who are accepted after undergoing blood tests are paid \$1 per day to keep themselves in condition and an additional \$25 when the operation is performed.

Dr. and Mrs. Charles C. Page

Have returned to their home in Orange, Va., after a visit to this city.

Dr. Edmund S. Boice,

Formerly of this city, but now of Rocky Mount, N. C., has been elected one of the vice-

presidents of the Fourth District Medical Society of North Carolina.

The Greenbrier Valley (W. Va.) Medical Society,

At their last meeting elected the following officers for 1917:—President, Dr. W. P. Fawcett, Alderson; vice-presidents, Drs. Norman R. Price, Marlinton, Thos. L. Gilchrist, Pickaway and A. W. Curry, Ronceverte; secretary-treasurer, Dr. John A. Jackson, Ronceverte.

Dr. Waller S. Leathers,

University, Miss., has been elected secretary and executive officer of the Mississippi State Board of Health, of which he has been a member for some years.

The Rhode Island Medical Journal

Is a new, yet old journal which made its initial appearance this month. It succeeds the *Providence Medical Journal*, having been purchased from the Providence Medical Association by the Rhode Island Medical Society. It will conform with the requirements of other State journals and will be published monthly instead of bi-monthly as has been the case with the *Providence Medical Journal* for the seventeen years of its existence.

Dr. Frederick F. Davis,

Sassafras, Va., has been re-elected one of the vice-presidents of the First National Bank of Gloucester, Va.

Dr. William P. McGuire,

Winchester, Va., was a recent visitor to New York City.

Dr. Willis W. Hobson,

Of Harrods Creek, Ky., was the recent guest of his daughter in Orange, Va.

Dr. Oscar Clyde Page,

Of Brodnax, Va., sailed from New York for London, January 12, for six months' service in one of England's military hospitals.

Drs. Ford and Smoot,

Woodstock, Va., were elected directors of the Shenandoah National Bank, at its annual meeting early this month.

New Member of Board of Visitors, Medical College of Virginia.

Mr. C. P. Cardwell, a well-known lawyer of

this city and Hanover County, Virginia, has been appointed by Governor Stuart a member of the Board of Visitors of the Medical College of Virginia, to succeed the late Dr. George Ben Johnston.

The Medical Society of the District of Columbia

Has elected the following officers for the present year:—President, Dr. C. Wythe Cook; vice-presidents, Drs. Chas. M. Beall and H. H. Prosperi; treasurer, Dr. Chas. Franzoni; recording secretary, Dr. Henry Macatee, and corresponding secretary, Dr. J. Lawn Thompson.

Dr. A. H. Deekens,

Recently of Fredericksburg, Va., notifies us that his address is now 809 Church Street, Lynchburg, Va.

The N. C. Grand Lodge of Masons,

At its meeting in Raleigh on January 17, elected Dr. Claude L. Pridgen, Wilmington, grand master, and Dr. James C. Braswell, Whitakers, junior grand warden.

Dr. A. Murat Willis

Has been elected one of the directors of the Richmond Trust and Savings Company, of this city, *vice* Dr. George Ben Johnston, deceased.

Dr. Sing Wing Wu,

A Chinese physician, who has several times visited Richmond while studying public health work in American cities, left this city the middle of January for Washington, where he will remain until he returns to China to apply American methods to Oriental health problems.

Dr. Ramon D. Garcin

Has been re-elected one of the directors of the Church Hill Bank of this city.

Dr. George Franklin Simpson,

Hillsboro, Va., was elected vice-president of the Loudoun County, Va., Medical Society, at the recent election of officers. In giving names of the officers of this Society in our last issue, we find the vice-president's name was omitted.

Lobar Pneumonia Treated with Anti-Pneumococcus Serum.

The Bulletin of Department of Health, New

York City, for January 13, 1917, states that, owing to the unusually good results obtained in pneumonia at the Hospital of the Rockefeller Institute by the use of the anti-pneumococcus serum, it has arranged to furnish this serum to the physicians and hospitals of that city. This serum is only active against the pneumococcus which they style Type 1, and they will determine the type of pneumococcus in the specimens of sputum presented them. Minute directions as to the administration of the serum are given in this bulletin.

Dr. James Walker Walters,

Lynchburg, Va., was a recent visitor at the home of his mother, in Orange, Va.

Dr. J. Fulmer Bright,

Major commanding the Richmond Gray's Battalion, who has just been mustered out of Federal service, has resumed the practice of his profession in this city, including his duties as coroner of Henrico County.

Dr. P. D. Lipscomb, of this city, served as acting coroner of Henrico County during the absence of Dr. Bright.

Doctors Made Officers in Local Fraternity.

Drs. Paul W. Howle and W. H. Higgins, both of this city, were elected president and second vice-president, respectively, of the Richmond Alumni Chapter of the Kappa Alpha Fraternity, at their meeting this month.

Dr. Oscar Dowling,

Shreveport, La., has been reappointed president of the Louisiana State Board of Health for a term of four years.

New Medical Journal.

Dr. Philip Skrainka, for the past six years one of the editors of the *Interstate Medical Journal*, will start a journal of his own in February 1917, which will be published monthly and known as *Medicine and Surgery*. We wish him success.

Dr. Roshier W. Miller,

Of Barton Heights, this city, has been elected president of the Northside Citizens' Association.

Dr. B. B. Bagby,

Accompanied by his wife and child, returned to their home in West Point, Va., early this

month, after a visit in Tappahannock for his health. He is much improved and has resumed his practice.

Dr. and Mrs. Walter A. Newman,

Of Manassas, Va., who recently returned from San Antonio, Texas, left early in January for Ft. Caswell, N. C., where Dr. Newman will be on duty.

Appalachian Hall,

Asheville, N. C., is the private institution of Drs. Louis G. Beall and Bernard R. Smith, recently opened for the treatment of nervous disorders, mild mental affections, and alcoholic and drug habituation. A building for the exclusive use of men is now being erected.

Dr. and Mrs. William D. Macon,

Charlottesville, Va., were recent visitors in this city.

Dr. Lee O. Vaughan,

Waverly, Va., has been elected one of the directors of the First National Bank of that place.

Sheltering Arms Free Hospital,

Richmond, cared for 690 patients in 1916, only 18 of the patients dying. There were 763 surgical operations on 486 patients. The expenses of the hospital were \$14,000, including \$1,500 spent for improvements. Funds for running this hospital are dependent upon subscription, with the exception of \$6,200 secured from the city, interest on endowment fund and donations from various chapters of the King's Daughters of the State.

Dr. John J. Lloyd,

Catawba Sanatorium, Va., was a recent visitor in Norfolk, having gone there to attend the marriage of his brother.

A Medical Committee.

Composed of 140 physicians, with Dr. Philip S. Roy as chairman and Dr. William P. Carr as vice-chairman, has been organized in Washington, D. C., to look out for the safety of the crowd which will be in attendance upon President Wilson's inauguration, March 5th.

Dr. Frank G. Scott, Jr.,

Orange, Va., was a visitor in Charlottesville, Va., early this month.

Dr. George T. Harris,

Madison Heights, Va., was a recent visitor in this city.

Health of Virginia.

The annual report of the State Board of Health for the past year shows that there was an increase in the white city death rate for 1916 over that for 1915, while there was a decrease in the colored city death rate. There was an increase of eighteen in the number of suicides in the State, while there was a decrease of thirty-one in the number of violent deaths. There was a reduction of about 1,000 in the number of cases of tuberculosis in Virginia.

The Lancet-Clinic,

Of Cincinnati, we regret to learn, stopped publication at the end of the year. It was one of the oldest medical journals in this country, having been established in 1841 and was one of the few medical weeklies.

Cancer Tissue to be Examined.

The Department of Health of New York City announces that the 1917 budget provides for the services of a pathologist for the purpose of examining specimens of tissue for cancer diagnosis.

The American Ambulance Does a Great Work.

It is stated upon good authority that all through France the efficiency of the American Ambulance Hospital is known and many of the younger members of the surgical staff have devised and improved apparatus used in the various wards. The Americans who go to the hospital are ready to take up work in whatever department they are assigned. The hospital at Neuilly cares for 575 wounded soldiers and there are fully a thousand more in auxiliary hospitals under the care of Americans. Distinguished surgeons from the hospitals of the French and other allied nations are frequent visitors to the American Ambulance Hospital and examine with interest the work done by the Americans.

Curbing Fraudulent Medicines.

In the enforcement of the Food and Drugs Act during last year, U. S. Department of Agriculture officials analyzed 29,833 samples of foods and drugs offered for interstate ship-

ment and import. Attempts to counterfeit or adulterate imported drugs have been more common since the recent high price and scarcity of many of these products encouraged their imitation. Of 1,036 cases terminated in the courts during the year, 198 were brought on account of the false and fraudulent labeling of medicines. In all of these medical cases except five, the courts found for the government.

Protection of Milk Supplies.

According to *Public Health Reports*, the commissioner of public safety and the health officer of Rochester, N. Y., required that all applicants for licenses to sell milk should submit to a blood test to determine whether or not they were possible carriers of the typhoid bacillus. An applicant for renewal of such a license refused to permit the test to be made and applied to the courts for a mandamus to compel the commissioner of public safety to renew his license. The court decided that milk dealers may be required to submit to the widal test to secure the renewal of their licenses.

Obituary Record

Dr. Thomas Nathaniel Jacob,

Of Dalbys, near Cape Charles, Va., died at his home December 5, 1916, of heart disease. He was forty-six years of age and had graduated from the Medical College of Virginia in 1899. The Northampton County Medical Society mourns his loss.

Dr. Jesse H. Ramsburgh,

A prominent physician of Washington, D. C., who had devoted much time to the study of tuberculosis, died January 3, at the age of forty-six years. He studied medicine at the University of Virginia, from which he graduated in 1895.

Dr. William L. Crump,

A prominent physician of Salisbury, N. C., died at his home in that place January 16, after a long illness. He was 60 years of age and had studied medicine at Jefferson Medical College, Philadelphia, from which he graduated in 1879. He is survived by two daughters and a son.

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TRIFACIAL NEURALGIA: ITS TREATMENT BY ALCOHOL INJECTIONS OF THE SEC- OND AND THIRD DIVISIONS AT THE FORAMINA ROTUNDA AND OVALE.

By R. L. Payne, JR., M. D., F. A. C. S., Norfolk, Va.
Surgeon, St. Vincent's Hospital.

In 1912, following the reports of Hartel and Harris, I became very much interested in the relief of tic douloureux or trigeminal neuralgia by deep alcohol injections of the separate divisions or into the Gasserian ganglion. Accordingly, I began to study the procedure on dead bodies and preserved preparations with the result that I finally acquired a certain amount of familiarity with the technic of placing a needle into the nerves at the points where they emerge from the skull. My early work also included the injection of indigo-carmin in dead subjects in order that I might determine by dissection the accuracy with which I had placed the needle.

Before going any further, I wish to define trigeminal neuralgia as an exceedingly painful affection of one or more branches of the fifth cranial nerve. It is not a headache, does not occur periodically, but is characterized by sharp, intense pain along the distribution of the trifacial nerve. The attacks are usually **of short duration**, often followed by another and another in quick succession, and are usually induced by various forms of peripheral irritation.

The etiology is usually unknown. I have found in my short experience that the condition is frequently diagnosed migraine and accordingly treated without success. On the other hand, I have had cases of typical migraine come to me for alcohol injections because they were told that the condition was

tic douloureux and in one such instance the patient had been the subject of three separate attempts to alcoholize the Gasserian ganglion. The suffering of trigeminal neuralgia is such that one could not forget after seeing so unfortunate a victim. Since Fothergill 200 years ago first described the affection, there have been numerous drugs, many minor surgical procedures and finally the major operation of Gasserectomy directed to the relief of this condition. None of these treatments have been of material value save that of the major surgical procedure, and it is needless for me to enlarge on the difficulties and dangers incident to removal of the Gasserian ganglion.

With these facts known to us all it is small wonder that neurologists and surgeons should welcome the chance discovery of Schlosser that alcohol injected into painful sensory nerves gave a prompt and safe means of relief. Schlosser first applied this procedure in 1903 to the seventh nerve for facial spasm and later suggested that the method be used for prosopalgia of the fifth cranial nerve. During the three years following, Levy and Baudouin, two Frenchmen, developed a technic whereby a needle could be made to strike the second and third divisions of the fifth nerve where they emerge from the skull at the foramina rotunda and ovale. They also showed, experimentally, that alcohol injected into a nerve not only blocked the impulses but caused degeneration of the nerve from the injected point to the periphery. This method, however, called for separate injection of each division and the next step in the evolution of this treatment consisted in the effort to insert the needle through the foramen ovale into the Gasserian ganglion in order that the parent cells of all three divisions might be destroyed at one injection and thereby give immediate and total relief.

The first successful application of the

method was done by Wright in 1907, and again by Sicard in 1910. In both of these instances the ganglion was exposed by open operation and then injected *in situ*. The reported results were all that could be expected, but the first successful subcutaneous injection of the Gasserian ganglion, without operative exposure, was done by Harris of London in 1911. Since that time numerous technics and routes have been described for reaching with a needle the ganglion or separate branches deeply at the base of the skull.

It might be well to mention that soon after Schlosser's discovery the method was first applied to peripheral nerves that were causing severe or protracted neuralgia and the procedure still remains suitable and efficient for tender nerve endings and many types of fibrositis, especially that affecting the shoulder, buttocks, or lumbar region. One should always remember that alcohol injected into a nerve produces a chemical neurectomy, and therefore it should never be used for a nerve such as the sciatic, which carries both motor and sensory fibres.

In trigeminal neuralgia the injection of the peripheral branches has usually given only partial or temporary relief, and this accounts for the development of the technic whereby the ganglion or main branches may be reached at the base of the skull.

Time will not permit of a description of the various methods and details for carrying out these injections, but briefly the technic carried out by the writer is as follows:

Depending upon the branch or branches involved in the neuralgia, a spot is chosen upon the cheek and the skin and subcutaneous tissues are infiltrated with a small amount of 1 per cent. novocain solution.

The proper needle, armed with a stylet, is then introduced through the cheek and directed inward, upward and backward until the division, or ganglion, if desired, is struck. This is determined by the patient having a sharp pain deep where the nerve is hit or severe pain radiating towards the peripheral distribution.

Immediately the stylet is withdrawn and the needle fitted to a small syringe filled with 80 or 90 per cent. alcohol. The amount of alcohol injected varies from 3 or 4 minims to 2 cc.,

depending upon whether the nerve is accurately hit at first or subsequent adjustments of the needle are needed before anæsthesia in the desired area is attained.

If the needle point is accurately placed within the nerve there will follow instant anæsthesia upon injection of a small amount of alcohol.

This operation is fraught with many serious possibilities and therefore should never be attempted by one without first making careful anatomical studies and thoroughly familiarizing himself with the various technics and methods of approach. On the other hand, it is an operation, when properly executed, which affords relief in cases of trigeminal neuralgia that is little less than marvelous.

My experience with alcohol injections covers a list of thirty odd cases in which I have found the procedure applicable and withal quite satisfactory. Of the definite trigeminal or tic douloureux type, I have only had seven cases, in all of which deep alcohol injections were used with good results in six of these and a partial failure in one. The first one of these latter cases received immediate and total relief from one superficial and one deep injection and this freedom from pain has now existed for nearly three years.

It is needless for me to say that, with more experience, I soon found out such gratifying success was not to be obtained in every case.

The case of partial failure was that of a lady, 62 years of age, suffering with pain over the eye and on the temporal area of the right side. The attacks were started by swallowing, touching the palate with the tongue or sudden motions of the whole head. I injected the second division with complete relief that lasted eight months, when the pain returned but less severe in character.

The anæsthetic area previously obtained had entirely disappeared and I accordingly repeated the injection of the same division. While the anæsthesia following this injection was complete, the patient failed to get relief and two months later I injected the Gasserian ganglion. Complete loss of sensation at once followed over the whole distribution of the fifth nerve but the corneal anæsthesia returned in about six hours. Relief from pain occurred, but this last treatment has been too recent,

less than four weeks, and I accordingly at present consider the case a partial failure.

Two of the cases received two and three injections at the first visit with relief which has lasted to the present time, while three of the cases received only one injection, followed by immediate relief. The youngest individual so treated was forty-two years old, while the oldest was eighty-four.

In my experience so far I have been fortunate enough to escape any complications following this treatment, but the method is not free from possible danger. Deafness following the accidental injection of alcohol into the Eustachian tube has been reported and corneal ulcers with keratitis are prone to follow too complete destruction of the ganglionic cells. These complications are not to be compared, however, with the original suffering and patients with tic douloureux are usually quite willing to take any chance for the sake of relief.

I have found only one fatality reported in the literature and when the procedure is carried out by one familiar with the technic there is offered to the patient a means of relief which can hardly be compared with the major surgical procedure of Gasserectomy. The removal of the ganglion necessitates a major cranial operation under a general anæsthetic and results in a lasting scar with the possibility of permanent brain injury. It is often followed by hemiplegia, loss of mental ability, keratitis and facial palsy. I do not, therefore, believe operation should ever be offered these cases until deep alcohol injections have been given a thorough trial.

225 Granby Street.

OBSERVATIONS REGARDING THE OPERATION OF CRANIAL DECOMPRESSION FOR CERTAIN INTRACRANIAL CONDITIONS.*

By WILLIAM SHARPE, M. D., New York City.

Professor Neurological Surgery, N. Y. Polyclinic Hospital and Medical School.

The field of neurological surgery has so broadened during the past few years that not only has it extended beyond the realm of general surgery, but it is itself becoming rapidly subdivided into more highly specialized fields of surgery. In my opinion, unless a surgeon

is performing neurological operations frequently—at least twice a week,—it is impossible for him and his assistants to develop the requisite technique and team-work so essential in obtaining good results; there are few operations in surgery requiring so much patience and lack of dramatics as neurological operations. As Dr. Harvey Cushing has well observed, unless a surgeon can afford to give up the entire morning or afternoon to the one operation, then it is wiser not to perform the operation. Neurological operations should not and cannot be hurriedly done.

The great stumbling block in neurological surgery in the past has been the lack of team-work between the surgeon and the neurologist at his side; the surgeon knew little if any neurology, and the neurologist knew little if any surgery. It is absolutely essential for the surgeon to have a practical knowledge of neurology. Dr. Allen Starr realized this a number of years ago, so that in many cases he really performed the operation himself except the actual handling of the instruments. Those operators who were not so fortunate to have a competent neurologist by their side groped along and frequently much damage was done; if the patient cannot be benefited by an operation by no means make him worse by the operation, as the condition itself is frequently most pitiful.

As the knowledge of localization becomes more and more accurate, the surgeon is enabled to attack many lesions of the nervous system with comparative safety; this is due chiefly to the improved technique, careful hæmostasis and better team-work.

If neurological surgery consisted chiefly of the removal of brain tumors, it would be indeed a most discouraging field of endeavor. Tumors of the brain are not only malignant in the vast majority of cases, but the diagnosis and accurate localization of cerebral tumors are often so delayed that the patients are frequently permanently impaired even after a surgically successful removal of the tumor; in addition to the mental and physical impairment, the danger of a secondary optic atrophy with the varying degrees of impaired vision and even blindness is a very common result of the prolonged increase of the general intracranial pressure. Naturally, the earlier a definite diagnosis of the tumor is made, the better the prognosis; with the improved surgical tech-

*Read by invitation before the forty-seventh annual meeting of the Medical Society of Virginia at Norfolk, October 24-27, 1916.

nique and plan of attack in these cases, the operative mortality is low; when death does occur after operation, it is usually due to an attempt to do too much rather than perform a second stage operation at a later date. Besides these removable tumors of the brain, there are the so-called inaccessible tumors—situated at the base of the mid-brain. The pioneer work of Dr. Cushing in attacking the hypophyseal tumors by the sub-labial, septal and trans-sphenoidal route is most brilliant; it is limited, however, to cases of pituitary tumor affecting the overlying optic chiasm and thus producing a primary optic atrophy; tumors of the mid-brain, which are much more common, cannot be approached by this method, and it is rare that they can be removed by any method now known; to offset their pressure effects and thus delay the secondary optic atrophy is the most that can be hoped for in many cases.

Tumors of the spinal cord, on the contrary, are not only more accessible than brain tumors, but apparently they are less malignant. They more frequently arise from the meninges of the spinal cord rather than from the spinal cord itself; besides, there is no resulting mental impairment. The operation of laminectomy has become less formidable with improved technique and special instruments. Early diagnosis, however, is here also very essential for fear a complete transverse myelitis may result from the local pressure of the tumor mass. Careful neurological examinations, especially regarding sensation, are absolutely essential to an accurate localization of the tumor, and usually the tumor is one or two spinal segments higher than the signs indicated; a small electric light similar to the endoscope and laryngoscope, which can be inserted into the spinal canal, is at times most helpful.

At present, the operation for the removal of the Gasserian ganglion, or sectioning of its posterior sensory root in severe cases of tri-facial neuralgia, is only advocated when all other methods of relief have been exhausted; besides the medical treatment, alcoholic injections of the three branches of the tri-facial nerve are frequently successful, and yet it is rare for permanent relief to be obtained. If only one branch is involved (and it is usually

the third or lower branch), then the injections of alcohol should be repeated as frequently as required, but it has been my experience that if two branches are involved—usually the second and third,—then the relief from pain is rarely obtained for any length of time by the injection of alcohol, and I advise in these cases the operation of sectioning of the posterior root of the Gasserian ganglion, and if this is not possible, then the removal of the ganglion itself. It seems that in some cases the injection of alcohol causes an ascending neuritis to extend upwards towards the ganglion so that subsequent injections of alcohol distal to this inflammatory process naturally do not and cannot lessen the pain, and in some cases I believe the injection of alcohol may in this manner cause the pain to extend from a single branch into the other two branches. I have observed in a number of operated cases, following repeated injections of alcohol, that not only were numerous adhesions present about the ganglion and its branches, but the resulting increased vascularity made the operation a much more difficult procedure than in those cases where no injections of alcohol had been made. However, I believe all medical measures and repeated injections of alcohol should be exhausted before the operation is advised; the operative mortality, however, is surprisingly low.

The successful anastomosis of severed peripheral nerves depends, in my opinion, entirely upon a complete removal of all fibrous tissue and then upon an accurate approximation of the proximal end to the distal end, sheath to sheath, and then this union should be carefully maintained by position, braces, etc., for a period of at least three months. Naturally, the sooner the nerve is sutured after the injury, the earlier the return of function. In a recent case, where the ulnar nerve was sutured within two hours after the injury, normal sensation returned by the fourteenth day. In contrast, the longer the interval between the injury and the successful anastomosis of the nerve ends, just so much longer the period of time until a complete, or even partial restoration of function occurs; whether this is due chiefly to an increase of connective tissue in the distal portion of the nerve, or to a lessened virility of their nerve cells in the anterior horn on account of their enforced idleness (for nerve tissues, just as other tissues of the body unless they are

being used, tend to deteriorate and become less viable),—this point has not been definitely decided.

In cases of brachial birth paralysis of the peripheral type* due to the separation of the head from the shoulder during birth and thus tearing most frequently the nerves forming the upper portion of the brachial plexus (the 5th, 6th and 7th cervical roots), in these cases an early and careful anastomosis of the torn ends is most essential. In my opinion, the best time for the operation is at three months of age and surely within the first year. If these children are allowed to become four or five years of age, then not only is the amount of scar and connective tissue increased, but frequently the distal end of the nerve is retracted down under the clavicle and even into the axilla, making an accurate approximation most difficult, if at all obtainable. The torn ends of the nerves should be "pared" of the scar tissue until the normal nerve bundles can be seen and then carefully sutured. In some cases, the nerves are not actually severed but "choked," as it were, by scar tissue formation, so that merely a careful dissection of this tissue and thus freeing the nerves will be sufficient for the return of function.

In cases of peripheral facial paralysis of Bell's type, which have remained unimproved by the usual medical treatment of massage, electricity, etc., I think an anastomosis of either the spinal accessory, or, better, the hypoglossal nerve to the distal end of the facial nerve, is advisable; although the reports of this operation have been very discouraging. I think this is due chiefly to the difficulty of exposing the facial nerve especially in cases of long standing, and then, secondly, to the inaccurate anastomosis of the nerve ends; simply bringing the nerves together is not a nerve suture. If the facial nerve is always sought at its exit at the stylo-mastoid foramen, there is little difficulty in obtaining the nerve sufficiently large to be sutured.

There are few operations in surgery having such wide application and immediate beneficial results as the cranial decompression, and particularly the sub-temporal method. It is an operation that has been very much neglected in the past and one that is capable of still

greater usefulness in the future. It is a comparatively simple operation, requiring no special technique other than a thorough knowledge of the anatomy of the temporal region and the avoidance of operative complications; if, however, difficulties are encountered, then we should use the best methods for controlling them. Naturally, careful hæmostasis is a most important factor in obtaining good results in all cranial operations; due respect and regard for the delicate nerve cells of the cerebral cortex by the avoidance of unnecessary and rough manipulation and digital examination of it; and of the greatest importance is a most strict asepsis.

Cranial decompressions have been limited in the past chiefly to the relief of intracranial pressure of unlocalized cerebral tumor, and in cases of fracture of the skull showing signs of medullary compression; the operation was performed not only to lessen the danger of a medullary œdema, but to avoid a secondary optic atrophy so commonly observed in tumors of the brain. In these latter cases, the site of the decompression was most frequently over the parietal area, or the upper temporal region, and thus, as the tumor enlarged, the increasing intracranial pressure forced the underlying cerebral tissue through the bony opening producing herniæ cerebri of tremendous sizes—the bane of cranial surgery; fungi cerebri were also a common result of such protrusions. Not only was this complication to be feared, but the operative danger to the underlying motor area with resulting paralysis of the opposite side of the body was always risked; besides, the intracranial pressure in fractures of the skull, as well as in tumor formations, frequently produced a motor impairment by forcing the motor area upwards through the bony ring of the decompression opening.

The reasons for these complications are obvious. To remove an area of either parietal bone, not only may the underlying motor cortex be impaired at the time of the operation, but also subsequently by its protrusion upwards through the bony opening; this is made possible by the extremely weak protection afforded by the scalp overlying the parietal bone; besides the cutaneous tissues in this area, there is only the epicranial aponeurosis, so that even a moderate degree of intracranial pressure is sufficient to cause a hernial protrusion.

*J. A. M. A., March 18, 1916.

If the decompression is performed in the lower parietal area, then the cranial origin of the temporal muscle to the parietal crest must be destroyed and thus the possible protection of the temporal muscle is lost.

In contrast to these methods of cranial decompressions, the sub-temporal route offers an almost ideal operation for intracranial conditions requiring either a relief of the increased pressure or an exploratory procedure; not only is the underlying cortex a part of the temporo-sphenoidal lobe (which is a comparatively "silent" area of the brain), but the removal of the squamous bone is technically less difficult in that it is the thinnest part of the vault of the skull. Again, the decompression opening is amply protected by the overlying temporal muscle, so that it is a very rare occurrence to have herniæ cerebri following this method of cranial decompression; if the attachment of the temporal muscle to the parietal crest is carefully preserved, then it is practically impossible for a marked protrusion to occur. In my opinion, this method of decompression should be the one always to be employed. In sub-tentorial lesions affecting the cerebellum, naturally a sub-occipital decompression is to be preferred; especially is this true of tumor and abscess formations in it. As the tentorium strongly separates the cerebellum, any increase of the sub-tentorial pressure is more effectively relieved by a sub-occipital decompression than by a supra-tentorial operation; besides, not only may the lesion be removed at the same time, but the bony opening will be protected by a thick layer of occipital muscles, and thus a large hernia be prevented.

The purpose of the sub-temporal decompression has been very much enlarged during the past few years, and it seems that its usefulness is to be developed still more in the future. Although its chief function is the relief of intracranial pressure, yet it is a most valuable method of exploration. In these two divisions, practically all of the intracranial conditions for which the operation may be advisable, can be classified, and the following is a brief consideration of them:

First: *The relief of intracranial pressure.*

A. TUMORS OF THE BRAIN.

1. *Localized Tumors of the Brain.*

(a) *Large Cerebral Tumors.*—For fear the cerebral cortex would be much more exten-

sively damaged by opening the skull directly over the tumor, it is frequently advisable in cases of high intracranial pressure, first, to make a subtemporal decompression on the side of the head opposite to the tumor and then perform the osteoplastic "flap" operation to remove the tumor. In this manner, not only may the tumor be enucleated with little impairment of the surrounding cortex, but in cases where the tumor is not found as localized clinically (an occurrence of only too great frequency), then, the brain may be "dislocated," as it were, towards the opposite side of the head as is made possible by the decompression opening on that side, and in this manner, an exploration can be conducted with but little or no injury to the surrounding cortex. This is a most important function of the decompression in facilitating the removal of large cerebral tumors. Within the past year, I have removed large cerebral tumors in three cases by this method, and I am confident the operation would have ended fatally if this procedure had not been used.

(b) *Irremovable Tumors of the Base of the Mid-Brain.*—Frequently, these tumors are non-malignant, the most common one being the tuberculoma; my series contains seven of them. It is of the greatest importance to prevent secondary optic atrophy and its resulting blindness by an early relief of the intracranial pressure. These tumors may enlarge to a certain size, then remain stationary, become smaller and even disappear clinically, so that if blindness is prevented during their stage of active growth, then an excellent result may be obtained. If the tumor should continue to grow, then the headaches and blindness may be delayed for months until the last stage of the condition.

2. *Unlocalized Tumors.*—In the hope that the tumor may localize itself clinically and thus permit of its removal, and yet to prevent the secondary optic atrophy resulting from the increased pressure of its growth, it is advisable to perform an early decompression, and if necessary, a bilateral decompression. During the past year, I have treated five cases in this manner, and it is surprising to observe the improvement in such cases,—a cessation of headache, nausea and vomiting, the rapid subsidence of the beginning "choked disc" (the

forerunner of secondary optic atrophy and blindness.) No case of high intracranial pressure producing "choked discs" should be permitted to remain weeks while a definite diagnosis is being made without a relief of that pressure by a decompression; only too frequently such cases are brought to the surgeon after blindness has occurred, and once an advanced degree of secondary optic atrophy has supervened, there is little, if any, recovery of sight. Not only will an early decompression delay and even prevent blindness in these cases, but it will prolong the life of the patient by lessening the medullary compression, and thus the unlocalizable tumor may extend into a part of the brain, producing unmistakable signs of its situation, so that the tumor can be successfully removed. This is the common history of tumors of the frontal and temporo-sphenoidal lobes, especially of the right cerebral hemisphere. As tumors of the frontal lobe extend posteriorly into the motor area, then a motor impairment of the opposite side of the body appears, and if downwards upon the optic nerve, then an ipsilateral primary optic may result. A motor aphasia frequently appears as tumors of the left frontal lobe, extend backwards into the motor speech area in right-handed patients. In tumors of the temporo-sphenoidal lobes, a similar motor impairment occurs if the lesion extends upwards into the motor tracts.

In similar cases of suspected tumors of the frontal or parietal lobes and if the intracranial pressure is not extremely high, it is advisable to perform an osteoplastic "flap" operation first, and if the tumor is not found, or after its removal the brain is still under marked tension, then a sub-temporal decompression can be performed by rongeur-ing away the squamous portion of the temporal bone and the lower portion of the bone flap itself; in this manner another scalp incision is avoided.

B. FRACTURES OF THE SKULL.*

Whether the fracture is of the vault or of the base, a decompression is advisable only when the fracture is associated with high intracranial pressure; naturally, the palliative expectant treatment of absolute rest and quiet, ice-bag to the head, catharsis and liquid diet is usually sufficient for those cases of fracture

of the skull showing no marked signs of intracranial pressure; that is, a fracture of the skull is not an indication for an operation unless there are definite signs of an increase in the intracranial pressure. An ophthalmoscopic examination of the fundi of the eyes, confirmed by the measurement of the pressure of the cerebro-spinal fluid at lumbar puncture is the most reliable and accurate means of determining an increase of the intracranial pressure, whether this increase is due to a swollen oedematous brain, a depressed fracture of the vault or to an intracranial hemorrhage,—one of extra-dural, sub-dural or intra-cerebral hemorrhage with cerebral lacerations. It is not so essential to remove the depressed area of bone or the intracranial blood clot as it is to offset the pressure effects of the depression or clot upon the cerebral cortex. Naturally, in all depressed fractures of the vault, the depressed area should be elevated or even rongeur-ed away, and in case of intracranial hemorrhage, the clot should be removed, but in many cases, even when their removal is possible, the intracranial pressure still remains high and it is this continued increase of intracranial pressure which damages the cerebral cortex and produces the impairment—both physical and mental. It is not so much a question of fracture of the skull as the effects upon the brain of the injury producing the fracture. In many cases, a fracture of the skull is not present and yet a cortical hemorrhage and even cerebral laceration may have resulted from the injury. It is in these cases of intracranial lesions resulting from injuries to the head and showing definite signs of increased intracranial pressure that an early relief of this pressure is advisable,—not only to avoid the danger of a medullary compression and its possible collapse and therefore the death of the patient, but to lessen the percentage of the post-traumatic conditions so common in these cases, such as persistent headaches, dizziness, changed personalities varying from the depressed state to a highly irritable condition, general nervous instability and even epilepsy in its different forms. A decompression should only be advised as soon as there are marked signs of intracranial pressure as revealed by the ophthalmoscope and confirmed by the measurement of the cerebro-spinal fluid at lumbar puncture.

*J. A. M. A., May 13, 1916.

Signs of medullary compression, such as a retarded pulse, a slow and irregular respiration of the Cheyne-Stokes type, and a high blood-pressure, are rather late signs of intracranial pressure, and if the patient is allowed to reach this dangerous condition, then it is doubtful if the patient will recover—operation or no operation; a medullary œdema and collapse of the patient may occur at any moment. An X-ray examination is of no assistance at all in determining whether the patient should be operated upon or not, and no patient should be allowed to remain in the condition of medullary compression while waiting for an X-ray examination.

(a) *Linear Fractures with No Depression of the Fragments.* In these cases, a decompression should be performed if the intracranial pressure is high. It has been rare in my experience for fractures of the vault, unless small locally depressed ones, to be limited to the vault alone; usually the "crack" extends downwards to the base—the thinnest and weakest part of the skull. However, this type of fracture, as revealed by the X-ray, frequently shows no signs of intracranial pressure and therefore an operation should not be considered.

(b) *Depressed Fractures of the Vault.* These should always be elevated and if this is possible, then it is usually wiser to remove the depressed fragments whether the intracranial pressure is high or not. The danger of local damage to the underlying cortex with the subsequent formation of adhesions, etc., rendering the cerebral cortex unstable and thus subjecting the patient to the frightful risk of epilepsy, is a calamity always to be feared and especially in depressed fractures of the vault. If the intracranial pressure is high, then it is wiser to perform a sub-temporal decompression on the same side of the head as the depressed area, and in this manner the general intracranial pressure is relieved. If the depressed area overlies either motor tract of the cerebral cortex and the intracranial pressure is very high, causing a double papilloedema, then it is advisable to perform the sub-temporal decompression first and thus relieve the pressure, so that there will be less danger of injury to the motor tract when the depressed area is elevated or removed; otherwise, the

intracranial pressure may be so extreme as to force cerebral tissue through the fractured opening of the vault and a motor impairment of the other side of the body result.

2. *Fractures of the Base of the Skull.* These cases should be treated by the expectant palliative method; however, if the signs of high intracranial pressure appear, then an early decompression will not only save a larger percentage of patients than the other method, but it will lessen the number of post-traumatic conditions.

In this connection, it may be interesting to note that of the total number of 159 adult patients having fractured the base of the skull which were examined and treated by me at the Polyclinic Hospital during the three years preceding January 1, 1916, only 40 of them were operated upon; the total number of deaths were 35; 26 without operation and nine following operation; that is a total mortality of 22 per cent. Of these 35 cases, however, 20 of them were moribund upon admission—eleven of them dying within a few minutes to two hours after admission, and the remaining nine dying within six to twelve hours after admission. 40 cases of the 159 examined were operated upon, with a mortality of nine cases following operation, that is an operative mortality of 23 per cent.: of these nine cases, however, four of them revealed sub-tentorial occipital fractures with hemorrhage—the most dangerous condition, as it causes direct pressure upon the medulla; two died, nine and sixteen days respectively, following the operation, from meningitis due to infected hematomata of the scalp; one died on the twelfth day post-operative from pneumonia—the patient was seventy-five years of age,—and the ninth case died in the sixth day post-operative from a meningitis, probably due to a "slip" in the operative technique. Naturally, the cases operated upon were the severe cases showing signs of high intracranial pressure. It is a mistake, however, to operate upon these cases when in a condition of severe shock with a pulse rate over 120, and it is much wiser to wait several hours until the shock has been overcome,—otherwise, the operation is but an added shock and will merely hasten the exitus.

3. *Brain Abscess, Particularly of Either Temporo-Sphenoidal Lobe.**—The accurate di-

*The Laryngoscope, March, 1914.

agnosis of brain abscess is a most difficult one, and any operative procedure should always be conducted as an exploratory operation. As a rule, abscess of the cerebellum is diagnosed with less difficulty than abscess of either temporo-sphenoidal lobe or of either frontal lobe; therefore, if an abscess of the cerebellum can be excluded in a patient with the history of previous otitis media, it is much wiser to perform a sub-temporal decompression over the suspected temporo-sphenoidal lobe and thus be enabled not only to relieve the intracranial pressure (if present) due to the abscess, but to permit a careful exploration of the entire temporo-sphenoidal through a non-infected area. If the abscess is found, then free drainage is afforded through the lower angle of the split temporal muscle and the decompression will offset the pressure effects of the swollen œdematous brain resulting from the exploratory punctures and the presence of the abscess. Again, a meningitis is much less liable to occur with free drainage and lowered intracranial pressure than if the intracranial pressure were high so that the resistance of the tissues is lessened to an infected meningo-encephalitis; if the abscess should not be found, then a relief of the intracranial pressure has been obtained and no harm done, so that the abscess may localize itself later. It is a most dangerous procedure to puncture the dura blindly, or open it through an infected area such as the mastoid; if the abscess is not found, the danger of infection is very great indeed, and if it is found, the resulting cerebral œdema cannot be lessened by the small operative opening, so that the danger of a medullary compression is a serious menace. In my opinion these patients die not so much from the presence of the abscess, but rather from the cerebral œdema with its resulting medullary compression.

Within the past year, I have operated upon two cases of abscess situated in the anterior median portion of the left temporo-sphenoidal lobe, and if I had not used the sub-temporal decompression I am confident I should have overlooked them. Again, in cases of suspected brain abscess, it is much better judgment to perform an early exploratory operation than to wait until the patient shows marked signs of medullary compression; the danger of the abscess rupturing into either the sub-dural

space or the ventricle is then very great indeed.

My own series of operated cases of brain abscess is limited to fourteen. Of these, six died; three from medullary œdema resulting from a too small opening of the occiput in cerebellar abscess; one from a meningitis following the drainage of a left frontal abscess through a small opening—no decompression having been performed; and two died from a large temporo-sphenoidal abscess—three to three and one-half inches in diameter—which gnawed its way into the ventricle after a decompression with free drainage had been established. The remaining eight cases recovered; five were situated in the temporo-sphenoidal lobes and each one was drained through a sub-temporal decompression; two were cerebellar and one a right frontal abscess—the latter case having a decompression performed until the abscess located itself clinically seven weeks later.

*D. Selected Cases of Cerebral Spastic Paralysis Due to an Intracranial Hemorrhage at Birth.** Attention has been centered in the past upon the correction of deformities and the lessening of the spasticity; these operations have been only temporary in all but the very mild cases. Naturally, the cases of spastic paralysis due to a lack of development or malformation of the brain and its pyramidal tracts are not operated upon and could not be benefited by any cranial operation, but those cases of cerebral spastic paralysis having a history of difficult labor, with or without instruments, and upon ophthalmoscopic examination of the fundi, the definite signs of intracranial pressure are to be observed in the dilated retinal veins, œdematous blurring and haziness of the nasal halves of the optic discs and the more marked signs of old intracranial pressure and confirmed by the measurement of the pressure of the cerebrospinal fluid at lumbar puncture—these are the cases that can be very much improved by merely a relief of intracranial pressure. The local pressure effects of a hemorrhage or of its resulting cystic formation are offset by the decompression, and if the intracranial pressure is very high, then a bilateral decompression may be performed. If the hemorrhagic clot, or its subsequent cyst, can be removed, so much the better, but this is not possible in many cases. Naturally, the longer the clot and its cystic formation are allowed to

*N. Y. State Jour. of Medicine, Oct., 1916.

exert pressure upon the cortex, the more impaired do the nerve cells of the cortex become. In my series of 219 operated cases out of 954 patients examined until April 1, 1916, only 10 of them revealed the hemorrhagic cyst in or beneath the cortex; that is, the cortical nerve cells were not primarily destroyed but merely impaired by the pressure of the clot and its cyst upon them, as was the condition in 107 cases as observed at the operation. Thus, the longer the condition of intracranial pressure is allowed to continue, just so much more will be the impairment of the cortical nerve cells, resulting in a persistent and ever increasing stiffness and spasticity, and a steady mental deterioration in the majority of cases. Most of my cases have been from five to eight years of age, the youngest two days, and the oldest 21 years of age; the older the patient above 12 years of age, the less was the improvement, but even the older ones are improving. The operative mortality has been 16 cases; nine of these, however, were extreme cases of spastic diplegia under two years of age, very much emaciated, and having great difficulty to breathe or to swallow; this type of case should not be operated upon as the anaesthetization alone is too great a risk. However, no case of spastic paralysis, no matter how extreme, should ever be operated upon unless there are definite signs of intracranial pressure as shown by a careful ophthalmoscopic examination and at lumbar puncture. In this manner, the spastic cases due to a lack of development and malformation of the brain and its tracts are easily excluded and should never be operated upon, as their condition could not possibly be improved by cranial operation. Naturally, sufficient time has not yet elapsed since the first operation in June, 1913, to establish the permanency of the improvement in these selected cases of spastic paralysis. It may be only temporary, but from pathology of the condition we see no reason why the children should not continue to improve as they are doing.

Second: *As an Exploratory Procedure.* This is particularly true of suspected lesions of either temporo-sphenoidal lobe, the lower portion of either motor area, the posterior lower portion of either frontal lobe and the motor speech areas. It is a much more simple operation technically than the osteo-plastic

"flap" operation, requiring half the time, and the bony opening can be firmly covered by the temporal muscle so that no deformity results. Again, if an increase of the intracranial pressure is found at operation, then the decompression will relieve it.

Besides the cranial conditions mentioned above as being benefited by the operation of sub-temporal decompression, there are intracranial lesions for which the decompression may be used, but this work is now only in its experimental stage.

Not only will a decompression itself relieve the increased pressure, but a tapping of the lateral ventricle may be easily performed through the decompression opening by means of a small blunt puncture needle, and in this manner the presence or the absence of a dilatation of the ventricles is ascertained—a most important aid in the diagnosis of the location of the intracranial lesion; besides, the ventricular tapping will greatly relieve the intracranial pressure—at least temporarily.

(To be continued.)

20 West Fiftieth Street.

INDICATIONS FOR HYSTERECTOMY AS SHOWN BY ONE HUNDRED CASES.*

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It is interesting to occasionally review the work we have done and compare it with our preconceived ideas of what should be done.

I have for this discussion taken the last hysterectomy previous to September first of this year and reviewed 100 consecutive cases. I find that hysterectomies made up about 8 per cent. of the total number of operations performed during that period.

The types of operation were:

Supravaginal	48
Total abdominal	45
Wertheim	5
Vaginal	2

It is my practice in all types of hysterectomies to remove the ovaries as well as the uterus, because I think that the disturbance of the system is less. The effect of the generative organs of women on their general health is not confined, I believe, to the action of the ovarian secretion alone, but is dependent upon

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

the complete menstrual cycle. To break this cycle will cause more disturbance than to remove it entirely.

I find that the ages run from 26 to 57 years. Divided into periods, they were as follows:

26 to 34 years inclusive.....	15
35 to 39 years inclusive.....	26
40 to 44 years inclusive.....	30
45 to 49 years inclusive.....	15
50 to 57 years inclusive.....	15
—	
100	

Relating to civil conditions and pregnancies, the table is as follows:

Single—

Fibroids, uncomplicated	7
“ complicated (usually with pelvic inflammation)	6
Chronic metritis with pelvic complications (age 42)	1
—	
14	

Married, no pregnancies:

Fibroids, uncomplicated	6
“ complicated (usually with pelvic inflammation)	5
Chronic metritis (usually hemorrhage)	2
Chronic pelvic inflammation (severe type)	3
Carcinoma of fundus	1
—	
17	

Married, no children, 1 or more miscarriages:

Fibroids, complicated, (usually with pelvic inflammation)	2
Carcinoma of cervix	2
—	
4	

Married, 1 or more children:

Fibroids, uncomplicated	14
“ complicated (usually with pelvic inflammation)	11
Chronic metritis (usually hemorrhage)	25
Chronic pelvic inflammation	4
Double ovarian cyst with pelvic inflammation	3
Dermoid cyst, complicated	1
Ovarian cyst, (past menopause)	1
Carcinoma of cervix	3
Carcinoma of fundus	1
Rupture of uterus	1
Prolapse of uterus	1
—	
65	

Without division into classes, the causes for operation were as follows:

Fibroids, uncomplicated	27
“ complicated (usually with pelvic inflammation)	24
Chronic metritis (usually with hemorrhage)	28
Chronic pelvic inflammation	7
Double ovarian cyst with pelvic inflammation	3
Dermoid cyst, complicated	1
Ovarian cyst past menopause	1
Carcinoma of cervix	5
Carcinoma of fundus	2
Rupture of uterus	1
Prolapse of uterus	1
—	
100	

As regards mortality there were two fatal cases.

One was a large dermoid cyst, completely filling the abdomen, of about nine years' duration, densely adherent throughout with every organ with which it came in contact and distorting all pelvic and abdominal viscera, and complicated with ascites and heart and kidney degeneration. The patient was declined at first as a surgical risk, but improved so much under medical treatment that the operation was undertaken. In separating the dense adhesions the inevitable happened and the cyst ruptured. Notwithstanding this the patient withstood the shock of the operation but gradually petered out from exhaustion in about two weeks.

The other case was one of intraligamentary fibroid, entirely filling the abdomen and pelvis and dissecting up the entire pelvis including the right ureter. Notwithstanding the rather severe operation, the patient appeared to stand it fairly well, but died the next day of what appeared to be shock. There was no evidence of hemorrhage.

I am thoroughly convinced that conservatism is essential to successful gynecologic surgery, the object of which is to save and prolong life and restore the patient as far as possible to the enjoyment of a normal and happy existence. While it is impossible to consider each one of these cases in detail, and somewhat difficult to classify them, this underlying principle can be observed.

I have endeavored to operate only on those cases in which the indications are absolute and

the prospect of insuring good subsequent health reasonably certain. In young women operations should be the last resort. Many of their complaints are induced and the result of faulty conceptions of themselves or of faulty habits. A common plain talk and advice as to correction of these faults will often make a healthy woman of one who thought she was an invalid. It is quite as easy to look for good health and find it as it is to look for symptoms and evidences of sickness and be an invalid.

In each of the cases enumerated, there was a definite demonstrable pathologic lesion. The only question that could arise was the best method of dealing with it.

In reference to the fibroids, all of these cases required hysterectomy, and no mention is made of myomectomies, which were frequently done. One case of myomectomy might be given. The patient was about to be married when it was discovered that she had a fibroid. She was operated and it was found that the two cornuae were intact. The fibroids were removed by cutting out a V-shaped section of the fundus from above and extending down to the internal os. The lateral portions were sutured to each other and a very good uterus made. The patient married and subsequently became pregnant, although she did not carry the child to term.

In chronic pelvic inflammation it is usually possible to preserve the essential organs of menstruation, the ovaries and uterus, and restore the patient to health and comfort.

In the seven cases enumerated, four occurred in women who had had children and in whom the sexual life was nearing to completion. The other three were cases in which there were abscesses of the ovaries and such an extensive involvement that conservatism could not be practiced.

In double ovarian cysts neither of the ovaries could be conserved or any portion of them and, therefore, complete ablation of the organs was practiced.

In the cases of ovarian cysts, the indications for operation have been given.

In carcinoma of the cervix where the case is considered operable, the Wertheim operation is always done. This is preceded by cauterization by the Percy method. In the two cases of carcinoma of fundus, one gave reasonable positive signs; the other was found in a case

in which the uterus was removed for a chronic metritis.

In rupture of uterus the case was already infected and running a temperature. Hysterectomy and free drainage resulted in a cure.

Where a hysterectomy is done for prolapse, the hysterectomy is only incidental, the support of the pelvic floor being secured by plastic work on the ligaments and perineorrhaphy.

Referring to the group of hysterectomies for chronic metritis, we had a very interesting and important problem to consider. The metritis is usually a part of numerous pathological conditions. There is usually a lacerated and infiltrated cervix, the fundus is enlarged and often boggy, is retrodisplaced or prolapsed and lined with a hypertrophic endometrium which frequently returns in a few months if removed by curette. In other cases there is a history of more or less profuse irregular and prolonged bleeding, even though the endometrium is not hypertrophied. These conditions almost invariably occur in women who have been married and borne their quota of children and are approaching the menopause. Experience has convinced me that conservative surgery in these cases is unsatisfactory in results, and dangerous because it attempts to preserve organs that are in a condition which may be said to be precancerous. In addition, it is nearly impossible by any line of operation or treatment to restore such organs, where the pathology has been accumulating for years, to a normal condition. The operations are multiple and time consuming, the hazard is as great or greater, and after much effort to save, what have we saved? A lot of junk whose usefulness is over, and which, if normal, nature would gradually obliterate, and besides a potential seat for cancer. In twenty-five of such cases in this series one was found by microscopic examination to have already developed cancer of the fundus, which would have been surely disseminated had she been curetted.

Some years ago I encountered from time to time, cases in which bleeding was a very conspicuous symptom and in which the possibility of cancer of fundus had to be seriously considered. I have been opposed to curettement for diagnosis of cancer on account of danger of dissemination, and removed these uteri on suspicion. The results had been uniformly good and the danger of cancer removed al-

though there was no actual microscopic evidence of it. Since then I have enlarged the scope of the indications for total hysterectomy to include practically all pathologic uteri occurring in women at or about the time of the menopause where an operation is indicated, especially if bleeding is a prominent symptom. While in young women hysterectomy is not an operation of election but only one of necessity, the reverse is true in women about the menopause, and in these cases the burden of proof should be to show why such a uterus should be saved.

TONSILLECTOMY TECHNIQUE UNDER LOCAL ANAESTHESIA.*

By E. D. WELLS, M. D. Hinton, W. Va.

Any person advising an extreme degree of caution in examination of tonsils for general infection or any person advancing the theory that the diseased tonsil is a causative factor in such conditions as tuberculosis, osteomyelitis, endocarditis, plenrisy, cervical adenitis, peritonsillar abscess, tonsillitis, appendicitis, influenza and grippe, or any condition coming under the head of rheumatism, such person would be branded as an extremist and would be spoken of as holding a very radical theory in regard to tonsils.

However, if we look into the past history of tonsil surgery, I believe we will come to the conclusion that this is a very conservative theory, and we will agree that the tonsil is a source of infection in many different diseases.

Veillon in 1894 said: "In twenty-four cases of tonsils examined the streptococcus, pneumococcus and staphylococcus were present."

Kruckmann in 1896 proved conclusively by clinical experience that the tonsils are the portal of entrance for tubercle bacilli in tuberculosis of the cervical lymphatic glands.

In 1898 Bishop of Chicago said: "I have observed a close relationship between attacks of tonsillitis and rheumatism." Bishop at that time also said: "I see no reason why a tonsil once diseased should not be removed in its entirety, because a tonsil once diseased has lost forever its functioning purpose."

The empirical statements of Veillon, Kruckmann and Bishop have within the last twenty

years been converted into the rational theory upon which our tonsil surgery is based. And all now agree with Kyle, who says: "A tonsil once diseased is always diseased and there is only one treatment for a diseased tonsil and that treatment is the removal of the entire tonsillar tissue."

Has, or has not, the tonsil a physiological function? This question has never been entirely answered. But it has been answered to the satisfaction of all that after the age of 10 years the tonsil ceases to be a functioning organ; at the age of 10 years the tonsil should begin to atrophy.

Now, reasoning from this statement, it is safe to say that should the tonsils of an adult show signs of disease, that fact is *prima facie* evidence that the tonsil is an offending organ and as such should be removed.

Do not be misled by the statement which is often made that the large tonsil is the diseased tonsil. More often the diseased tonsil is not a large tonsil but is one buried behind the pillars and probably hidden by many adhesions.

I wish to call especial attention to three types of tonsil cases in the adult which require very close attention. First, is that class of cases which come to you presenting indefinite symptoms. They may be complaining of slight headaches, slight elevation of temperature, loss of appetite, susceptibility to colds of the head and throat, recent loss of weight, general feeling of malaise, a history of attacks of tonsillitis when a child; probable history of diphtheria or history of repeated attacks of otitis-media.

If, on careful examination of these patients, you are not able to find some pathological condition, it is well to give the throat a careful examination and see if you are not able to find the tonsil to be the offending organ.

The next class of cases I will refer to is that class of adults that come to you complaining of rheumatic pains. These pains may be in the form of arthritis or lumbago. Or, they may be rheumatic pains of the muscles of the neck. Always examine the throats of these cases.

The next class of cases, and the most important of all, is that class of cases which comes to you presenting the first vague symptoms of tuberculosis. No surgeon who examines a case

*Read before the annual meeting of the Association of Chesapeake and Ohio Railway Surgeons, at Old Point, Va., August 18, 1916.

for the first signs of tuberculosis should fail to make a thorough examination of the tonsils.

Now, it is an acknowledged fact that a tonsil is an entrance for tuberculosis. If the entrance is through the tonsil, then the tonsil is a diseased organ and as such should be removed under local anaesthesia.

In the past the great objection to the removal of tonsils in adults has been a question of anaesthesia. It has often been stated that the tonsil operation in adults would be very much simplified when a technique for local anaesthesia is perfected. Now, a local anaesthesia to be perfect should measure up to certain requirements.

There are certain qualifications which are necessary before a local anaesthetic approaches the ideal. The ideal local anaesthetic must fall short of none of the following qualifications:

1. It must produce a durable, diffusible and analgesic effect.
2. It must be non-toxic to organism when absorbed in amount sufficient to obtain full local effect.
3. It must not cause shock; neither toxic, traumatic nor emotional.
4. It must be readily soluble and sterilizable.
5. It must be compatible with adrenalin.
6. It must be isotonic.

One per cent. novocaine in normal salt solution with three drops (1-1000) adrenalin to the ounce of this solution injected at field of operation and preceded thirty minutes by hypodermic of morphine, approaches nearest the ideal of any local anaesthetic known.

Also there are certain requirements which any tonsil operation must meet before it is a satisfactory operation. The requirements are:

1. Field of operation accessible.
2. Painless operation.
3. There must be minimum amount of shock.
4. There must be no destruction of, and a minimum amount of traumatism to the tissues other than the tonsil itself—especially to anterior and posterior pillar and plica triangularis.
5. Complete removal of tonsils.
6. Comfort to patient after operation.
7. Technique simple and few steps to operation.

The nearer our technique approaches to

these requisites, the nearer we approach the ideal operation for the removal of tonsils.

It is readily seen that any operation approaching the ideal according to the above requirements must first be considered from the standpoint of anaesthesia technique, and second from standpoint of the technique of operation itself.

The technique of administering local anaesthesia is as follows:

Patient is given hypodermic of morphine, gr. 1-4, atropine, gr. 1-150, forty-five minutes before time of beginning operation. Immediately after the hypodermic is given, you proceed with the injection of the 1 per cent. novocaine adrenalin solution, as follows:

The tonsils, pillars and pharynx are mopped with a 4 per cent. cocaine solution. The tongue depressor being placed far back and towards side to be injected, the tongue is pulled forward and to opposite side in order to put pillar tissues on stretch.

The novocaine adrenalin is now injected through a right angle needle—at the following points: One-half drachm at each point.

1. Middle posterior pillar.
2. Top posterior pillar.
3. Middle anterior pillar.
4. Top anterior pillar.
5. In plica triangularis.

This gives a total of 2½ drachms on one side.

This technique is repeated on opposite side. Patient is now left to rest for thirty minutes and then you are ready for the operation proper.

The technique of operation is as follows:

The patient is put in sitting position, head being made comfortable. Hands not tied. Do everything possible to reassure patient.

4 per cent. cocaine solution is again swabbed on tonsils, pillars, posterior portion of tongue and pharynx.

The tongue depressor is placed far back on tongue, slightly toward side to be operated on, pulling tongue down and to opposite side. Tonsil is now seized with tenaculum. A firm, deep hold must be secured in tonsil tissue before attempting next step in operation.

After securing firm hold, the tenaculum is so twisted as to bring the tonsil forward, upward and outward. Now, the dissector scis-

sors are placed between the anterior pillar and tonsil—just below the middle of pillar. Scissors are pushed upward between tonsil and anterior pillar. An adhesion will always be met with near center of anterior pillar. This adhesion is dissected back from pillar onto tonsil and then broken. Now, moving scissors on up so as to break every adhesion in this way—until plica triangularis is reached. The plica is not cut, but, instead, the dissector is placed far under plica towards posterior pillar. Then the plica is dissected from the tonsil and left intact. Now, for the posterior portion, beginning at bottom of posterior pillar, dissecting scissors are worked upwards, always breaking band of adhesion as far from pillar as possible.

The next step is placing of snare; after loop is placed over tenaculum, pull tonsil forward until wire slips between posterior pillar and tonsil. Then give tenaculum a slight turn, pushing slightly backward. Tonsil is now almost everted. The snare is placed between anterior pillar and tonsil.

Gradually make loop smaller until you feel the touch resisting capsule. Then one quick jerk and your tonsil is out.

Pressure is now applied.

Never start removal of second tonsil until all hemorrhage is stopped.

I believe anyone following this technique will find that they have a tonsil operation that will meet the requirements. They will be able to get all of the tonsillar tissue with no damage to the pillars and no damage to the plica triangularis. We are going to find more and more tonsils diseased in adults than we have formerly found and we are going to find that in the early stages of tuberculosis that the removal of diseased tonsils is going to be of great benefit. And, if a perfected tonsillectomy technique under local anæsthesia serves no better purpose than to permit the removal of tonsils in tubercular cases without an anæsthetic, if it serves just that much it will fill a want that has long been felt in throat surgery.

Epidemics of Measles

In the communities from which the public schools of Boonsboro and Mt. Gilead, Bedford County, draw their attendance, resulted in the temporary closing of the schools.

THE USES AND ABUSES OF PITUITRIN.*

By JULIAN L. RAWLS, M. D., Norfolk, Va.

George C. Johnston, of Pittsburg, says: "Nature considers the pituitary of such importance in the animal economy, that she has located it in a most inaccessible and strongly fortified position, lying in a depression in the roof of the sphenoidal sinus, in a bony pit roofed over with a strong prolongation of the dura and protected from pressure by the anterior and posterior clinoidal processes."

The situation of this gland is unique, and arguing from analogy its importance is equal to the care that has been exercised for its protection.

It consists of two lobes which, embryologically and histologically, are very different. The anterior lobe is derived from an up-growth of the buccal cavity, and the posterior from a down-growth of the third ventricle. These lobes are connected by an intermediate part which has the same origin as the anterior lobe. The extracts in common use are made from the posterior lobe. So much for the anatomy and embryology.

Now let us consider its physiology and therapeutics: first, since this is probably most widely known, its action on the pregnant uterus. It was not until the publishing of a paper by Bell, of Liverpool, in 1909, that it came into general use in obstetrics. The chief use of pituitrin is to stimulate uterine contractions in cases of inertia, where there is no mechanical obstruction to delivery. When it is first given there are from one to three prolonged contractions. In the multipara with the cervix completely dilated the delivery is often accomplished during these pains; if not, the uterus settles down into regular, rhythmical contractions, which are the exact counterpart of a normal labor except that they are harder and more prolonged.

It is claimed that it will not induce uterine contractions *per se*, but I have had several cases in which the patient was at term, or beyond, or in which the uterus from other reasons was ready to empty itself, in which a tube of pituitrin apparently produced the stimulus for uterine contractions.

I will cite two instances: I was called one evening at 6 P. M. to see a multipara who, ac-

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

ording to her account, was ten days overdue. She stated that she had no symptoms whatever of a labor and simply wished to know wherein she had missed her count. An examination revealed an almost completely dilated cervix, with the vertex engaged in the superior strait. She was ordered to remain in bed until my return. When I came back two hours later I found her very much disgusted with the entire proceedings. She looked upon the whole thing as a joke and stated that she never felt less like being in labor in her life. At 9 P. M. she was given one tube of pituitrin and in a few minutes regular, rhythmical contractions set in and the baby was delivered at nine fifty.

In the second case I had tried to induce labor at eight and one-half months for an intense headache, that not even morphia would relieve. I first introduced a thirty' French catheter well into the cervix; at the end of thirty-six hours it was removed, the patient having had no pains, and but very little dilatation, with some general softening of the cervix. At this time one-half a tube of pituitrin was given which caused some ten or twelve pains. Two days later at four P. M., a large size conical bag was introduced into the cervix and distended with sterile water. It came away at 1 o'clock that night without any pains. The next night she was given another half tube of pituitrin; severe pains were immediately induced and the delivery was accomplished in an hour.

The action of pituitrin lasts from forty-five minutes to one hour and a half, and no patient should be left for an hour and a half after a dose has been given. If delivery does not occur in an hour after the administration of pituitrin it is our custom to administer a second dose just after the delivery of the child, as a prophylactic against post-partum hemorrhage, for the uterus, worn out by its first efforts, will not contract after the expulsion of the placenta; and even this should be further fortified by ergot or ergotole. The action of pituitrin is fleeting, that of ergot more prolonged. Pituitrin should not be given unless chloroform is in immediate command to mitigate against unexpected violence of action. In cases in which it is given for uterine inertia before the cervix has been completely dilated, the initial dose should certainly not be more than .5 of a cc.

We have been accustomed to administer a dose of pituitrin immediately following curettement for incomplete abortion, but recently I read an article by Furniss, of New York, stating that he gave 1. cc. of pituitrin fifteen minutes before starting his curettement, claiming that there was less uterine surface to curette, less likelihood of perforation and less danger of immediate and subsequent hemorrhage. It seems almost unnecessary to caution against its use in primiparae whose pelvic measurements are not definitely known: in the early stage of labor without a well dilated or easily dilatable cervix; with the presenting part not engaged or, if engaged, in a malposition; or any other form of mechanical obstruction to a natural delivery; or to cater to the inclinations of the obstetrician to hurry his case; yet the increasing number of ruptured uteri would certainly indicate there are some who do not thoroughly recognize the contra-indications to pituitrin. Next to obstetrics the most common use of pituitrin is following operations. It is probably the best intestinal stimulant that we have. We have come to rely upon it in those cases of distention following abdominal operation and order it as a routine in cases where a large amount of handling of the abdominal viscera was unavoidable. We usually give one tube every four to six hours in these cases, beginning before the patient leaves the table. It has a further use in surgical cases complicated with retention of urine and no cases should be catheterized until pituitrin has been tried. We have found it of wonderful benefit in cases of shock, and place it third only to morphia and hot saline in our treatment of that dread condition. A third use of pituitrin, not so well known as the first two is its action on hemorrhage. I doubt if it is a styptic in itself; it probably acts on muscular tissue, contracting the arterioles. We order it as a routine in tonsillectomies and circumcisions in babies who show a tendency to ooze. I have seen it stop very persistent nose bleeds in a short time after administration. The fourth and probably least known of its therapeutic uses is the action in epilepsy. Johnston, of Pittsburg, quoted in the opening paragraph, states that in that class of cases, with previous good histories, who developed epilepsy between the ages of fifteen and thirty-five years, they found

at autopsy with striking regularity an overgrowth in the anterior and posterior clinoidal processes which slowly fold over and down upon the pituitary gland, enclosing it within a bony basket restricting its growth and hampering its function. He thinks that the administering of pituitrin to these patients, by mouth, over a long period of time has been of some benefit to them.

In closing, let me say one word of caution as to its method of administration in general practice. Give it hypodermically, subcutaneously. If given intra-venously and, occasionally, but not often intra-muscularly, it causes a rather alarming rise in blood pressure and slowing of the pulse. This action is very transitory and within ten or fifteen minutes both the blood pressure and the pulse rate have returned to normal.

Clinical Reports.

ATYPICAL CASE OF MALARIAL INFECTION.*

By ROBT. L. OZLIN, M. D., Dundas, Va.

Mrs. A. W., age 33, white.

Chief Complaint.—General malaise, worn-out, tired feeling, with nausea and vomiting. No special pain.

Family History.—Negative.

Past History.—Patient had always been in good health and had never needed the services of a physician except when a child when she had a severe case of diphtheria; this resulted in cure, without complications. About three years ago patient noticed a roughening of the skin on the hands and wrists. Skin became cracked and sore. This trouble came on after she had been handling lime and she thought this was the cause of the trouble, which was soon cured with simple remedies. Twelve months after this attack, which was during the spring months, she noticed the same trouble in her hands. Skin on hands and wrists was rough and cracked open, but not very sore. This continued for about two weeks, when I saw her. The condition just described was her only complaint at that time and I made no examination. The trouble was cured by a simple ointment containing carbolic acid. She

had no further trouble until the present illness began, about 12 months later, during the month of April.

Present Illness.—Patient complained of a general bad feeling, weak, and loss of energy. Did not feel like sitting up in chair. No special pain anywhere. This condition continued for about two weeks, when she began vomiting almost everything she ate. There was no special loss of appetite, but would become nauseated and vomit her food and considerable foamy mucus. The patient would vomit sometimes directly after eating, and again would retain her food for several hours, then vomit it. Several different remedies were taken for this trouble with varying results, some helping considerably for a short time, when the trouble would come back. She continued to grow weaker and became very much emaciated. This continued for about four weeks, when her hands commenced to get rough; this extended rapidly until the skin on hands and forearms was involved to the elbows. The skin was rough and of a scarlet red color; very small papules could be seen on close examination. Both arms were affected exactly alike, with sharply defined borders, the skin above the elbow being in a healthy condition. This skin affection gave rise to no pain and very little itching and discomfort. There were no scales. Skin on rest of body seemed healthy and moist. Pellagra was suspected, and a change of diet with different drugs to tone up the system were tried without any lasting result. Patient continued to get weaker, the vomiting continued at times, and the skin affection remained unchanged.

Bowels were fairly regular. A specimen of feces was examined for animal parasites and found negative.

Urine also was negative.

About this time, a week after beginning of trouble, a slight rise of temperature was noticed in the evening; fever would go up to 99 or 99½ almost every evening, but would skip some days and have no temperature. No chills were noticed. The blood was examined and found to contain the plasmodium malariae in abundance. The spleen was slightly enlarged. Heart and lungs negative. Nervous and mental conditions negative.

Patient was put on quinine in solution with

*Read before the Lunenburg County (Va.) Medical Society, December 7, 1916.

hydrochloric acid—15 grains of quinine per day. All symptoms began to improve immediately, but complete recovery was slow, due to the run-down condition of patient. She was practically well in about three weeks after this treatment was begun and is now—six months later—enjoying good health.

Proceedings of Societies. Etc.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

(Continued from page 513).

A Resume of My Year's Work With Suspension Laryngoscopy.

By ROBERT CLYDE LYNCH, M. D., New Orleans, La.

To prevent fracture of the alveolus the writer places a strap under the occiput and clamps it into the angles of the pear-shaped ring, thus relieving the pressure of the tooth plates against the teeth.

In order to prevent other tooth injuries, the writer uses dental impression spoons filled with moulding compound which offers complete protection to the teeth, facilitates the introduction of the spatula, and makes it easier to keep the spatula in the middle line.

He also described the table which can be raised twenty inches, the top can be tilted and can be moved in a circle. There are foot and shoulder braces.

Regarding intrinsic epithelioma of the larynx, the writer's experience has been exceptionally good with endolaryngeal removal, but feels that his experience is not large enough to reach definite conclusions.

Dissection under suspension is not difficult, and can be done without permitting an instrument to touch the tumor mass.

Nineteen cases of papilloma have been successfully operated, dissecting well below the base, curetting and painting with alcohol.

Pedunculated fibroma, vocal nodules, a cyst of the arytenoepiglottic fold, pachydermic laryngitis, perichondritis of the thyroid, fracture of the thyroid cartilage, tubercular laryngitis, abscess of the epiglottis, and foreign bodies in the trachea and esophagus were all cared for by means of the suspension apparatus.

DISCUSSION.

Dr. Emil Mayer, New York City: There is

one phase of suspension that has not been mentioned by the writer of the paper, which has worked splendidly in my hands, and that is in the treatment of stenosis of the larynx and trachea. In one instance, that of a little boy who was on my service at the Mt. Sinai hospital, and who had tracheal stenosis, postoperative, it became necessary to intubate, and the only way possible was under general anesthesia. It was my hope that we could keep the trachea widely open with the wearing of the intubation tube. With the capable assistance of my associate, Dr. Yankauer, this boy has been anesthetized, and we intubated a number of times. He has been wearing the intubation tube for a matter of two years now, and we are in hopes that he will be able to do away with it eventually by the interesting method of transplanting fascia in cicatricial tissue. In this case I do not know what I would have done without being able to put the child under general anesthesia and use the suspension apparatus; first of all, to distend the web of cicatricial tissue, and then to intubate.

The second case was that of a man with syphilitic stenosis of the larynx. It became necessary to do a tracheotomy on account of the stenosis. He then received regularly about three times a week, a distension of his larynx by means of Schrolter's tubes of increasing diameters, so that by the time he was ready for the intubation tube, his larynx was fairly well distended. He also received some salvarsan injections. I felt that we were able to do something for him in a good deal quicker time than ever before in my experience. The man was given a hypodermic of morphin and told what we wanted to do, and without any general anesthesia whatever we put in the intubation tube. This remained in situ, and about ten days afterwards he coughed out the tube. The amount of breathing room was so much greater directly after this, that we were willing to do without the intubation tube. In this exceedingly short space of time, by this means and the treatment of salvarsan and mercurial injections, he has been quite cured. The suspension apparatus helped us materially in this case.

Dr. John F. Barnhill, Indianapolis: I would be glad if Dr. Lynch would tell us

about his present views of anesthesia with the apparatus.

Dr. Robert Levy, Denver: In the treatment of tuberculosis of the larynx I have been particularly pleased with its value in removal of the epiglottis; the special feature in its favor here is that one has perfect control of the hemorrhage following the excision of the epiglottis. Before the advent of the suspension apparatus, in an attempt to remove the epiglottis, I had rather serious hemorrhage upon two occasions. In several cases of epiglottectomy since the suspension work has been in vogue, hemorrhage has had no terrors whatever for me. I have seen an artery spurt from both sides of the stump, of sufficient size that it could be seen by a class of students at some distance from the operation. The artery spurts into the mouth, and one controls the hemorrhage with the greatest ease by means of artery forceps.

In curettage or cauterization of the larynx for tuberculosis the apparatus is of great value because you can do so much more in one sitting than by the direct method.

With these cases it has been my practice to use scopolamin and morphin, although in one case I had a death on the table, which I attributed to the highly unstandardized preparation of scopolamin.

Tumors of the larynx have been exceptionally easy of removal with this method. This fairly sized malignant tumor was removed by suspension. It sprang from the posterior wall of the larynx and came over by its attachment on the external surface, so that it was partially extrinsic. It was placed in such a position that when the patient sat erect it flopped into the larynx and produced dyspnea. On two occasions the patient was picked up on the street and sent to the hospital, so that any prolonged operation by direct method would have been impossible, but by suspension it was removed with the greatest ease.

In the dissection of a venous cyst with large veins that bled freely in the hypopharynx the method was particularly valuable, because I could make a very wide dissection. This case was one in which removal had been attempted on several occasions without success. I made two attempts, a cautery had been used several times, and one consultant injected it with

iodin. It recurred always until we were able to make a wide opening under suspension.

Dr. Harris P. Mosher, Boston: When Dr. Lynch began his work, especially the work of removing malignant disease of the larynx, I withheld my judgment for a time, waiting to see what his results would be. In the paper read this morning I was very pleased to see that he had gone on carefully with a great deal of judgment, and that he had come to the conclusion which many of us felt that he would come to—that is, that the removal of malignant disease by suspension was not a final success, but that thyrotomy was better. For myself, I feel that I much prefer thyrotomy to suspension removal of malignant disease.

Dr. Robert Clyde Lynch, New Orleans (closing the discussion): The chief essential of the suspension apparatus is to obtain relaxation of the parts. Whether the anesthetic be morphin and scopolamin or another, is left to the individual judgment of the case. I have used only cocain anesthesia, and prefer it. I give one or two doses of morphine, one-fourth grain one or one and a half hours before the operation, and one-eighth grain one-half hour before the operation is to be done. For surgical work I much prefer general anesthesia in those cases where it is not definitely contraindicated. Under general anesthesia we get the proper amount of relaxation of the parts, and are able then to suspend the patient until we get the proper view. You must understand, suspension is not an easy proposition so far as the patient is concerned. It is not painless, and for that reason patients must be put in such shape that will not interfere with the work after it has been once started.

Angioma of the Larynx.

By EMIL MAYER, M. D., New York, N. Y.

This affection is of very rare occurrence, the writer having found only forty recorded cases in the world's literature.

He presented the history of a woman, aged fifty-two years, who had a history of previous attacks of laryngitis with hemoptysis, and who had a tumor in the larynx on the left side, extending from the left false cord and covering the true cord on that side.

The diagnosis of cancer of the larynx had been made by laryngologists who had seen her previously.

The patient was admitted to Mount Sinai

Hospital, and the writer asked to report upon her condition, and remove a portion of the growth for diagnosis, if necessary.

Owing to the yielding character of the growth, its bluish tinge, and the history of previous bleeding, the diagnosis was made of angioma of the larynx by Dr. Mayer. Removal of a portion for diagnosis was deemed too dangerous, and external operation was advised. This was subsequently performed by Dr. C. A. Elsberg.

The growth was removed, the mucous membrane sutured, and the pathologist reported it to be a hemangioma. The patient made an uneventful recovery.

The writer concludes that angioma of the larynx is a rare disease, occurring mostly in adults, the proportion of males to females being about four to one. It may be mistaken for cancer. Endolaryngeal removal, even of a portion of the growth, for diagnosis is fraught with danger, while laryngofissure is entirely safe and feasible.

DISCUSSION.

Dr. Henry L. Swain, New Haven: If Dr. Mayer wants another case simply to bear out what he said about the danger in these cases, I might mention one in which I attempted to remove a growth of this kind. We got hemorrhage all right. If anything further was needed to substantiate the diagnosis, the microscope did. I have a slide at home showing it to be true angioma of that type.

I am interested to hear what Dr. Lynch thinks he could do with such a case by suspension.

Dr. Robert Clyde Lynch, New Orleans: I have never had an opportunity of seeing one of these cases, and have, therefore, had no personal experience with them. I think, however, that if it were possible to get underneath the place, and if the surface was not too broad and the position properly localized, it might be possible to do it under suspension. However, that could be decided at the time the case presented itself.

After seeing the illustration of the size and site of this angioma, I would not attempt its removal under suspension.

Dr. Emil Mayer, New York City (closing the discussion): I merely wish to pass around this illustration showing the shape and site of the angioma.

An Epidemic of a Severe Form of Acute Infection of the Throat, With Abscess Formation—Report of Fifty-eight Operations.

By CLEMENT F. THEISEN, M. D., Albany, N. Y.

This epidemic occurred in Albany during December, 1915, and January and February, 1916. Cases occurred in all parts of Albany, three hundred and eighty-four coming under the writer's personal observation.

Fifty-eight of the patients developed abscesses in different parts of the fauces. Forty-four of this number were more or less typical cases of peritonsillar abscess. Of the remaining fourteen cases, in eight, abscesses developed in the lateral columns of the pharynx. There were two cases of infection of the epiglottis with great edema and some pus, two cases of abscess of the lingual tonsil, and two of retropharyngeal abscess. Joint complications, acute arthritis and polyarthritis occurred in twelve cases, acute endocarditis in one, and in twenty-four, examination of the urine showed the presence of albumin and casts. In sixty-eight cases acute otitis media, requiring incision of the tympanic membrane, developed, with one mastoid complication in a child in which the membrana tympani ruptured ten days before the writer was called.

Cultures taken during the epidemic showed streptococcus infections in the majority of the cases. A few were pneumococcus infections.

The milk supply was probably not a factor in this epidemic.

There were no deaths among the writer's cases, although some patients were seriously ill, particularly those with joint and kidney complications.

The onset of the attack in most cases was extremely severe, with chills, great prostration, swelling of the glands of the neck and high temperatures, particularly in children.

Many cases that did not go on to abscess formation, could not be differentiated clinically from follicular tonsillitis. In some there was the distinct ulcerative type of acute tonsillar infection, and these cases were very ill. In a small number of cases a distinct exudate covered the tonsil, but none of these cases proved to be diphtheria. Great edema and intense acute angina were characteristic of many of the cases. The laryngeal mucosa was

involved in the edematous process in a small number.

DISCUSSION.

Dr. Henry L. Swain, New Haven: I feel that I must say that Dr. Theisen did not lose a single case of his four hundred cases.

Dr. Clement F. Theisen, Albany (closing the discussion): I would like to mention that the epidemic in Albany and the adjacent city was not due to milk. We studied all the epidemics with that point in mind, and proved that fact conclusively. There have been epidemics of sore throat caused by infected milk, but in the epidemic in Albany this could be ruled out, for the cases were distributed in all parts of the city, and there were just as many supplied by one dairy as by another.

(*To be continued.*)

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Diagnostic Methods. A Guide for History Taking, Making of Routine Physical Examinations and the usual Laboratory Tests Necessary for Students in Clinical Pathology, Hospital Internes, and Practicing Physicians. By HERBERT THOMAS BROOKS, A. B., M. D., Professor of Pathology, University of Tennessee, College of Medicine, Memphis. Third Edition, Revised and Rewritten. St. Louis, C. V. Mosby Co., 1916. Cloth, 12mo., 96 pages. Price \$1.00.

This book is intended for medical students, hospital internes, and physicians who have only a limited time for laboratory work, to be used along with some extensive work on clinical diagnosis as a reference. This third edition includes all new tests of any value for sputum, urine, gastric contents, blood, etc., omitting those formerly given that have become obsolete. A new chapter on technique of staining and examination of smears, important exudates, etc., has been added. We believe this guide will have a wide range of usefulness for all laboratory workers.

Wit and its Relation to the Unconscious. By S. FREUD. Translated by A. B. BRILL. Published by Moffat, Yard & Co., New York. Price, \$2.50.

Freud's original investigations in the domain of the subconscious gave an impetus to further studies concerning human thoughts and actions. In the present volume the orig-

inator of this movement studies the underlying psychology of wit. First of all he refers to the understanding of wit by other authors and then he gradually leads to his view on it which is by far more comprehensive and nearer the truth than the view held by any other observer. He mentions the definition of Th. Lipps, which is "essentially the subjective side of the comic;" of K. Fischer, which is "the judgment which produces the comic contrast" or "wit is a playful judgment." Others have defined wit as "sense in nonsense," or "union of dissimilarities." In showing the inadequacies in all these definitions, Freud attempts to prove that there is an intimate connection between all psychic occurrences, a connection which is full of suggestions for a proper psychological insight into all spheres of human activities. The book deals with The Technique and Tendencies of Wit, and especially with the Motives and Psychogenesis of Wit, finally, with the Relation of Wit to Dreams. The work is monumental; it is highly instructive. The translation is excellent.

ALFRED GORDON, M. D.

The Neurotic Constitution. By ALFRED ADLER. Translated by B. GLUECK and J. E. LIND, New York. Moffat, Yard & Co., 1917. Price, \$3.00.

The author departs from this fundamental idea that in the development of a neurosis there stands threateningly the feeling of uncertainty and inferiority which demands insistently a guiding, assuring and tranquilizing position in order to render life bearable. The consciousness of the weak points dominates the neurotic. He mistrusts himself and others: envy, maliciousness, aggressive tendencies, are the natural consequences. The development of the psychic phenomena which characterize the neurotic character forms the content of this book. After discussing the origin of the feeling of inferiority and its psychic compensation, the author takes up in detail the individual characteristic features of the neurotic make-up, such as avarice, suspiciousness, envy, cruelty, etc. The book is divided into ten chapters and each of them is full of most interesting psychological facts necessary for an appreciation not only of the character of the neurotics but also of normal individuals. The vast material herein contained is of ut-

most value to the thinking physician. The translation is excellent.

ALFRED GORDON, M. D.

Clinical Studies in the Relationship of Insanity to Crime. By PAUL E. BOWERS, M. D. Published by The Alexander Publishing Co., Michigan City, Indiana. Price, \$1.50.

The division of the work into 17 chapters enabled the author to review all forms of mental disorder in relation to crime. Intentionally he eliminated all theoretical discussions concerning the underlying psychological motives leading to gross as well as petty crimes and to all sorts of anti-social acts. He concerned himself exclusively with a description of the clinical picture of each psychosis. The most interesting part of the book is the material of a very large series of cases in each variety of mental disease. This special feature renders the book valuable and instructive. The abundance of observations personally made in a large institution for criminals over which the author has jurisdiction is particularly striking. The criminologist will derive considerable benefit in reading the individual records.

ALFRED GORDON, M. D.

Editorial.

"Ambrine" Treatment for Burns.

A most interesting story of the "ambrine" treatment for burns received by soldiers in the European war, appears in the *New York Medical Record* of January 27. It recalls a talk recently given in this city by Mr. Cyril Maud, an English actor, who plays the title role in "Grumpy," who stated the facts as written him by a friend who had seen the marvelous results accomplished by this treatment.

Though used by its discoverer, Dr. Barthélemy de Sandford, whenever occasion seemed to him to demand, since early in the nineteen hundreds, it was another case of "a prophet is not without honor save in his own country," for it never until recently received the recognition which it merited. Through results obtained and the influence of friends, the French War Office has at last learned the worth of this treatment and not only orders soldiers suffering from burns to be sent Dr. de Sandford when possible, but has also established

the treatment in the front line hospitals.

This is imperative for the best results, as the cure is more of a success when received shortly after the injury. In numberless cases, the burns have not only been cured, but the surfaces restored to their normal state.

"Ambrine" seems to have received its name from its amber hue. de Sandford is said to have made its discovery in an effort to find a home treatment as a substitute for the hot mud bath treatment for rheumatism. After a number of experiments, he decided upon combining paraffin with the resin of amber, which, when melted together and applied hot, made a firm bandage, affording relief. Its application in the cases of the war burns gives immediate relief from the agony which it almost sickens one to witness. The ambrine is applied hot (we understand at 158 degrees F.) in small quantities. Over this is placed a thin layer of gauze and on top of this is placed more ambrine. After 24 hours, this is removed *en masse*, and after treatment of the burnt surface, another application made. Healing is comparatively rapid and, as previously stated, results are said to be marvelous. Cures have been known to result in burns of such severity that death would under ordinary circumstances have been expected.

The Virginia State Board of Medical Examiners

Reports the following list of applicants (with colleges of graduation) who successfully passed the examinations for the practice of medicine and surgery at the session held in Richmond, December 12-15, 1916:

Dr. Q. H. Barney, Richmond, M. C. Va., 1916; Dr. Lydia R. Bauer, Bon Air, Women's College Penn., 1914; Dr. J. A. Bennett, Norfolk, M. C. Va., 1916; Dr. J. E. Calhoun, Petersburg, Atlanta Col. P. and S., 1912; Dr. L. E. H. Duffel, Roanoke, Tulane Univ., 1900; Dr. Glen T. Faust, Dorchester, Univ. of Louisville, 1915; Dr. Chas. E. Flowers, Columbia, N. C., M. C. Va., 1913; Dr. David T. Goche-nour, Washington, D. C., Geo. Washington Univ., 1909; Dr. A. S. Harrison, Enfield, N. C., Univ. of Md., 1888; Dr. W. S. Keister, Roanoke, Johns Hopkins Univ., 1914; Dr. Geo. W. Lacey, Claremont, Meharry Med. Col., 1904; Dr. J. Marshall Lee, Dunn, N. C., M. C. Va., 1916; Dr. John C. Leonard, Hopewell, Nat. Med. Col., 1906; Dr. Beryl J. McCrary,

Fall Branch, Tenn., Am. Sch. Osteopathy, 1915; Dr. Jas. E. McClees, Oriental, N. C., M. C. Va., 1916; Dr. Alex. McLeod, Louisa, Balto. Med. Col., 1913; Dr. Claude Moore, Roanoke, Univ. Va., 1916; Dr. A. E. Mulford, Bridgehampton, N. Y., Univ. Ga., 1907; Dr. Eugene E. Neff, Chilhowie, Univ. Va., 1916; Dr. John H. Neff, University, Univ. Va., 1910; Dr. Wayne McL. Phipps, Independence, M. C. Va., 1915; Dr. S. W. Reeves, Roanoke, Hahnemann, Phila., 1909; Dr. H. W. Rogers, Nassawadox, Univ. Md., 1916; Dr. R. A. Shafer, Low Moor, M. C. Va., 1916; Dr. J. W. Snapp, Bristol, Tenn., Am. Sch. Osteopathy, 1914; Dr. Jesse A. Strickland, Zebulon, N. C., Univ. N. C., 1910; Dr. G. H. Sumrell, Richmond, M. C. Va., 1915; Dr. E. D. Wells, Hinton, W. Va., Univ. Louisville, 1910; Dr. Chas. A. Young, Gore, Univ. Md., 1914.

New Member of Medical College of Virginia Board.

Dr. Stuart McGuire, of this city, was, on the first of this month, appointed by Governor Stuart as a member of the board of visitors of the Medical College of Virginia to succeed Dr. Robert C. Randolph, of Boyce, Va., recently resigned. The appointment is for life. Dr. McGuire is dean of the college also.

Tri-State Medical Association of the Carolinas and Virginia.

The nineteenth annual session of the Association in Durham, N. C., February 21 and 22, Dr. J. Allison Hodges, of Richmond, presiding, gives promise of being an unusually pleasant and instructive meeting and a good attendance is anticipated. A large number of papers have been promised by members and invited guests and the Durham doctors have arranged for clinics and entertainments for the members and ladies accompanying them. Information as to the meeting may be obtained of Dr. S. D. McPherson, Durham, chairman of the committee of arrangements, or the secretary, Dr. Rolfe E. Hughes, Laurens, S. C. As the medical profession of the Carolinas and Virginia are so closely allied in their interests, these meetings are always of more than passing interest to those who attend. Be one of the number this year.

Dr. Joseph Robert Hester,

Who made his home is Newport News, Va., for sometime, is now located at Knightdale, N. C.

Dr. C. B. Bowyer,

Stonega, Va., was a visitor in this city last month.

Dr. William J. Coleman,

Mineral, Va., accompanied by his wife and son, took a trip to New York, Philadelphia, Baltimore and Fredericksburg, in January.

The Loudoun Hospital,

At Leesburg, Va., held commencement exercises in January, at which time two nurses were awarded diplomas. Dr. Harry P. Gibson presented the diplomas.

Dr. J. R. Gorman,

A former resident physician at Virginia Hospital, this city, after studying in the North and later spending some time in North Carolina, has returned to Richmond, and is located at 5 West Grace Street, for the practice of his profession.

T. B. Sanatorium for Colored People.

The committee from the State Board of Health which has charge of the establishment of a sanatorium for negro consumptives met in Burkeville the latter part of January to discuss plans, etc. It is hoped to shortly commence work on the buildings of this sanatorium, which will probably be known as the Piedmont. The committee is composed of Drs. Ennion G. Williams, Richmond, Wm. F. Drewry, Petersburg, and W. M. Smith, Alexandria, and Capt. W. W. Baker, of Chesterfield County.

Dr. J. Lewis Riggles,

Washington, D. C., announces the removal of his office and residence to 1800 K Street.

Dr. Henry L. Robertson,

Of Charleston, W. Va., was a recent visitor to Richmond.

New York Physicians Appoint Committee for A. M. A. Meeting.

We note from the *Bulletin of the Department of Health of New York City*, that the New York Committee on Arrangements, with

Dr. Wendell C. Phillips as chairman, Dr. Alexander Lambert as treasurer, and Dr. Floyd M. Crandall as secretary, met in January. At this time sub-committees were formed dealing with finance, registration, entertainment, hotels, sections, scientific exhibit, commercial exhibit, press and publicity, and golf. On the first two days of the meeting, June 4 and 5, there will be a Clinical Congress, during which clinics, demonstrations and tours of inspection will be conducted in hospitals, laboratories, clinics and scientific institutions throughout the city.

The Columbia (S. C.) Medical Society,

At its annual meeting, elected Dr. Le Grand Guerry president, Dr. John LaBruce Ward vice-president, and Dr. Edythe W. Welbourne secretary-treasurer.

Dr. Joseph E. Rader

Has been re-elected medical inspector of the schools of Huntington, W. Va.

Dr. and Mrs. Charles F. Brower,

Catharpin, Va., were guests of relatives in Fairfax County, the first of the month.

Dr. W. C. Ford,

Woodstock, Va., with some friends, recently enjoyed a trip to Washington, D. C.

Dr. Arthur L. Wilson,

Lynchburg, Va., has been spending some-time in Baltimore.

Dr. Barton Bates McCluer,

Of Gary, W. Va., was the recent guest of his parents in Bon Air, Va.

An Ophthalmological Service

Has been added to the other departments of Bellevue Hospital, New York. It is located in the new surgical pavilion but is entirely distinct from the rest of the hospital, having its own operating, examining and dressing rooms, a staff of attending surgeons, special internes and nurses; its capacity for the present will be 50 beds. The service is in charge of Dr. Charles H. May, attending surgeon, who will have as his principal assistants Drs. Julius Wolff and John M. Wheeler.

Dr. C. Mason Smith

Has been elected a member of the board of governors of the Fredericksburg, Va., Motor Club.

Dr. William V. Atkins,

Blackstone, Va., who has been a patient at St. Luke's Hospital, this city, is much improved.

Dr. Roy K. Flannagan,

Assistant State Health Commissioner, spoke on "Health Legislation," at a recent meeting in this city, of the Association of Methodist Women for Social Service.

Health Campaign in Spring.

Mr. J. F. McCulloch, general secretary of the Southern Sociological Congress, has left Washington for a fifteen-week health campaign in the Southern States. He went first to Augusta, Ga., with two carloads of exhibits. From there he was to go to Savannah and cities in Florida. North Carolina and Virginia cities are to be visited on the return trip in the spring.

Dr. William Sharpe,

Of New York, visited Drs. C. C. Coleman and J. M. Emmett, of this city, the last of January, on his return from a hunting trip in North Carolina.

Board of Pharmacy of Virginia.

At the examination held in this city, January 16-17, there were 33 applicants for examination as registered pharmacist, and of this number the following were successful and given the registered pharmacist certificate: Marcellus Miller, Norfolk; G. M. Coleman, Culpeper; T. T. Hatcher, Lynchburg; E. W. Morrow, Petersburg; R. H. Southworth, Petersburg; C. V. Bray, West Point; L. E. Furbush, Appomattox.

The following of the above 33 applicants were given the registered assistant pharmacist certificate: R. S. Hairston, Raleigh, N. C.; R. C. Kennedy, Norfolk; Edw. L. Jackson, Tazewell; O. F. Valentine, Anacostia, D. C.

There were two who applied for the registered assistant examination, both of whom were successful: T. Z. Roberts, South Richmond, and Alwyn W. Traylor, Petersburg.

The next examination will be held in this city April 24 and 25, the *fourth* Tuesday and Wednesday, instead of the *third*. This is on account of the annual meeting date being fixed by law. All other examinations will be held on the third Tuesday and Wednesday as usual.

All applications should be filed with the Secretary, Mr. E. L. Brandis, at least ten days prior to examination date.

Dr. Ben. M. Rosebro,

Of this city, lectured before the Richmond Nurses' Club at their regular meeting on February 5.

Dr. Benjamin W. Cohn,

Formerly of Norfolk, is now located at Ocean View, Va.

Dr. Susan A. Price,

For sometime connected with the staff of the Eastern State Hospital, at Williamsburg, Va., but recently one of the physicians in the Epileptic Village at Skillman, N. J., has just moved to Winthrop College, Rock Hill, S. C.

Surgery Developed by War.

Another innovation in surgery reported in some of the German medical papers and tried by a German surgeon in one of the army hospitals, is a new method for growing new fingers to replace amputated digits. The earlier method was to graft a toe upon the amputated finger, but the newer method, which has been successfully tried in some cases, is to use a piece of rib, which is covered with skin taken from the breast just outside the ribs.

Dr. and Mrs. F. L. Banks

Returned to their home in Gordonville, Va., the latter part of January, after a short stay in Richmond.

Dr. Henry C. Smith

Was elected president of the Chamber of Commerce organized at Crewe, Va., in January.

Dr. William S. Wiley,

Of Bristol, Va., has recently returned from a trip to New York.

The Mercer County (W. Va.) Medical Society

Elected the following officers for the present year: President, Dr. Harry G. Steele, Bluefield; vice-presidents, Drs. Jas. R. Vermillion, Princeton; William W. Morton, Bluefield, and Jos. A. McGuire, Princeton; secretary, Dr. Edw. H. Thompson, Bluefield; treasurer, Dr. Thos. E. Peery, Bluefield.

Death Rate of Physicians Lowered.

According to the *Journal of the A. M. A.*,

there were 2,196 deaths of physicians in the United States and Canada, during 1916, which it is calculated is a rate of 14.08 per thousand. Of the rates given for fifteen years, the 1916 rate is the lowest. The age at death varied from 23 to 99 years, or an average of 59 years, 11 months and 5 days. The principal causes of death in the order named were senility, heart disease, pneumonia, cerebral hemorrhage, accident, surgical operations and nephritis.

Dr. Julius J. Hulcher,

Of this city, has returned home after a visit to Charlotte, N. C.

Memorial Hospital,

Richmond, in its report for six months ending December, stated that 1,832 patients were admitted to the hospital in this time, 258 of whom received free treatment. There was an average of nearly seventeen days of treatment for each free patient. Eighty-one patients died in the six months.

Dr. John P. Stiff,

Fredericksburg, Va., spent a short time in Richmond the latter part of January.

Smallpox Being Checked.

Dr. W. A. Brumfield, of the State Health Department, was in Wytheville, the first of this month, having been called by town authorities to diagnose some cases which were at first thought to be chickenpox but were later said to be smallpox. He concurred in the opinion of some of the local doctors in diagnosing the cases as smallpox and radical measures were at once undertaken to suppress the disease, which is of a mild type and principally confined to white persons. School children are to be vaccinated and schools, moving pictures and public halls temporarily closed.

In Danville, a light epidemic of smallpox which broke out in December, has been checked. Nearly 4,000 persons have been vaccinated there as a result of the scare.

Dr. J. Rodolph Taylor,

Grifton, N. C., was a recent visitor in this city.

The Central State Hospital,

Petersburg, Va., for colored insane, showed in its annual report for year ending September 30, 1916, that there had been 576 patients

admitted during the year, 485 being first admissions. The number discharged, escaped and died was 546, leaving actually in the hospital at the end of the fiscal year 1,783, or an increase of thirty patients over the preceding year. Among the additions and improvements made during the year may be named the pavilion for pellagrins, an addition to the tuberculosis colony for men, and an addition to the building for the criminal insane. Work and diversion occupy a most useful place in the treatment of the patients, the men being employed principally for the out-door and the women for the in-door work. Amusements and religious services are also provided. Diversional occupation, such as knitting, weaving, basket and rug making, crocheting, etc., is provided for the women in addition to their domestic duties, and a large amount of work has been accomplished in this department.

Infant Mortality High in Great Britain.

According to a notice which has come to our attention, "It is more dangerous in Great Britain to be a baby at home than it is to be an infantryman serving a year in France." This statement is made owing to the fact that it is said that of 100 possible births, ten are lost in advance, while of the remaining ninety who fill a cradle, fifteen are dead by the end of the first year.

Eli Lilly & Company,

Pharmaceutical chemists, Indianapolis, Ind., announce that they are publishing a Vest Pocket Reference Book on Vaccine and Serum Therapy, which will be sent *free of charge* to all physicians upon request.

New State Health Officer in Alabama.

Dr. Samuel W. Welch, of Talladega, has been appointed health officer of Alabama, to succeed Dr. William H. Sanders, of Montgomery, retired, who had served the State for over twenty years.

Dr. J. W. Preston,

Roanoke, Va., has been appointed secretary-treasurer of the Virginia State Board of Medical Examiners, effective February 1, 1917, to succeed Dr. J. N. Barney, Fredericksburg, resigned.

Bad Teeth Frequent with School Children.

From the medical inspection of the school children of seven counties, two cities and several industrial schools of Virginia, it was

found that bad teeth were the most frequent physical defect among the children. Defective vision, ear complaints, enlarged thyroid glands and malnutrition were found to be more frequent in the rural schools. On the other hand, enlarged tonsils, adenoids, anemia, eruptions and enlarged glands were more frequent in the city schools. Vaccination had been more commonly done among the city children, but, strange to say, despite better dental facilities, defective teeth were as common among children of the cities as in the country. Communicable diseases had been more frequent among city than rural school children. Whooping-cough was the most common of these diseases, with measles as a close second.

Typhus and Cholera

Have claimed so many victims among the physicians fighting epidemics of these diseases in Palestine, that some villages have no medical men left and there are but few in the cities. An organization in New York is appealing for funds to equip and maintain for one year a medical unit in Palestine.

Good Location—

In a fine, thickly settled section of this State. A doctor who can and will do surgery should have a fine future. Apply to Dr. W. J. Chewning, The Plains, Va.—(Adv.)

Obituary Record

Dr. Charles Henry Gibbs,

Of Charlotte C. H., Va., for many years a prominent physician of that vicinity, died suddenly January 20. He was sixty-four years of age and had studied medicine at New York University Medical College, from which he graduated in 1880. His wife and two children survive him.

Dr. John Wesley Chambers,

A leading surgeon of Baltimore, Md., and professor of surgery at University of Maryland, died at DuBois, Pa., January 21, aged sixty-four years. He received his medical diploma from the College of Physicians and Surgeons, Baltimore, in 1878, and is said to be the first surgeon in the South to have performed an operation for appendicitis.

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Original Communications.

SOME UNUSUAL ASPECTS OF SOUTHERN MORTALITY.*

By J. ALLISON HODGES, M. D., Richmond, Va.

Self-satisfaction is a rather dominant trait with Southerners in general.

This tendency, both personal and sectional, has been in the past an obstacle to progressive development among ourselves, and an opportunity for unfavorable criticism by others. In no way, perhaps, has this been more notable than in the matter of vital statistics, which almost unconsciously has been a negligible entity to us, while to others it has been a most pertinent subject for discussion and comparison.

In fact, and apparently without our knowledge, the mortality statistics of the South have been, in comparison with those of other sections of our country, an object-lesson of which, with the data tabulated, we could not feel justly proud, for it is a fact that during many years, the mortality average in this section has been apparently excessive as a whole, and especially excessive in certain particulars.

Likewise, the belief that certain sections of our country have been unfavorable to rational longevity has come down the years for so long a time as "an oft-told tale," that it has come to be accepted by many as a truism and actual fact, and of all such sections, none in this country have been so notably conspicuous in this respect as the Southern States, for none have so consciously felt as these, the biting sting of such blighting criticism.

It is not believed for an instant that this has been the result of malice or resentment, but the outcome of a long continued series of

events and incidents which were not properly studied, nor adequately understood by the public at large.

Moreover, misinformation, as well as misconception of actual existing circumstances and environments through the passing years, seemed to add certainty to surmise.

When it is remembered, also, that more than one old-line Life Insurance Company scarcely more than a quarter of a century ago, forbade its agents to write any business in the South, east of one of the great railroad systems traversing most of the Southern States near the coast, it can be readily seen to what extremities an erroneous belief as to actual health conditions may go.

No one directly conversant with these local problems would have been guilty of so unjust a judgment, and caused a whole section to suffer for the hygienic sins of certain notably unsanitary areas situated throughout this region, and yet justice compels a generous estimate of this action by those personally unacquainted with the situation, for many elements entered into the proposition, and behind it all was the long accepted belief that conditions in the Southern States were unsanitary, and hence, longevity must necessarily be limited.

Ordinarily, it might be difficult, also, to understand why the Southern States should have ever been specifically considered unhealthy as a whole by so many, if the psychological fact of the subconscious influence of past impressions was not admitted.

It is probable, however, that the knowledge that the Southern States were in part semi-tropical, was the foundation for the belief that consequently they must be unhealthy and the natural breeding bed for the propagation and spread of dreaded tropical and semi-tropical diseases. In this manner, it is believed that the idea grew and expanded, until, to many,

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

the supposition became a reality, and the apprehension a verity.

Added to this, was the knowledge of the existence in this section of malaria, and also the presence of the negro, both sure harbingers to many, of discord, dirt, disease and death!

Such a conclusion, gained by some through illogical reasoning and by others through a tacit acceptance of traditional beliefs, naturally brought about gradually a more or less universal opinion among many people in other sections, that the South, in communities and in general, was a veritable hot-bed of disease, all unmindful that in other sections of our common country these same disturbing elements flourish as luxuriantly as here, even if the environments are not commonly believed to be so favorable and congenial.

Likewise, the horrors of the calamitous death rate from yellow fever and cholera in the far South in the early part of the 19th century, amounting at one time to an average annual death rate of 140 per 1,000 population in a limited area from these two diseases alone, probably added increasing strength to the popular belief, and what appeared to be true, was accepted as true and final, without a proper investigation or verification of the *status quo* of the whole territory under accusation.

Candor compels the admission, however, that in certain sections of the South, the health conditions have never been such as could be claimed as above average, or first-class, and probably never will be, but the same or equivalent conditions may be, and are encountered in nearly every sectional area of this country, for everywhere throughout the United States similar general conditions prevail, with counterbalancing elemental or local variations.

In other words, when an impartial survey is made of existing health conditions in the South, as a whole, it must be admitted that there is no special nor individual factor that is indigenous and inherently different from other sections that should *per se* militate against average longevity. In fact, the conditions in general in the South, as known personally to Southerners, unquestionably tend toward longevity, and are actually producing it, for the primal and basic elements of health surely obtain in this genial climate, which is the marriage altar of the happy union of frigid cold with torrid heat in a summer-land where

"the weak grow strong and the strong grow great."

This opinion as to the favorable factors for health and longevity that exist naturally in the South, is not the result of personal desire or sectional sentiment, but is confirmed and corroborated by Vol. V, page 19 of the M. A. I. which states that within the first five insurance years, while the mortality rate for the country at large improved 13 per cent., the mortality rate for the Southern States improved 23 per cent., a result which obviously could not have occurred under adverse health conditions.

From a careful study and analysis of the situation, therefore, it would appear, speaking generally, that the popular conception of an excess mortality for the South from general causes is as misleading as it is erroneous, and that if the facts be faithfully presented, it will be seen that a mortality excess in a single line has been responsible for an apparent and generally accepted increase in the whole, thus distorting the actual facts and bringing unmerited criticism upon Southern mortality in general.

In fact, Southern mortality for the common diseases that prevail everywhere is but slightly in excess of the average mortality for similar diseases all over the country, and the increased mortality in the South in the past, it is confidently believed, has been due to three prime causes: first, improperly educated medical practitioners and examiners whose diagnosis and treatment of disease have often been unscientific and whose records of death have frequently been inaccurate and misleading: second, unsanitary local and living conditions, accentuated by excesses in drinking and eating, which have prevailed more or less generally, and third, violent deaths, which have always been greatly above the normal average in other sections.

The United States Life Tables (1910), recently published by the Bureau of the Census throw no light on Southern mortality, but in a careful study and analysis of these three causes of death, in our opinion, it has been indubitably proved by statistics collated from State and Municipal Boards of Health, and corroborated by Life Insurance mortality tables, that the last named cause, violent deaths, was by far the most significant, and, in fact, that the whole excess mortality in the South

is due to the unusual proportion of violent deaths (suicides, homicides and accidents) occurring regularly for years in this section.

For the purpose of comparison, an investigation was recently made of the average mortality percentage from violent deaths, including accidents, homicides, suicides, and deaths on the operating table, of seven of the largest representative Southern Insurance Companies during the last six years, and it was found that this cause of death averaged during these six years 19 per cent. of the total deaths reported, entailing a money loss on the seven companies of \$563,695.00, while, as is well known, the expected average mortality percentage from violent deaths is only about 8 to 10 per cent.

By way of comparison, also, an investigation of mortality due to this cause was made of the records of one of the largest Insurance Companies which covers the whole United States, and it was ascertained that its mortality experience as to violent deaths for the past three years (1913-1916) was 22 plus per cent. for the whole country and 24 per cent. for the Southern States, while for the last year (1915) it was 19 per cent. from the same cause for all of the States (the South included), and 27 per cent. for the Southern States alone.

These figures are important, for they are in a striking sense significant and confirmatory of the prior statement that excess mortality in the South is most largely attributable to the actual and continued excess above the normal of violent deaths in this section.

If, then, it is true that violent deaths have been most largely responsible for excessive Southern mortality in Life Insurance statistics, it is well to inquire into the local conditions and environments that might have originated and developed the tendency to such a result.

In our opinion, an explanation, if not an extenuation, is to be found in the social fabric and civic life of this people, and to be correctly understood and interpreted, must be considered impartially and in the light of inherited traditions and customs, and the following is offered as the most probable solution:

Socially, the old South was modeled upon a singular semi-feudal system, and like "All Gaul" was divided into three parts—the slaveholding planters, the negro slaves, and, lastly,

the non-slaveholding whites, a distinctly third estate.

The first class was relatively small in number, but mighty in wealth and authority, the old-time aristocrats of this social system, and a ruling class of a high order of ability; the second, was the dependent class which by the millions sowed the seeds and reaped the harvests, and fostered the predominance of rural life over that of the city, thus favoring the maintenance of the patriarchal tendency of slave-holding, and the third was the "cracker" whites, who were essentially *sui generis*, neither masters nor slaves, but between two social fires, themselves personally dependent and disdainful of the prevailing system on the one hand, and, on the other, the object of frequent derision and contempt by both negroes and whites.

In this way, they became a class unto themselves, and if by dint of extraordinary industry or good fortune, one of them rose to ownership of land or slaves, his social position was scarcely improved, and, still barred from the house and home of the planter, he was even yet to the negro nothing more than "poor white trash."

At last, came the War between the States, and it proved to be a great leveler.

The ante-bellum characteristics were changed, distinctions based upon wealth were eliminated, social adjustments were fitted to the new order of life, and economic necessities produced a raw but dominant ruling class in the new South.

And out of this new mixture, from the overflow of "the melting pot" of feudalistic caste and "poor whites" came, as we believe, the first evidences of that tragic tendency towards personal violence *en masse* that has sullied the fair reputation of the South.

The change in social and civic conditions was abrupt; new adjustments must be made and new standards adopted, for the scepter of leadership and authority had passed from individual keeping, but the gentleman of the "Old School" could not readily accommodate himself to the newly existing conditions, and out of this stress and strain and strife has been born the seeds of discontent which have produced in large measure a sad and ever-lengthening succession of violent deaths.

The Old South was a land of classes, rather

than masses, and the inherited cavalier spirit furnished a type of citizen, impetuous and generous, but haughty and imperious, and in the consideration of the existing conditions and tendencies of this unusual social system, proper regard must be given to the entity of "the personal equation," which during this period characterized to an unusual extent the life of the Southern people, and molded and fashioned it to the customs and traditions of that day.

By heredity and by training, this ego became a silent, but positive and powerful force, and though not always apparent, was, under certain circumstances, a factor which must be reckoned with, for almost unconsciously to the people, it had unduly fostered personal self-esteem, and had become unfortunately a dominant trait in Southern character and life.

Again, this tendency was in part temperamental, but its basic foundations were rooted in the old social system, that for so long prevailed, that no matter who were the lords, they must be respected and obeyed by the vassals of a lower class.

The passing years changed masters, but not men, who have been ever ready to imitate the manners and methods of their predecessors, and quick to resent any reflections upon newly acquired rights or dignity.

This interpretation and explanation of the inherent and acquired tendencies of this people may appear in a measure somewhat strained and fanciful, but it is entirely in line with their psychological evolution and development, influenced by subconscious impressions and influences, gathered through 250 years of a semi-feudal life, and at last ruthlessly ended by a sudden and violent cataclysm, which seared with lasting scars their pride, and upset all former standards and creeds of social life.

At this time, most of the participants in that era have "passed over the river," and those who have not, have passed out of the Egypt of hatred and rebellion into the Canaan of reconciliation, and a new type of manhood fitted to the exigencies of the new conditions, has been born and reared, and is rapidly and happily adjusting itself to the new order of life in the South.

Added to the disturbing, if not beneficial,

effects of a life under such conditions, with all of the above mentioned inherent tendencies, there has been an additional burden imposed upon Southern mortality by over-indulgence in intoxicating liquors by many, which, combined with an unusual temperamentality, has produced disastrous effects on the life and mortality of this particular section, and has greatly increased the proportion of violent deaths, especially through homicides, which have proved to be the largest element by statistics for this cause of death.

It may be that the frequent sensational reports of such occurrences in the newspapers have had the effect of directing unwarranted attention to this section, and consequently the erroneous conclusions arrived at by the public at large, as to actually existing conditions; but we submit, however, that the assumption of such facts as true, without proper investigation and adequate knowledge of the real conditions, is a social and business menace which is a serious matter to the Southern people, and it is not just nor right that the health and living conditions of their section, should be singled out and thoughtlessly disparaged without a fair statement of all the facts involved.

In such a situation, what true and loyal citizen would not protest, and protect the reputation of his section?

We attribute no sinister nor ulterior motives to any former investigator or statistician who has studied this subject, but we do affirm that some published statements regarding this section have not been just, nor illuminating, for they have been predicated upon unknown conditions and unreliable data.

It assuredly is true that the mortality percentage in the South, especially in certain areas has been above the normal, and in some localities considerably above, but a careful investigation shows that this apparent excess of the whole is, by analysis of all of the statistics, reduced mainly to an excess of one unit of the whole, and that is, the abnormal percentage of violent deaths, the reasons for the occurrences of which have already been considered. It is also stated in one report, that in the South the death rate from typhoid fever was one and a half times the standard, and from malaria was seven times the standard average mortality.

To those of us familiar with many widely separated sections of the South and conversant with the facts, it is easy to accept the unusual prevalence of accidents as a cause of death, but difficult to believe that malaria, excepting, of course, pernicious malaria, malarial hematuria, swamp fever and black-water fever, are serious factors affecting Southern mortality, other than a chronic infection diminishing vital resistance.

The experience of our own Company, The Atlantic Life, Richmond, Va., which in its sixteen years of business, covering nearly all of the Southern States, and which has never paid but two claims for malaria as a cause of death, is in a way illustrative of this fact. The history of another company with which we are familiar, but much larger, and operating in all of the Southern States, shows that it has paid only three claims in the South in the last three years for this cause, and it is believed that a mistaken diagnosis was entirely probable in two of the three cases reported as malaria. These two instances, together with that of another Southern Insurance company with sixteen millions insurance in force and no death yet from malaria, while, of course, not confirmatory, are yet indicative, and tend to show that malaria is not a frequent cause, *per se*, of death, and that incorrect death reports, to which reference has already been made, are often the cause of such misleading vital statistics.

There are many areas of local Southern territory which are open breeding places for disease, but these are well recognized sections, and are not more common than those in other parts of our common country; and there are also a few diseases which are mainly indigenous, and thrive apparently best under local Southern conditions, but these are counterbalanced by rigors and inequalities of local climate elsewhere and resultant local diseases that are almost unknown in the South.

In fact, Providence has marvelously balanced the natural elements as to life and death, and health and disease, barring certain universally admitted facts, is largely a matter everywhere of obedience or disobedience of nature's laws.

In conclusion, and as a summary of the whole, it may be said that the causes of ex-

cess in Southern mortality have been due not primarily to local Southern conditions, as has been generally supposed, but to the faults of the people themselves, in part inherent and in part the result of a careless disregard of the commonly accepted laws of right living and right thinking, as manifested in the main, in the reasons hitherto cited, namely, *unsanitary methods of living, unwarranted excesses in whiskey drinking and meat eating, and, lastly, unscientific records of illness and deaths.*

The Southern people at large are wanting in some of the definite methods of system that characterize the people of other sections, and this explains why there have not been proper mortuary reports kept in the past, for, in our opinion, the present is just witnessing the first scientific efforts in this direction ever undertaken. If this be true, then past statistics regarding disease and disease-expressions in general in this section have previously been worthless for scientific verification of medical facts, as any careful medical director can attest.

The improvement in this direction now is the forerunner and promise of other innovations that are to remedy the evils that have existed and have marred for so long the record of Southern mortality.

The era of social betterment with corresponding sanitary progress has come for the South, and just as her industrial interests are pulsating with new life, so are the centres of her higher social and civic life thrilling with new and better ideals.

Effective prohibition has been proved possible and feasible, and with its spread and enforcement over the Southern States, filth diseases and violence, and especially the latter, will decrease correspondingly.

It is needless to name all of these agents and methods which are at present being utilized to this end, for "their name is legion;" suffice it to say that fewer Southern medical colleges assure now better medical practitioners, while more general information regarding health problems of the masses, render it a safe conclusion that the prevalence of excessive epidemics is no longer to be expected, and, finally, throughout the South, the splendid work of state, county and municipal health boards, is becoming so efficient and zealous in directing, encouraging and enforcing health measures

that personal hygiene and local sanitation are becoming an individual habit,—all of which bespeak for Southern life insurance experience, a future, rich in promise and radiant with hope for a decreasing Southern mortality.

107 East Franklin Street.

INTERPRETATION OF THE WASSERMANN REACTION—WITH SOME CLINICAL SUGGESTIONS.*

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and

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The purpose of this paper is to bring to your attention several factors which have a bearing on the interpretation of the complement fixation test for syphilis. These factors must be taken into consideration if we expect to come to definite and accurate conclusions. There is a common tendency for many of us to look upon the Wassermann results as infallible, disregarding entirely the clinical history and findings. The Wassermann is the most reliable laboratory procedure at our disposal, but, like other laboratory examinations, we must secure the specimens at a time that is most suitable for accurate diagnosis. The most common error is in expecting reliable reports in the primary cases a few days after the appearance of the initial lesion. Early cases give a very low percentage of positive tests while the lesions of longer duration give a correspondingly increased percentage.

It is well to state here that all primary sores as soon as we see them should be searched for the *treponema pallida* by the dark field illuminator, without having previously used on these sores even the mildest antiseptic. By examining these sores in this way we will make a very high percentage of early diagnoses of syphilis and we will learn to disregard the so-called typical appearance of all sores of this character. In other words, we find constantly sores which are not hard and which give every appearance of being chancroids which prove by examining them in this way to be spirochete-bearing lesions. On the other hand, many sores which have a typical hard base will prove to be non-spirochete-bearing lesions. Repeated cauterization

of even a simple ulcer will many times result in a hardened base which is misleading. Even mild antiseptics on primary sores have a tendency to clear the lesion of the spirochete temporarily at least, and even if we do find them present it means a continued long search.

It is our opinion that a Wassermann should be withheld on early cases until seven weeks after the first appearance of the suspected initial lesion if the one report is to be accepted as final. If it is practical to have several Wassermans on these individuals, then it is to be strongly advised to submit serum for an examination as early as the tenth day because here a positive would give us a diagnosis at an early date, and if there is a negative the examination can be repeated every few days until the period of seven weeks has elapsed. During this period the patient should be given no specific medication which, if given, would likely render the test negative and in that way give the patient and doctor a false sense of security which would afterwards be regretted.

If diagnosis is made by the dark field illuminator from the initial sore, treatment may be started at the earliest possible time and at a time that the most good may be expected from specific therapy. The percentages of positive Wassermann reactions in different stages of syphilis vary somewhat in the hands of different investigators but on the whole the results are fairly uniform. Primary syphilis gives positive reactions in about eighty per cent. of cases after the seventh week. In secondary syphilis, if the cases be untreated, we get from ninety to one hundred per cent. positive reactions. It is obvious that prior treatment will considerably lower this percentage. In tertiary syphilis, patients who have not been treated react positively in about ninety-five per cent. of cases. Those patients who have been treated irregularly give about seventy-five per cent. of positive reactions.

The Wassermann reaction interpreted as a symptom has gone far to prove the syphilitic cause of many nervous complaints. The so-called parasymphilitic diseases are now definitely known to be due to the *treponema pallida*. In general paresis the Wassermann is positive in the blood in about one hundred per cent. of cases, and in the spinal fluid in about ninety per cent. *Tabes dorsalis*, if previously

*Read before the Southwest Virginia Medical Society, at Roanoke, Va., December, 1916.

untreated, gives from ninety-six to one hundred per cent. positive Wassermann reactions in the blood; if previously treated, about forty to fifty per cent. In cerebro-spinal syphilis positive Wassermann re-actions are in about the same proportion as in general paresis.

Many cases which are proven to be syphilis by the complement fixation test have never presented symptoms which would lead one to make a diagnosis of syphilis and, because of this fact, in many large institutions the routine Wassermann has been adopted. This is particularly true of the medical and neurological services. It is our belief that routine Wassermann should be done in all medical cases except those presenting very definite symptoms explaining their condition, in all neurological cases, in all pregnant cases presenting even the slightest abnormal condition, and in all surgical and specialty cases that are not clearly understood.

As a guide in the treatment of syphilis a Wassermann reaction is of the greatest value. All specific treatment should be guided by this test at stated intervals. Treatment will modify the Wassermann in practically all stages of syphilis and change it to a negative in about eighty per cent. of cases. Since it is generally agreed that a positive test means that living spirochetes are somewhere in the body even though the lesion is not clinically manifest, treatment should be continued until the reaction is negative, and further treatment should be instituted provided a Wassermann does not remain negative. During the course of treatment of syphilis we recommend Wassermann control tests at periods of every four months during the first year, leaving off treatment for two weeks prior to each test; after the first year, every six months until the patient has a negative test twice in succession while off of all treatment. Then we think it would be well to have tests made once a year thereafter.

We have adopted the Noguchi system as a control over the Wassermann system. By comparison in a large series of cases Noguchi has shown clearly the sharpness of this system as compared with the Wassermann. He explains this sensitiveness on the grounds that certain individuals contain an excess quantity of anti-sheep amboceptor in their serum which is suf-

ficient to throw a positive into a negative group.

We speak of a completely positive Wassermann test as a 4 plus reaction. A positive diagnosis of syphilis should not be made from a 1 plus positive reading. This is a doubtful reaction and should be checked up by a careful clinical examination and observation of the case as well as further Wassermann tests after provocative salvarsan treatment. In the case of a treated known syphilitic a 1 plus positive would indicate that treatment had not been sufficient and that more treatment should be given.

In the diagnosis of syphilis, in addition to the dark field microscopical method and the Wassermann, there are other procedures which are at times necessarily resorted to. This is particularly speaking of the tests and observations on the cerebro-spinal fluid. In syphilis of the central nervous system changes occur in the cerebro-spinal fluid which give a high globulin reaction and a high cytological count which is, with a positive Wassermann of the cerebro-spinal fluid, sufficient to make a diagnosis even though a negative test of the blood be obtained.

Cerebro-spinal syphilis cases should be treated by the intra-spinal as well as by the blood route. The degree of improvement may be definitely determined by repeated observation of the cell count and Wassermann. After each treatment the cells should show a corresponding decrease, and the Wassermann a lessened intensity.

In conclusion, we might say that before discharging a case of syphilis as completely cured it must be determined that the cerebro-spinal fluid is normal.

OBSERVATIONS REGARDING THE OPERATION OF CRANIAL DECOMPRESSION FOR CERTAIN INTRACRANIAL CONDITIONS.*

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(Continued from page 530.)

THE TECHNIQUE OF THE SUB-TEMPORAL DECOMPRESSION.

The usual preparation of the patient is made for an operation. The side of the head selected for operation is carefully shaved,

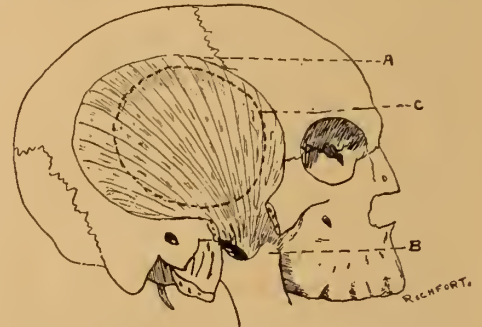
*Read by invitation before the forty-seventh annual meeting of the Medical Society of Virginia at Norfolk, October 24-27, 1916.

either the preceding night and a green soap poultice applied, or in emergency cases, the operative site is closely shaved just before the operation. Unless there are clinical signs indicating a lesion of the left hemisphere, the decompression is always performed on the right side in order to avoid the motor speech area, which is situated in right-handed persons in the posterior portion of the third left frontal convolution, and vice versa in left-handed patients. The patient is placed upon his back with his right shoulder elevated by a sand-bag so that the right side of the head can be more easily made parallel to the head of the table; in this manner, the operative site is well exposed and it does not compel the operator, who stands at the head of the table, and his assistants, to assume tiring positions. The anæsthetist is seated under a sheet at the waist of the patient and in this way he is entirely excluded from the field of operation. The anæsthesia in these cases requires the most skilful administration; especially is this true to avoid an extreme cyanosis and congestion both during the induction of narcosis, and after the dura has been incised and the cerebral cortex is exposed. Coughing or even labored respiration at this stage of the operation may result disastrously by forcing the cortex through the bony opening;—the cortex may be ruptured and serious hemorrhage occur. Dr. Chas. S. Hunt, who has administered the anæsthetic in all of my cases, used a mixture of ether and oxygen most successfully. He has found it necessary to deepen the narcosis just before the dura is incised; otherwise, the sudden relief of intracranial pressure will allow the patient to show signs of consciousness, coughing, etc., a complication to be greatly feared at this stage of the operation.

The side of the head and face are now carefully "scrubbed" with green soap and water for five minutes, and then alcohol (70 per cent.) is sponged over the operative area. Iodine is only used in emergency cases when the scalp cannot be thoroughly prepared; it tends to irritate the skin in many cases and thus render a secondary infection possible. A superficial incision in the skin is now made to indicate the area of the operation, and then towels wet in a 1-3000 solution of bichloride are clipped to the scalp at each side of this

incision; in this manner the head is completely covered and the towels cannot become disarranged so that there is little danger of infection.

By using the method of manual pressure at each side of the incision and the forefinger of the assistant to compress the temporal artery as it passes over the zygoma, the incision can be made with very little loss of blood—a most important factor in all cranial operations; a cranial tourniquet cannot be used in this operation and the other methods for controlling hemorrhage of the scalp, such as suturing the scalp, clipping of the scalp, etc., are not only time consuming, troublesome and even dangerous by increasing the risk of infection, but they are ineffective in many cases.

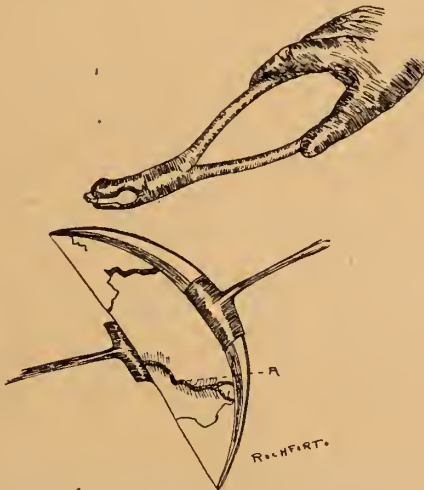


RIGHT SUBTEMPORAL DECOMPRESSION.
I THE TEMPORAL MUSCLE, (A) ITS ORIGIN ALONG THE PARIETAL CREST AND ITS ATTACHMENT TO THE CORONOID PROCESS (B).
THE DOTTED LINES SHOW THE EXTENT OF THE DECOMPRESSION OPENING (2½ x 3"), PROTECTED BY THE OVERLYING TEMPORAL MUSCLE.
THE DIRECTION OF THE FIBRES SHOWS HOW EASY IT IS TO SEPARATE THEM LONGITUDINALLY.

The incision itself is made vertically upwards through the scalp from a point just above the zygoma and one-half of an inch anterior to the external auditory meatus to the middle of the parietal crest and thus overlying the origin of the temporal muscle; it is about three to three and one-half inches in length, and is parallel to the fibres of the underlying temporal muscle. Small curved hæmostats are used to compress the branches of the temporal artery and then the temporal fascia is incised vertically and the fibres of the temporal muscle are split longitudinally and retracted, exposing the squamous portion of the temporal bone. A sharp periosteal elevator is used to separate the muscle from the underlying bone; great care should be taken not to destroy the attachment of the muscle and its fascia to the parietal crest,—otherwise, the

closure of the temporal muscle will be greatly weakened.

The Doyen perforator and burr are now employed to make a small opening at the lower angle of the operative area—that is the thinnest portion of the squamous bone. Small rongeurs enlarge the opening until it is possible to use a larger rongeur, having one blade bevelled and flattened so that it can be easily inserted between the dura and bone; frequent explorations and removal of adhesions between dura and bone with the dual separator will prevent the dura from being torn. In this manner, a circular opening as large as possible under the temporal muscle is made, extending from the base of the skull up to the parietal crest, and having a diameter of two and one-half to three inches.



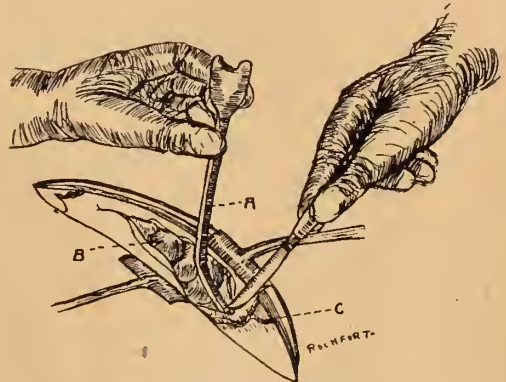
OPENING ENLARGED (SHOWING DURA WITH (A) THE MIDDLE MENINGEAL ARTERY CROSSING THE FIELD OF OPERATION) BY LARGER RONGEURS, HAVING ONE BLADE FLATTER SO THAT IT CAN EASILY BE INSERTED BETWEEN DURA AND BONE WITHOUT TEARING THE DURA.

Before opening the dura, it is very important that all oozing from the bony margins should be stopped; the best method for controlling this bleeding from the diploe and its sinuses is the rubbing of a bone-wax into the edge of the bone, and it is surprising how quickly this troublesome complication is overcome. Dr. Norman Sharpe has formulated a bone-wax which is most effective; its composition is as follows:

White wax7 parts
Almond oil2 parts
Salicylic acid1 part

Keep in a 5 per cent. solution of carbolic acid. This wax may be sterilized before each

operation, and then allowed to cool so that it hardens and is easily moulded; small pellets, the size of peas, are then applied to the oozing bone. It is a most effective method of plugging the middle meningeal artery when it channels the bone; it seems to me that it might be used in operations upon bone elsewhere, such as the mastoid, resections of bone, etc. It is far superior to the old method of using wooden pegs in cranial surgery. In fracture of the skull, the middle meningeal artery is frequently torn in this sub-temporal area, so that it is a very simple matter to eradicate the clot and then plug the bleeding point with the wax.



DURA BEING INCISED ON GROOVED DIRECTOR (A); CORTEX OF BRAIN EXPOSED (B); INCISION APPROACHING MIDDLE MENINGEAL ARTERY, WHICH IS TO BE LIGATED.

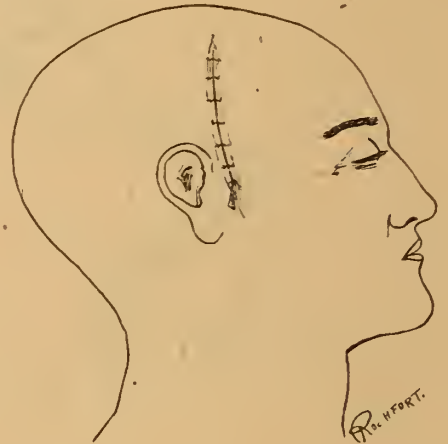
The dura is now incised by carefully cutting through its outer layer first with a sharp knife, and then lifting the dura from the underlying cortex by means of the small dural hook inserted into its outer layer; the inner layer can then be safely incised until a small pin-point opening is made; a grooved director bent at right angles may now be carefully inserted and the dural opening enlarged, cutting the dura upon the grooved director. When the dural incision is one inch in length I have found it easier and quicker to insert a spoon-shaped spatula and then to cut the dura with a sharp pair of scissors; this method is not only safer, but it allows the incision to approach the dural vessels as closely as possible so that these vessels may be clamped before being cut. Not only is it time-consuming and troublesome to ligate the dural vessels with silk or cat-gut, but it is dangerous to insert a needle beneath the vessels before the dura has been incised for fear of puncturing one of the many cortical vessels lying beneath and thus complicating the oper-

ation very much indeed; if the decompression is to be performed, it should at least not injure the brain. An excellent method of dealing with the dural vessels is the application of small silver V-shaped clips to them, and then the dura and its vessel may be safely cut between each pair of clips and no bleeding result; these clips may be left on the vessels, and I have never seen any ill effects occur. In three cases at autopsy within two years after operation, the clips were found in situ; no tissue reaction had occurred so that they are apparently not irritating foreign bodies; in some cases where the dura was very vascular, I have used as many as eight clips. The clips are made by snugly wrapping German silver wire No. 24 around a rectangular rod and then bisecting the rolls; V-shaped clips are thus formed and after sterilization these can be put in a clip holder (similar to a hæmostat with a grooved end) and slipped upon the dural vessel. This method saves much time and entails no risks.

The dural opening is thus enlarged in a crucial or stellate manner until the bony margins of the decompression are reached. It is very important to incise the dura downwards to the very base of the skull so that the middle fossa of the skull can be easily and freely drained—so essential in all fractures of the skull with œdematous, swollen brains, with or without hemorrhage. Through this opening, any underlying pathological lesion can be dealt with freely and safely; sub-dural clots may be removed in fractures of the skull; tumors removed and abscesses drained. Aided by the spoon-shaped spatula and a good electric headlight, the neighboring areas of the frontal lobe, the parietal lobe and the posterior portion of the temporal lobe may be accurately explored for any cortical lesion. If the cerebral tension is very high, then the ipso-lateral ventricle may be drained by the ventricle puncture needle; all parts of the temporo-sphenoidal lobe and even the posterior portion of the frontal lobe and the lower portion of the parietal lobe can be accurately explored in the same manner, as in cases of suspected abscess.

After the cerebral lesion has been removed or drained, or if merely the relief of intracranial pressure is desired, then a rubber tissue drain of one-quarter of an inch in width and several

layers in thickness is inserted at the lower angle of the wound and inside the dura beneath the temporo-sphenoidal lobe as far as possible; in this manner, excellent drainage is afforded the middle cranial fossa. Before closure of the opening, it is important that there should not remain any bleeding points—no matter how small; small cotton pledgets wet in warm saline solution are frequently sufficient in many cases of cortical oozing, or small pieces of the temporal muscle applied to the bleeding point and then compressed for a few seconds will stop a most troublesome oozing. When tumors are removed, then packs of cotton wet in warm saline solution and pressed into the cavity of the enucleated tumor mass will quickly prevent a large hemorrhage; it is rarely necessary to leave in packing intracranially.



SKIN SUTURED WITH FINE SILK
ALL TOWELS REMOVED
(A) drain of rubber tissue

The drain having been inserted beneath the temporo-sphenoidal lobe, the temporal muscle is now sutured together with interrupted fine black silk—usually in two layers; then the temporal fascia, and finally the sub-cutaneous tissues. The vessels of the scalp are not ligated, as the mere suturing of the sub-cutaneous tissue is sufficient to compress their vessels; at times, the temporal artery is separately ligated. The skin is carefully approximated by fine black silk. Dry gauze pads are now applied to the operative area, and after a cotton pad well covered with sterile vaseline is placed behind the lobe of the ear to prevent its being pressed against the skull and causing severe

pain, the usual bandage of rolled gauze is used and held in place by several strips of adhesive plaster.

In operations of sub-temporal decompression, the dura opening is never sutured together; in the first place, if there is much intradural pressure, it would be impossible to approximate its edge, and, secondly, to resuture the dura would be to destroy the object of the decompression—the relief of intracranial pressure; for in adults, the dura is inelastic, so that there can be no real decompression if the dura is unopened or resutured after being opened. There is no danger apparently in leaving the dura opened; adhesions do not form, as revealed in three cases at autopsy, and in two of them a new dura was present; the overlying temporal muscle forms a safe protecting covering.

The post-operative treatment consists of a moderate elevation of the head and shoulders with the administration of hot saline solution per rectum every four hours for the first day; if much operative shock is present, then hot black coffee per rectum may be given. The patient should be quiet, morphia or codeine being used if necessary. Water may be given by mouth as soon as the nausea ceases, and liquids on the following day; soft diet on the third day.

At the first dressing on the second day the drain is removed and possibly one-third of the skin sutures.

At the second dressing on the fifth or sixth day post-operative, all sutures are removed and the patient may now have a light diet. In uncomplicated cases, the patient may leave the hospital on the tenth day post-operative. It is surprising how quickly patients recuperate from the operation, there being as a rule little if any shock.

The advantages of the sub-temporal route over other methods of cranial decompression are chiefly due to its anatomical relations. Not only is the squamous bone underlying the temporal muscle the thinnest part of the vault of the skull and therefore less difficult to remove, but it exposes a part of the brain most frequently involved in cases of fracture of the skull where the middle meningeal artery is torn or the temporo-sphenoidal lobe is lacerated, and in cases of abscess of the temporo-sphenoidal lobe following its usual cause, an

otitis media. With little difficulty, the lower portion of the motor tract may be explored as well as the posterior portion of the frontal lobe, and on the left side the motor speech area is easily observed. Another important advantage is the fact that the part of the brain lying directly beneath the decompression opening is the cortex of the temporo-sphenoidal lobe—a comparatively silent area of the brain. For this reason any possible operative damage is not revealed clinically, and in cases of high intracranial pressure, the protrusion of this part of the brain into the decompression opening does not produce paralysis, etc.,—a frightful result of decompressions at times performed over the parietal bones. That is, a sub-temporal decompression relieves increased intracranial pressure without cerebral impairment. Besides it affords excellent drainage for the middle fossa of the skull at its lowest point,—a very important consideration in cases of fracture of the skull.

Again, the thick overlying temporal muscle not only makes possible a firm closure but also allows the underlying bone to be removed so that a permanent decompression results with no danger of a hernia cerebri. The scalp is not weakened by draining through the split temporal muscle and no unsightly protrusion occurs; the scar is always inside the hair-line. Besides, in men, the rim of the derby or straw hat affords some protection to the area of the decompression although no protection is really necessary, as the temporal muscle is thick and thus the underlying cortex is more protected than the eyeball; besides, the underlying cortex itself is comparatively a silent area of the brain so that even if it were injured by some sharp object being thrust into the opening, no clinical signs would appear.

The vertical incision of the scalp in this operation is far superior to the older method of curvilinear incision over the parietal crest. Not only may the pressure-traction method of hæmostasis be used much more effectively with the vertical incision, but the temporal artery is clamped at its lowest point and before it branches into numerous smaller vessels, whereas in the curved incision, the many branches of the temporal artery are severed individually and each one must be clamped separately; again, it is easier to enlarge the

bony opening downwards to the base of the skull when the vertical incision is used—a very important point for drainage in cases of fracture of the skull. To preserve the strong attachment of the temporal muscle to the parietal crest is very difficult and even impossible when the usual curved incision is used; in this manner, the decompression may so weaken the side of the head that a hernia cerebri appears as the intracranial pressure increases; especially is this true in irremovable tumors of the brain; this complication is a most rare occurrence following a decompression performed with the vertical incision and a careful regard for the attachment of the temporal muscle.

CONCLUSIONS.

The operation of cranial decompression is one that should be used much more frequently than it is at present; especially is this true in the conditions of brain tumor, fracture of the skull, brain abscess and selected cases of spastic paralysis due to an intracranial hemorrhage at birth.

The sub-temporal method of cranial decompression is the ideal route; besides being less difficult technically, it exposes an area of the brain most frequently involved. This permanent decompression opening does not weaken the skull in that the thick overlying temporal muscle protects it most adequately so that hernia cerebri are not to be feared.

The operative mortality is low. Patients with intracranial conditions should not be permitted to become blind or to reach the dangerous stage of medullary compression without a sub-temporal decompression being performed early.

20 West Fiftieth street.

LIGHT AS A CAUSE OF DISEASE.*

By THOS. W. MURRELL, M. D., Richmond, Va.

In this paper I wish to consider some of the many effects of light on the skin, and by analogy suggest them as a part cause of another condition.

Ordinary sunlight combines two forms of energy; the heat, except when extreme, is purely beneficial and supports life; the chemic actinic part is simply and only destructive, but may be necessary to life as a stimu-

lant. We are all familiar with the phenomenon of sunburn. Here exposure to light induces dermatitis. This will be transitory for nature prevents its recurrence by transposing a pigment screen which effectually blocks the light and prevents its destructive action, a condition commonly called tanning. We therefore, have in the body pigment which varies to such an extent that it determines the human family into blonde and brunette, with the far Northerner at one end of the line and the negro at the other. Microscopical sections of the skin of the negro and the white man show but one decided difference and two minor ones. The minor differences are the increase of the sebaceous glands and the decrease of the lanugo hairs in the skin of the negro. These do not affect the situation to any great extent. The great and only real difference is the excess of pigment, which is as marked microscopically as it is to the eye in the living subject. In the blonde the pigment is in the lowest part of the lowest layer of the epidermis; in the negro it is so profuse as to actually stain the cells of this layer, and also the cells of the superimposed granular layer. But, whether we are dealing with the fair Caucasian or the black negro, the pigment is derived from the same source, and is of the same chemical character.

In passing, we might say that there are certain habits which are often irritative. Frequently, excessive cleanliness with soap and water will produce skin troubles. Needless to say, the negro is, as a rule, not troubled with these from a lack of hygiene as well as the excess of the amount of sebaceous material.

We are accustomed to regard sunburn as a part of the excessive heat of summer, though the heat has nothing to do with it. It is a common practice for Arctic explorers and hunters to protect their faces with a black paste when out on the ice floes at work, otherwise the light reflected from the glittering ice fields will produce a most intense dermatitis, though the temperature may fall below zero. We further know that a black veil will protect against sunburn, though the white veil will only protect partially. The negro is immune to all of these because of his natural pigment screen. This fact suggests a similar condition

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

with artificial light, and we find the same thing. It takes much longer to produce a reaction on the skin of the negro with the X-ray, or any other of the lights used in the treatment of skin conditions. This freedom from irritation by light points to the relation between light as a cause, and certain diseases from which the negro seems to be free.

In this audience there will be a dozen men past middle life with keratoses appearing on the skin as hard, scaly nodules. We frequently see these partially degenerated, and, as such, recognize them as the beginning of skin cancer. So far as I know, no case of skin cancer has ever been reported of the true black. Of course, in this discussion, the mulatto and mixed type are excluded, though personally the same observation holds true. The comparatively rare condition called xeroderma pigmentosum, which is a sort of cancer dermatitis, occurring on the exposed parts of the body, is also unknown in the negro. The effect of light in producing these pre-cancerous conditions has been shown by Morris and others. It has been further proven by numerous cases of epithelioma, which wrought such havoc among Roentgenologists, many of whom have suffered mutilation and death due to cancer developed from the stimulating effect of X-ray. It is rather peculiar inasmuch as epithelioma can be successfully treated by X-ray. But here we are dealing with an intensifying exposure over a short period rather than continuous treatment over a long one.

The main purpose in the presentation of this paper is to perhaps add one point to the things known in the etiology of the eczema of infants. Eczema is a disease so protean in character that it is reasonable we should have as protean an etiology. We have those eczemas which are due primarily to external irritation, such as those occurring on the hands of the trained nurse from working in antiseptics, and the different dry eczemas and other conditions purely external in character. We can recognize also those types which are absolutely toxic and arising from toxæmia, which, when removed, the disease rapidly heals. There are also cases of a reflex nature, and one who would treat these diseases successfully must be willing to search patiently

for its cause. There is one form of eczema, however, which is a bug-bear to the general practitioner, pediatricist and dermatologist as well,—that form called the milk crust of infants. It usually appears shortly after birth, and lasts frequently until the child is fairly well grown. It presents certain different characteristics. When it occurs on the scalp there is usually a seborrheic involvement, but frequently it avoids the scalp, and the common sites are the cheeks and ears, extending from here over the rest of the body. It may bear no apparent relation to the child's health, for it is frequently seen in the most robust children, causing the most intense discomfort and worry to the child and those around him. It frequently becomes abraded and exuding, and the raw, red surface may so alter the appearance of the child as to make it horrible to look upon. It has been generally accepted that these cases, although there are symptoms due to external causes, are, in the main, the result of improper assimilation of food, and different investigators have of late worked at length to prove this contention, their conclusions being that it is more of an anaphylaxis and that casein is more often the offending food. While this is undoubtedly true in part, it is far from conclusive as a whole. We know that diet is a strong contributing, if not actual, cause in the appearance of pellagra, but many observers have noticed that the skin symptoms of pellagra are much increased if exposed to a great deal of light. In other words, the toxemia has sensitized the skin so that light will readily hurt it. To say the least it is suggestive that in an experience long enough and large, I have yet to see this type of eczema in the pure black baby. I have questioned many of my friends, nor can they recall any such case. The reason usually put forward for this is the lack of water and soap as an external irritant, but this, to my mind, does not cover the case. There is no class of babies so horribly neglected in a dietetic sense. The little negro baby is frequently given food from the parent's table when it is at the breast, and the cases of rickets and malnutrition are more common here than among the whites. It would certainly seem that if food were the main cause, it would be more common with the tar babies than with the whites. This

makes me believe that light is one of the main causes of eczema of infants, though no doubt acting on a skin sensitized by food toxins.

I shall at some future time bring to you the results of experiments which I intend to carry out in an attempt to prove, or disprove, this theory. I bring it to an issue now with the idea that discussion might help me with the work, and possibly lead to a report of cases that would contradict some of the ideas herein suggested.

17 East Grace Street.

EXTERNAL ACCIDENTAL HEMORRHAGE. REPORT OF TWO CASES.*

By BURNLEY LANKFORD, M. D., Norfolk, Va.

By the term accidental hemorrhage, we mean bleeding from the normally implanted placenta after the seventh month. There are two varieties of such hemorrhage, concealed and external. Both of these conditions *can be* among the most serious that befall the pregnant woman; of the two, the concealed is the more dangerous, and fortunately, much rarer. So long as the musculature of the uterus is of good tone, hemorrhage of the concealed type can hardly occur to a serious degree, because, when the blood is poured out from the surface bared by the separation of the placenta and meets with the tough, live, muscle of the encircling uterine wall, the pressure will soon become greater than the pressure from the bleeding point, and the hemorrhage will cease. However, if the musculature be lax, of weak tone, the uterine wall may give and give until fatal hemorrhage takes place within the cavity of the uterus, or until the uterus ruptures, with the same result. There are such cases on record. Where the separation begins near the periphery of the placenta, or in those cases where the attachment of the membranes to the uterine surface is not very secure, the blood will dissect along between the decidua and the membranes, to finally appear from the vagina, thus giving the external type.

The incidence of this condition is rare, being variously given as from 1 in every 120 cases, to 1 in every 8,000 cases. It is hard to arrive at its true incidence, but it is probably nothing like so frequent as the former esti-

mate, and much more frequent than the latter. In 1901, Holmes collected from the literature 306 cases, using in that number 106 cases that had been collected by Goodell; of these 306, there were 193 of the external variety. DeLee reports 31 cases of premature detachment among 15,000 pregnancies. J. Whitridge Williams says that he has seen but three cases occurring in his practice, but does not say among how many.

The cause (or causes) is not definitely known. Syphilis (as usual, with its broad back, bears part of the blame), nephritis, profound anemia, prolonged gestation, short cord, multiparity placental infarcts, are thought to be some of the underlying conditions. About the only definite statement that can be made, so far as my knowledge extends, is that these hemorrhages do not take place unless there is some diseased condition of the placenta or decidua. In other words, trauma, direct or indirect, of itself, is not sufficient to produce the separation. Most of these cases occur towards the last of gestation. Both of mine were,—one of them within ten days of term; the other, about two weeks over term, as near as I could calculate them. Trauma of some kind is thought to be the chief exciting cause, though not necessarily followed immediately by the appearance of hemorrhage. In neither of my cases could I get any history of trauma or accident, either immediately, or within a reasonable time before the onset. Of the 193 cases reported by Holmes, 67 were thought to be due to traumatism.

The chief symptom of the external form is the appearance of blood in some quantity, either before labor begins, or perhaps during labor. It may come in gushes or as a more or less steady trickle.

If occurring before the onset of labor, it must be diagnosed at once from placenta previa, either central or marginal. If the examining finger, passed well up into the cervix and carefully swept all the way around, fails to make out the placenta, we may feel safe in concluding that we have a case of accidental hemorrhage, but even should the placenta be implanted low, yet not low enough to be felt, the treatment will be the same. Should the bleeding first appear after labor has begun, we may have to distinguish it from a ruptured

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

uterus or lacerations of the cervix or vaginal canal. The course the labor has taken should tell us the true condition, with possibly inspection of the parts involved.

The treatment seems to depend largely upon whether the woman is in labor, that is, having real uterine contractions, or not. Should the bleeding be slight, the woman not at term and not actually in labor, the foetus in good condition and, most important of all, the woman where she can be under constant, competent observation, I believe we can afford to wait and be content with keeping the patient absolutely quiet. However, should the loss of blood be alarming, or should the woman be in real labor, our treatment should become active at once. Where the bleeding is severe, and the woman not in labor, the method used at the Dublin Rotunda has proved to be very efficient. This presupposes that the muscle of the uterus is sound, (else the hemorrhage would not have appeared externally), and the efficacy of the treatment likewise depends upon that. The patient should be placed in a posture for good exposure, either dorsal or Sims', and the cervix and vagina very tightly packed, preferably, it seems to me, with separate sponges, first wet and then wrung tightly. Narrow gauze packing may be used for the cervix, but for the vaginal packing the experience gained at the Rotunda indicates separate cotton sponges. The first four should be placed around the cervix, like the leaves of a four-leaf clover, one in each quadrant, and the next four packed into the interstices of the first four. Thus, the column is built up until the vagina is full, and if the hemorrhage is to be stopped, this packing must be tight. A stout, thick perineal pad is then put on, and pinned to a tight abdominal binder. The woman may then be allowed to wait and to work out her own salvation, of course being under close observation. If the membranes have not ruptured, and if the uterine muscle be strong, there will be no room for the blood to collect, and another advantage of the tight packing is that the uterine arteries will be more or less compressed, possibly completely occluded. This procedure will usually bring on labor in a few hours, and, when the packing is removed, if the bleeding continues, we have only to rupture the membranes and continue the tight abdominal binder. If this plan of action be

followed, it will seldom be necessary to resort to accouchement force, and, on general principles, the less we use of accouchement force, the better it will be for our patients.

If we find the woman in labor and having efficient uterine contractions, the best method of treatment is to rupture the membranes, and this will usually stop the bleeding. If not, and the condition of either mother or child appears to be grave, the cervix should be dilated as rapidly as possible, preferably by our fingers, and the child delivered by forceps, or the lower uterine segment plugged by bringing down a foot.

The first case I have to report is that of a primipara, 26 years, family history negative to cancer, tuberculosis, Bright's. Has had malaria, measles; no other serious illness. Menses began at 16 and have always been regular, painless, and a normal amount of flow. Her pelvic measurements were ample. There was nothing unusual about her condition until about ten days before the time labor was predicted. At 4 A. M. she began to have pain, and when seen first at 9 A. M., she was having a slight but steady flow of blood, neither bright red, nor yet very dark. The pains were recurring at short intervals. She had not felt movements for several days, and the fetal heart could not be heard. Examination showed the cervix to be dilated the size of a quarter, soft, and no portion of the placenta could be reached. Her pulse and general condition, good. She was sent to hospital at once, a tight perineal pad and abdominal binder applied, and 1-6 grain morphia with 1-200 grain hyoscine given. She was kept under constant observation. The hemorrhage ceased, and at 3.30 P. M. a dead foetus was delivered, followed immediately by several handfuls of dark clots and the placenta. The latter was very interesting. An old, tough, blood clot had practically taken the place of all placental tissue, except immediately around the margin; here there was a ring of normal looking placental tissue, at no point more than an inch wide, and at several points much narrower. When the clot was separated from its bed (which was done with some difficulty, it was so firmly adherent), there was nothing of placental tissue found beneath it, only the membranes. The foetus weighed 6 pounds, and had

evidently been dead some time, as the skin would slip. Absolutely no history of trauma or accident could be elicited. This woman had no work to do, and from her history and the findings, I am at a loss to know what caused her condition. A Wassermann was not done.

The second case is that of a young woman, three para, delivered by me twice before, with no abnormal circumstances with the possible exception of a rather precipitate first labor. Nothing in her history suggested syphilis. She is the wife of a laboring man, has two healthy children and does all her own work. Labor predicted for August 10. At 10.30 A. M., August 19, while at her house work, she had a sudden gush of blood, but no pains whatever. She sat down on a chair at once, and did not move from it until my arrival about one hour later. She said that the least change of position caused the blood to gush from her. When she walked across to the bed, she left a wide track of blood on the floor. Still she had no pains. Pulse 90, good volume, and the patient's morale was good until told that she would have to go to the hospital at once. Abdominal examination showed an L. O. A.: vaginal examination showed membranes intact and pouched down much further than normal, cervix soft, admitting two fingers easily: placenta could not be felt. Blood flowed freely during the examination. Her soundings were so dirty that I did not tampon her, but put on a very thick perineal pad, a tight abdominal binder, and went with her to the hospital at once. There she was put on the table, blood still flowing freely, and because of this, an attempt was made to dilate her manually, without an anaesthetic, but by this time she was so frightened that ether had to be used. The membranes were ruptured, and that seemed to stop the blood flow to some extent, but not entirely. The cervix was then dilated to about two inches in diameter. About this time it was noticed that the cervix was beginning to tighten a bit at intervals, showing that labor pains were probably starting. The question to decide now was, whether to continue artificial delivery, or leave her to deliver herself. The latter course was chosen for these reasons: The mother's condition was not now alarming, pulse 100, bleeding was less, labor pains were beginning, she was in

hospital under constant observation, the cervix was soft and could be readily dilated (should that become necessary), the fetal heart did not show distress, rate 150. A tight perineal pad was applied, together with a tight abdominal binder, and she was sent down to the labor ward to await developments. At 1 o'clock she was very comfortable, and the pains so slight that $\frac{1}{4}$ ampoule of pituitrin was given. This was repeated at 3 o'clock. At 6 o'clock she delivered herself rather precipitately of a lusty male child. A few clots came directly after this delivery, and the placenta, being found in the vagina in about five minutes, was easily expressed, followed by more clots. The uterus contracted nicely, but she was given ergot, anyhow, for fear there might be some inertia following the pituitrin. The placenta showed a white, tough infarct about one inch in diameter, near the margin. There was a hole in the center of this infarcted area probably $\frac{1}{4}$ inch in diameter, leading down to the membrane.

These two cases seem to show that, though this is a very serious complication, with a high mortality for the mother, and a still higher for the child, yet we need not rush too precipitately to accouchement force, or cesarean section, but that we can afford at least to try palliative treatment or watchful waiting, provided that the waiting be accompanied by really intelligent watchfulness and not blissful ignorance, and that we have the patient in the hospital, if possible.

New Monroe Building.

REMOVAL OF THE PROSTATE WITHOUT PAIN, WITHOUT GENERAL ANAESTHESIA, WITHOUT DANGER TO LIFE—A PLEA FOR THE PROSTATIC.

By G. PAUL LAROQUE, M. D., F. A. C. S.,
Richmond, Va.

In a previous contribution we pointed out the ease and complete cure of victims of enlarged prostate through a ninety-five per cent. safe operation. In this we quoted Squier's figures and the daily observations of all practitioners concerning the dangers of catheterization, the hopelessness of the patient when consigned to the grave through the repeated use of the catheter, and recalled the easily observable fact that the average duration of life from the beginning of the use of the catheter is two

and one-half years. No doctor needs to be told of the suffering entailed each time the catheter is used; every one is painfully familiar with the frequency of so-called "urethral chills" after catheterization, and it is needless to describe the clinical course of cystitis, pyelitis, kidney infection, uræmia and the rapid death of the patient with prostatic hypertrophy who is repeatedly catheterized.

When prostatectomy was dangerous the catheter was the lesser of the two evils, but we must remember that the duration of life from the beginning of the use of the catheter is only exceptionally longer than three years.

In the previous communication the safety of the modern operation for the perfect cure of the condition was emphasized. There are many patients now living who have had their prostates removed from 5 to 10 years and who are perfectly normal so far as urinary symptoms are concerned.

The reason most doctors hesitate to advise prostatectomy is on account of the small danger of general anæsthetics. Even this is now eliminated. The entire operation can be performed painlessly through infiltration of novocain into the skin and subcutaneous tissues just above the pubis (this serving for the suprapubic cystotomy), and by the injection of novocain into the sacral (not spinal) canal (not spinal but caudal anæsthesia) sensation from the bladder, prostate and urethra is completely blocked through anæsthesia of the cauda equina and enucleation of the prostate is totally painless.*

The following case is cited:

Case No. 162580, age 69. Has been suffering with symptoms of prostatic hypertrophy for about three years, voiding frequently in the day and from 15 to 20 times at night. His attending physician wisely referred him for operation before repeated use of the catheter had arisen. The left lobe was enlarged. The catheter was employed only once after he came under my care, to determine the urethral length which was moderately increased (10 inches.) There was a moderate grade of cystitis.,

The preliminary suprapubic cystotomy was done painlessly through infiltration of the

suprapubic tissues with one-half one per cent. solution of novocain. A small tube was placed in the suprapubic wound for 24 hours; after that the patient was allowed to be up and about the hospital, the dressings being changed as frequently as necessary to keep him comfortably dry.

About a week later 80 c.c. of one-half one per cent. solution of novocain and potassium sulphate, to which was added ten drops of one to one thousand solution of adrenalin chloride, were injected into the sacral canal according to the method of Lewis. A small amount of the solution was infiltrated around the suprapubic wound. This was stretched with forceps and the finger and the entire prostate, with its pedunculated middle lobe, was enucleated in one piece within five minutes, while the patient enjoyed the humor of the situation. He assured us that the procedure was absolutely painless and that the only thing he felt was my finger in the rectum tugging at the gland.

A tube was placed in the suprapubic wound. This was removed the next day, and the patient sat up in bed. He was placed in a chair the third day and at the end of five days the urine was all passing through the urethra naturally. On the 8th day following operation he left the hospital with his wound completely healed and all the urine passing naturally. No instrument was introduced into the urethra after operation. The patient has been perfectly well since the operation, December 18, 1916.

We are in a position to state positively now that the problems of the prostatics are solved. The disease is fatal, the use of the catheter is progressively painful and dangerous, offers no claim to cure, causes a distressing invalidism, terminates always fatally and quite promptly. The suprapubic removal of the gland by the method of Squier under the caudal anæsthesia of Lewis gives positive cure without danger, without pain, without ether, with usually only three days' confinement in bed, and only laxatives, drinking water and frequent changes of dressings as after-treatment, for from one to two weeks in the hospital. We plead in pity for these poor prostatics.

501 East Grace Street.

*The description of the technique of this method of regional anaesthesia was recently described by Bransford Lewis (Transactions of the Southern Surgical Association, 1915).

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

(Continued from page 541.)

The Relations of the Sphenoid Sinus to the Semilunar (Gasserian) Ganglion, and Their Possible Clinical Importance.

By GREENFIELD SLUDER, M. D., St. Louis.

The semilunar ganglion is at present thought of as so far removed from the sphenoidal sinus that they have not been associated in the minds of the anatomists or clinicians. The internal carotid artery usually rises on the lateral aspect of the body of the sphenoid, and the semilunar ganglion is usually lateral and posterior to the ascending artery. This, however, is not always true. The position of the artery seems to have a large part in determining these relations.

I present drawings of two specimens showing an intimate association of the sphenoid sinus to the semilunar ganglion, or parts of it. Figure 1 shows dissection of the cavernous sinus, semilunar ganglion and sphenoidal fissure, viewed from above. The sphenoid sinus lying beneath these structures is shown in dotted line. The thickness of bone separating the cavity of the sphenoid from these structures was egg shell thin. The internal two-thirds of the ganglion are exposed to the uppermost part of the sphenoid cell, and the external third is exposed at a little greater depth as the nerve tissues approach the foramen rotundum. The mandibular nerve in the foramen rotundum is exposed for ten millimeters to an egg shell bone separation from the sphenoid cell.

In the sphenoidal fissure the oculomotor, abducens and ophthalmic are exposed to an egg shell separation from the sphenoid cell. The trochlearis alone is not in this contact, because it lies on top of the oculomotor.

In 1912 I proved the permeability of the sphenoid sinus wall to a small amount of cocaine. Following this observation, with its lesson, into these anatomic associations seems to me to offer an explanation of the herpes which develop in the wake of sphenoidal infections, or the "cold sores" which arise in some pa-

tients from ordinary coryzas, irritation of the sensory ganglion cells being necessary for the development of herpes, and to explain why semilunar ganglion neuralgias and tic douloureux of sphenoidal origin sometimes recover as a more or less acute or subacute lesion, and at other times requires a ganglion removal or a posterior root section—i. e., sometimes the sphenoid lesion can be controlled, and at other times it cannot.

Endothelioma of the Right Bronchus Removed by Peroral Bronchoscopy.

By CHEVALIER JACKSON, M. D., Pittsburgh, Pa.

A man of thirty-five years had complained of wheezing, cough and mucopurulent expectoration of five years' duration. For two years he had been treated for tuberculosis, though bacilli had never been found in the sputum. Diagnoses of various clinicians had been: tuberculosis, chronic right-sided bronchitis, monolateral (right) asthma. Dr. J. C. DaCosta had made a correct diagnosis of stenosis of the right bronchus. Radiograph showed dense shadow of lower right lobe, and in consultation diagnostic bronchoscopy was urged.

Dr. Jackson found and removed bronchoscopically a pedunculated tumor which had made for itself a dilatation in the right bronchus. Patient entirely recovered in two weeks, expectoration disappeared completely at the end of four weeks. At the end of ten months patient had gained twenty-six pounds in weight and was perfectly well. The pathologist reported the growth to be an endothelioma. The author makes the following conclusions:

1. Diagnostic bronchoscopy is indicated in cases of monolateral "asthma," bronchitis, bronchial obstruction, and in cases of tuberculosis where persistent search fails to show tubercle bacilli.

2. Peroral bronchoscopic removal of an endobronchial tumor is feasible under local anesthesia.

3. General anesthesia might have permitted the clotting of blood in the lower bronchi before expulsion, involving septic risk.

4. Peroral bronchoscopic removal may be justifiable in a malignant endobronchial growth if small, circumscribed and not ulcerated.

5. As this is the only recorded case of apparent cure of an endothelial endobronchial tumor by peroral bronchoscopy, and only the second endoscopic removal of any form of malignant growth from a bronchus, it would be unwise to make too many or too sweeping deductions.

Report of the Removal of a Fragment of a Tracheotomy Tube From the Lung, Six Years After Its Inspiration.

By FRANCIS R. PACKARD, M. D., Philadelphia, Pa.

An Italian, thirty-three years old. Twelve years previous to present complaint had typhoid fever, necessitating intubation. On removal of the intubation tube had tracheotomy performed, and has worn the tracheotomy tube ever since. The past six years had suffered from violent attacks of coughing, accompanied by expectoration of blood and much pain in his chest. An X-ray examination revealed a foreign body lodged in the right bronchus opposite the left intercostal space. The patient was etherized and the foreign body removed by means of the Jackson bronchoscope. The symptoms cleared up and the patient refused to allow the tracheotomy wound to be closed, although it seems as though this might have been done and his proper method of breathing restored to him.

DISCUSSION.

Dr. J. Solis Cohen, Philadelphia: A great many of the tracheotomy patients keep their tubes in without taking them out for cleansing, and in the course of time they become more or less detached. I have tried to prevent this by having my tubes made without the solder. I then adopted the plan which I have recorded in my reports of always insisting upon a patient having two sets of tubes, and changing them on alternating days. In that way you will avoid any instance of this kind. The patient can take it out and cleanse it and put a new fresh tube in.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Practical Medical Series. Under general editorial charge of CHARLES L. MIX, A. M., M. D., Pro-

fessor of Physical Diagnosis, Northwestern University Medical School, Chicago. Series 1916. Chicago. The Year Book Publishers, 327 S. LaSalle Street. Volumes IV, V, VII, IX and X, \$1.35 each; Volumes I, III, VI and VIII, \$1.50 each, and Volume II, \$2. Series of 10 volumes, \$10.

These volumes, from one to ten, respectively, treat of general medicine; general surgery; eye, ear, nose and throat; gynecology; pediatrics and orthopedic surgery; general medicine; obstetrics; therapeutics and preventive medicine; skin and venereal diseases; and nervous and mental diseases. While the series is published primarily for the general practitioner, the arrangement into volumes enables those interested in special subjects to buy only the parts they desire. The various volumes contain from 230 to 620 pages and are well indexed as to subjects and authors whose papers are abstracted. They are also illustrated when this would seem to add to the worth of the article, the volume on surgery being very fully illustrated. Comprising as they do the progress in the respective subjects for the year prior to the year of publication, as culled from a number of representative journals, they are well worth the price asked.

Pulmonary Tuberculosis. By MAURICE FISHBERG, M. D., Clinical Professor of Tuberculosis, University and Bellevue Hospital Medical College; Attending Physician, Montefiore Home and Hospital for Chronic Diseases, New York. Octavo, 639 pages, with 91 engravings and 18 plates. Cloth, \$5.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

The author, writing as teacher and clinician, after an extended experience both in congested neighborhoods and in the better parts of New York City as well as with patients under his care in the hospital, says: "Careful home treatment is productive of practically the same immediate and ultimate results as institutional treatment." Such a statement is noteworthy and encouraging, especially as the idea seems firmly fixed in the mind of the average person—who is commonly ill-able to bear the expense—that he must go from home if he is to live. Treatment in the home, however, may be fraught with danger not only to the patient but to others, unless right methods are employed and proper precautions taken. To the general practitioner, who has to manage the vast majority of all such cases, the importance of Dr. Fishberg's work should appeal. His experience shows that the majority of pa-

tients can be given the benefit of rest, fresh air and proper food in the home as well as in a sanatorium. The immense utility of sanatorium treatment is, however, emphasized, though its limitations are enumerated. Constitutional symptoms are elaborated with minuteness, these being regarded still as the sheet anchor for determining whether a patient is ill and in need of treatment. Bacteriology and serology are regarded as excellent helps in showing if there has been tubercle infection; skiagraphy reveals airless areas of lung tissue; but these methods do not give conclusive proof that the patient is sick and in need of prolonged and costly treatment. Medical treatment, the author believes, possesses more value than has been accredited it by therapeutic nihilists, and he accords it space. Artificial pneumothorax is likewise mentioned in some detail because of its efficacy in selected cases. The book is handsomely illustrated, is authoritative and intensely practical, and its usefulness to the general practitioner can hardly be over-estimated.

Editorial.

Morbidity and Mortality of Contagious Diseases.

The report of the Chicago Department of Health for 1916 with regard to the morbidity and mortality of several of the contagious diseases, especially frequent in childhood, would possibly be an eye-opener even to many physicians. The figures of the three diseases with which we are especially impressed are measles, of which there were 8,732 cases with 130 deaths; scarlet fever, with 8,681 cases and 160 deaths; and diphtheria, of which there were 6,980 cases with 785 deaths. We give the scarlet fever figures more for the purpose of comparison. Is the fault with the physician or with the parent or guardian who calls the doctor too late?

As to measles, it would seem that the laity has not yet been sufficiently impressed with the fact that measles is not always as innocent as it appears. Most people who reach the age of maturity have had or been in the house with a case of measles and, when these cases have terminated satisfactorily, it has given them a

feeling of security, much the same as that the traveling salesman experiences until he is brought face to face with his first railroad accident. The so-called minor contagious diseases should be avoided the same as smallpox, scarlet fever, diphtheria, or even the much-dreaded infantile paralysis. As "one swallow does not make a summer," neither does one recovery from measles mean that the next case, even in the same family, will have as happy a termination. The physician's duty in this disease is to impress the patient or parent with the fact that each case *may be* serious, to follow directions minutely and that no one should be needlessly exposed to this or other diseases.

A death rate of over 10 per cent. from diphtheria with an antitoxin which will cure, under favorable circumstances, if used on the first day, is staggering. The trouble here is either that the doctor was not called soon enough and thus antitoxin was administered too late, or there was a mistaken diagnosis or under dosage of antitoxin on the doctor's part. Here, likewise, let education of the general public play a part by citing to them cases where supposed sore throat was but the beginning of diphtheria, and impress upon them the urgency for the prompt administration of antitoxin, provided this simple sore throat should be but the beginning of diphtheria.

Might not placards or circulars more generally issued by health departments and public health talks in schools and clubs more impress the public with the need of caution in prevention and treatment of the contagious diseases?

Cancer Not Hereditary Nor Contagious.

Mr. Arthur Hunter, president of the Association of Life Insurance Presidents, at their annual meeting in December, states that, according to a recent investigation of life insurance statistics, cancer appears to be neither hereditary nor contagious. Nor, according to Mr. Hunter, should it be assumed that cancer is a disease of old age as about one-half or 40,000 of cancer deaths in 1915 were among persons under 60 years of age.

In 20,000 applications reviewed, there were 488 cases cited of cancer in one parent and four cases in which both parents died of this disease. The fact that there were only four cases in 20,000 applications in which both parents died of cancer, would clearly indicate non-

contagion of the disease as there could hardly be a stronger test for this than in the case of husband and wife.

From the hereditary standpoint, it was found that of the above 488 parents, there were only two deaths from cancer among the 810 persons, one of whose parents had died from cancer, and all of these 810 persons lived beyond the age of 40. According to mortality statistics of the Census Bureau, based on the population of the United States, the number of deaths to be expected above the age of 40 would have been three. To further strengthen his statement that cancer is not hereditary, Mr. Hunter succeeded in tabulating the family history of 100 patients admitted for cancer to one of the largest and best hospitals in New York City. There was little to indicate that cancer had been transmitted from parent to child in these cases, as there were only five deaths from cancer among the 200 parents and one death from cancer among the 400 grandparents.

The Southside Virginia Medical Association

Will meet at Hopewell, March 13, and the Prince George County Medical Society has completed arrangements for entertaining this large organization. The reception committee is composed of Drs. Gill, Bodow and Leonard, and the entertainment committee of Drs. Hargrave, Hertzberg and Reese. This will be an interesting meeting as there will be surprises in store for the guests to this town, which is not yet two years old. Some especial courtesies will be extended the guests from the Dupont Plant officials. Dr. Joel Crawford, Yale, is president, and Dr. E. F. Reese, Courtland, secretary-treasurer.

National Leprosarium To Be a Reality.

President Wilson has signed the bill providing for the establishment of a national leprosarium in which to care for and treat persons afflicted with leprosy and thus help prevent the spread of the disease. While it is not definitely known how many lepers there are in the United States at this time, an investigation conducted by the U. S. Public Health Service in 1913, definitely located 146 cases, most of these being native Americans. In spite of the fact that for the past few years, the establishment of a national leprosarium has been urged by those interested in public health matters,

it seems that the United States is one of the last of the great nations to take this step.

The bill calls for the appropriation of \$250,000 for the establishment of a leprosarium which is to be under the jurisdiction of the surgeon general of the Public Health Service. The home will receive any leper who presents himself for care, detention and treatment, or who may be apprehended under authority of the U. S. quarantine acts, or any leper duly consigned to the home by the proper local health authorities. Upon request of the proper State health authority, the surgeon general will arrange to send for any person afflicted with leprosy and have him conveyed to the leprosarium for detention and treatment.

Government Wants Young Medical Men to Fill Vacancies in Public Health Service.

According to a statement just issued by Surgeon General Rupert Blue, young medical men between the ages of 23 and 32 will be given an opportunity each month to demonstrate their fitness for admission to the grade of Assistant Surgeon in the U. S. Public Health Service. There are several vacancies in the government's mobile sanitary corps, which is now in the 119th year of its existence, but in order to be recommended to the President for commission, a physical and professional examination must first be passed. As the tenure of office is permanent and the public health officers are ordered to duty in all parts of the world, they are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate. Boards will be convened at Washington, Boston, New York, Chicago, St. Louis, Louisville, New Orleans and San Francisco, but permission to take the examination must first be obtained from the surgeon general. The examination is searching and includes, in addition to the various branches of medicine, surgery and hygiene, the subjects of the preliminary education, history, literature and the natural sciences. The commissions will be issued as assistant surgeon and after four years of service, the young officers are entitled to examination for promotion to the grade of passed assistant surgeon, and after twelve years of service to another examination for promotion to the grade of surgeon. The annual salaries are:

Assistant surgeon, \$2,000; passed assistant surgeon, \$2,400; surgeon, \$3,000; senior surgeon, \$3,500; assistant surgeon general, \$4,000.

When the government does not provide quarters, commutation at the rate of \$30, \$40 and \$50 a month according to grade is allowed. All grades receive longevity pay, that is, 10 per cent. in addition to the regular salary for every five years until the maximum of 40 per cent. is reached. When officers travel on official duties they are reimbursed their actual travel expenses.

McIntire Prize.

Last year Dr. Charles McIntire resigned the secretaryship of the American Academy of Medicine after twenty-five years of faithful service. In appreciative commemoration the American Academy of Medicine decided to raise a fund, the income of which should be expended in accordance with Dr. McIntire's suggestions. As a consequence the Academy now announces two prize offers, the prizes to be awarded at the annual meetings for 1918 and 1921, respectively.

The subject for 1918 is "The Principles Governing the Physician's Compensation in the Various Forms of Social Insurance." The members of the Committee to decide the relative value of the essays awarding this prize are: Dr. John L. Heffron, Dean of the College of Medicine, Syracuse University; Dr. Reuben Peterson, Professor of Obstetrics and Diseases of Women, University of Michigan, and Dr. John Staige Davis, Professor of Pediatrics and Practice of Medicine, University of Virginia.

The subject for 1921 is "What Effect Has Child Labor on the Growth of the Body?" The members of the committee to award this prize are: Dr. Thomas S. Arbuthnot, Dean of the Medical School of the University of Pittsburgh; Dr. Winfield Scott Hall, Professor of Physiology, Northwestern University, and Dr. James C. Wilson, Emeritus Professor, Practice of Medicine and of Clinical Medicine, Jefferson Medical College.

The conditions of the contests are:

(1) The essays are to be typewritten and in English, and the contests are to be open to everyone.

(2) Essays must contain not less than 5,000

or more than 20,000 words, exclusive of tables. They must be original and not previously published.

(3) Essays must not be signed with the true name of the writer, but are to be identified by a *nom de plume* or distinctive device. All essays are to reach the Secretary of the Academy on or before January 1st of the years for which the prizes are offered and are to be accompanied by a sealed envelope marked on the outside with the fictitious name or device assumed by the writer and to contain his true name inside.

(4) Each competitor must furnish four copies of his competitive essay.

(5) The envelope containing the name of the author of the winning essay will be opened by Dr. McIntire, or in his absence by the presiding officer at the annual meeting and the name of the successful contestant announced by him.

(6) The prize in 1918 for the best essay submitted according to these conditions will be \$100.00; that of 1921 will be \$250.00.

(7) In case there are several essays of especial merit, after awarding the prize to the best, special mention of the others will be made and both the prize essay and those receiving special mention are to become at once the property of the Academy, probably to be published in the Journal of Sociologic Medicine. Essays not receiving a prize or special mention will be returned to the authors on application.

(8) The American Academy of Medicine reserves the right to decline to give the prize if none of the essays are of sufficient value.

The present officers of the American Academy of Medicine are: George A. Hare, M. D., Fresno, Calif., President; J. E. Tuckerman, M. D., Cleveland, President-Elect; Charles McIntire, M. D., Easton, Pa., Treasurer, and Thomas Wray Grayson, M. D., 1101 Westinghouse Building, Pittsburgh, Pa., Secretary.

Prevention of Typhus Fever.

Public Health Reports for February 2, announces that on account of the increased prevalence of typhus fever throughout Mexico and its presence in the Mexican border towns, the disinfection facilities operated by the Public Health Service at El Paso have been materially enlarged. All incoming travelers are in-

spected, and those that appear to be vermin-infested are given treatment at the disinfection building. Their clothes and personal effects are sterilized by steam and their persons freed of vermin by the application of gasoline or a mixture of vinegar and kerosene.

As an additional precaution in preventing the interstate spread of the infection from El Paso, the railroad companies have been instructed not to issue transportation to Mexican laborers unless they present a certificate of disinfection from the Public Health Service officer in charge of the border quarantine. This measure serves the purpose of apprehending those travelers that might have effected clandestine entry into the United States.

Dr. Burleigh C. Kellam,

Formerly of Cape Charles, Va., has moved to Norfolk, Va., and is located on Warren Crescent.

Dr. Felix Alfaro Diaz,

Who graduated from the Medical College of Virginia last June and was appointed one of the internes at Memorial Hospital, Richmond, has left this city to practice medicine at his home in Porto Rico.

Dr. Robert F. Compton,

Charlottesville, was a visitor in Orange, Va., about the middle of February.

Dr. and Mrs. Thatcher Miller,

Of Ketchikan, Alaska, visited West Point, Va., the middle of February, en route to visit relatives in King and Queen County, this state.

Doctors Receive Masonic Honors.

At the meeting in Richmond, this month, of the Grand Lodge of Virginia Ancient Free and Accepted Masons, the following doctors were among those appointed district deputy grand masters in their respective districts: Dr. W. D. Sydnor, Hamilton; Dr. F. C. Downey, Edinburg; Dr. J. F. Ragland, Centralia; Dr. M. J. Payne, Staunton; Dr. L. O. Vaughan, Waverly; Dr. M. G. Robinson, Wytheville; Dr. Howard Fletcher, Fairfax, and Dr. Robt. L. Page, Batesville, was appointed a member of the committee on work in division 5.

Lectures on Military Hygiene and Surgery.

Dr. Louis A. LaGarde, professor of Military Surgery at George Washington University School, Washington, started on the 14th of this month to give a series of fourteen lectures on Military Hygiene and Surgery, at the Medical College of Virginia, this city. The last of these lectures is scheduled for May 28. Members of the Richmond Nurses' Club and all graduate nurses in the city have been invited to attend these lectures.

The Augusta County (Va.) Medical Association

Held its regular quarterly meeting in Staunton, February 7. Papers were read by Drs. A. L. Tynes, W. S. Whitmore, M. J. Payne and J. L. Alexander, all of Staunton, after which luncheon was served. Dr. William Patterson, Waynesboro, is president, and Dr. Guy Fisher, New Hope, secretary.

Dr. Edward McGuire,

Formerly adjunct professor of surgery in the University of Buffalo, Medical Department, has been elected full professor of that branch to succeed Dr. Roswell Park, deceased.

Dr. William P. Holt,

Duke, N. C., has recently been attending clinics in Philadelphia and New York City.

Year's Internship Requisite to Examination for Licensure.

We note from the *Ohio State Medical Journal* that the Michigan State Board of Registration in Medicine has adopted a resolution requiring all candidates for examination who matriculate in recognized medical colleges subsequent to January, 1917, to have an additional qualification of one year's internship in a recognized hospital before being admitted to the examination for licensure. This is the fifth state to make such a requirement, the other states being Pennsylvania, New Jersey, Rhode Island and North Dakota. Pennsylvania was the first to adopt this plan, it becoming effective in that state for all graduates in 1914.

Dr. John Dunn,

Of this city, has been elected a member of the advisory board of the Association for the Preservation of Virginia Antiquities.

Dr. Basil D. Spalding,

Of Maryland, has been visiting friends in this city.

Dr. A. B. Evans, Jr.,

Of Church View, Va., was elected one of the directors to represent Middlesex County at the annual meeting this month of the stockholders of the Rappahannock Exchange.

The National Committee for the Prevention of Blindness,

Of 130 East Twenty-second street, New York City, have arranged a loan exhibit of a set of five panels, 18 x 38 inches, to hang from a molding or be set up against a side wall, which may be borrowed without charge except for transportation both ways. Reproductions of these panels may be purchased at \$3 each. They have also arranged a set of about 500 slides for stereopticon lectures which may be had for transportation charges and breakage or may be purchased for 30 cents a slide. These exhibits are on the subjects of ophthalmia neonatorum, wood alcohol, midwives, trachoma, and industrial eye accidents.

Dr. Lawrence E. Flannagan,

Health officer of Charlottesville, Va., since last summer, has resigned to accept the position of chief surgeon with the Altha Pocahontas Coal Company, at Alpoa, W. Va.

Dr. Bertram H. Gilmer,

A graduate of University College of Medicine, Richmond, in 1903, and recently of Plymouth, N. C., has located in Cape Charles, Va.

The General Board of the State Hospitals

Held its quarterly meeting at Central State Hospital, Petersburg, February 14, with State Commissioner J. M. Bauserman presiding. The only doctors members of this board are Drs. H. U. Stephenson, of Toano, and H. W. Dew, of Lynchburg. Many matters of interest in connection with the hospitals and the care of the insane and epileptics were discussed. Reports showed that during the past quarter, a total of 425 patients had been admitted to the various hospitals, making a total at this time of 4,919 patients, distributed as follows: Western Hospital, 1,202; Eastern, 781; South-

western, 696; Central, 1,769; Epileptic Colony, 471. A thorough inspection of Central State Hospital was made and everything found satisfactory with the patients well cared for and properly treated.

Dr. John G. South,

Frankfort, Ky., has, for the fourth consecutive term, been elected president of the Kentucky State Board of Health.

Dr. Eugene R. Cocke,

Who graduated from Jefferson Medical College, Philadelphia, in 1913, and has recently been doing work in Brooklyn, N. Y., hospitals, has located at his native home, Asheville, N. C., where he will practice his profession.

Dr. George C. Beach,

First lieutenant, U. S. Army, M. R. C., paid a short visit at National Soldiers Home, Va., before leaving for New York, from which place he sailed for Panama. He has been ordered to duty in Canal Zone.

Red Cross Ready For Service in Case of Emergency.

Officials at headquarters of the Red Cross Society, in Washington, estimate that, in case of emergency, they could give expert nursing service to an army of 1,000,000 men. These figures are based on the fact that it is customary to assign 10 patients to each nurse and, as in the earlier stages of war, the proportion of sick and wounded is about five per cent., the nursing personnel could thus care for 50,000 sick and wounded at once.

Dr. J. C. Wysor,

Of Clifton Forge, Va., visited this city and Southwest Virginia early this month.

Married—

Dr. Julius N. Hill and Miss Kathryn Bayliss, both of Murphy, N. C., January 4.

At a Trachoma Clinic

Held at Madisonville, Ky., by Dr. John McMullen, of the U. S. Public Health Service, for three days in December, 1916, 250 people applied and 55 operations were performed. Thirty doctors attended this clinic for obser-

vation purposes and Dr. McMullen had as assistants three doctors and four nurses.

Dr. E. D. Wells,

For the past three years Eye, Ear, Nose and Throat Specialist to the Hinton Hospital, announces the removal of his office on March 1, to the new Chesapeake and Ohio Hospital, Clifton Forge, Va., where his practice will be limited exclusively to Eye, Ear, Nose and Throat.

Physical Training in Public Schools.

A committee known as The Committee for Promoting Physical Education in the Public Schools of the United States, and composed of several prominent educators, has opened offices in the Munsey building, Washington, D. C. Their purpose is to work for the introduction of physical training, without military features, in the public schools. They state "we need to spend more money and more time upon physical training intended to develop the body so that both boys and girls may be prepared equally for the pursuits of peace and the vicissitudes of war." A bill on this subject has been drafted and been introduced in the legislatures of Massachusetts, California and Indiana.

Dr. Arthur J. Edwards,

Of Bristol, Va.-Tenn., left early in February for a visit to points in Florida. He will probably also visit Cuba before his return.

Dr. Bernard Samuels,

Of New York City, was recently called to Front Royal, Va., by the illness of his mother.

Norfolk To Have "Baby Week."

It has been decided to have a "Baby Week" in Norfolk, Va., sometime during the month of May, this year, and the Health Department of that city will aid in every way possible to make the campaign a success. It is estimated that one of every eight babies born in the United States dies before attaining its first year and it is said that fully one-half of these lives ought to be and can be saved. The campaign is to be educational along the lines of preventing improper and bad management in feeding and clothing, and unnecessary exposure and neglect.

Dr. E. C. Levy,

Chief health officer of Richmond, has returned home after attending a meeting of the executive committee of the American Public Health Association.

Dr. William P. McGuire,

Winchester, Va., has been elected president of the Farmers' and Merchants' Bank of that place.

Dr. J. N. Williams,

Of the C. & O. Hospital, Clifton Forge, Va., spent several days in Richmond this month.

Doctors Raise Charges in Paris.

Owing to the higher cost of living, it is announced that doctors in Paris have advanced their prices 25 per cent. and midwives are expected to follow their example. The report announces that the only thing that will not be more expensive than before the war will be sudden death, but even here, it is probable that the writer overlooked the undertaker's fee.

Dr. Giles B. Cook,

Richmond, was a recent visitor at his old home in Front Royal, Va.

Dr. C. M. Hazen,

Of Bon Air and Richmond, has returned from a visit to Atlantic City.

Dr. Horace F. Hoskins,

Saluda, Va., was a visitor in Baltimore this month.

Dr. and Mrs. Julian F. Ward,

Winchester, Va., are on a visit of several weeks in Florida and Cuba.

"A Journey Around the World By An Oculist."

Is the name of a book of about 400 pages, with about 100 illustrations, which will shortly be issued by the Franklin Hudson Publishing Company, 22d and Gillham Road, Kansas City, Mo. This book, which is by Dr. Flavel B. Tiffany, Kansas City, will give a brief account of his visits to the most important doctors and especially oculists of the world. The book is to contain many points on ophthal-

mology and will discuss a number of subjects and operations pertaining to the eye. Dr. Tiffany has written a number of books and stories on his travels so that he is no novice at writing. The book may be obtained for \$2 of the above publishers.

Dr. Harry C. Rolnick,

Chicago, who has recently returned from the war zone where he served as surgeon in the army, was a visitor in Richmond, this month.

Red Cross Car on C. & O. Railroad.

The American Red Cross Society has two cars which tour the railroads of the United States, one in the territory east of the Mississippi and one west of that river. The cars are fitted with lecture rooms and equipment and material for giving accident prevention and first aid instruction to railroad employees. The Chesapeake and Ohio Railroad has secured one of these cars to make a tour of its road this Spring. The car will make stops at about twenty-six cities and towns, the length of the stay varying from one day to a week.

Obituary Record

Dr. Henry Theodore Bahnson,

One of the associate editors of this journal, died at his home, Winston-Salem, N. C., January 17, 1917. He was born at Lancaster, Penn., March 4, 1845, and obtained his academic education at the Moravian College in that state and at the University of Berlin. During the Civil War, he enlisted while yet in his teens in the service of the Confederacy, and served a part of his enlistment as hospital steward under the late Dr. I. R. Godwin, then regimental surgeon. Dr. Bahnson graduated in medicine from the University of Pennsylvania in 1867. Shortly thereafter, he located at Winston-Salem, N. C., where he made his permanent home. Here he built for himself a large practice and became one of the leading men of his section, being regarded as an able physician and respected citizen. He was bestowed with many honors by the profession of North Carolina, and was at one time president of the Medical Society of that state. He was

likewise at one time president of the North Carolina State Board of Health, secretary of the State Board of Medical Examiners, and a member of the Board of Directors of Morganton State Hospital. He was a member of the American Medical Association, American Public Health Association, Tri-State Society of the Carolinas and Virginia, and Honorary Member of the Medical Society of Virginia, his interest in this latter organization dating back to the early '70s, when he frequently attended as a fraternal delegate from the Old North State. He was chief surgeon of the Winston-Salem Southbound Railway Company, and local surgeon for the Southern Railway.

Dr. Bahnson was a man of many attainments and many virtues. He had a strong personality and was a natural leader. Generous to friend but fearless to foe, he was a high type of chivalrous gentleman.

Dr. Oscar Samuel Owens,

A widely-known and highly esteemed physician of this city, died at a local hospital February 8. He was born in Manchester, now this city, March 3, 1879, and received his medical education at the University of Maryland, from which he graduated in 1905. He was physician for the employees of the Southern Railway shops and several manufacturing plants. He was unmarried, but is survived by his parents and a brother. Dr. Owens was a member of the local and State medical societies.

Dr. William Mabon,

Superintendent of Manhattan State Hospital for the Insane, Ward's Island, New York City, since 1906, died February 9, from pneumonia. He was 56 years of age and received his medical diploma from Bellevue Hospital Medical College in 1881. He was chief alienist for the State in the Thaw case and was emeritus professor of Mental Diseases, at University and Bellevue Hospital Medical College.

"'Tis better to give a chep bouquet
To a living friend this very day,
Than a bushel of roses, white and red,
To lay on his coffin when he is dead."

—Exchange.

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Original Communications.

SOME PROFESSIONAL RECOLLECTIONS.*

By S. W. DICKINSON, M. D., Marion, Va.

As a temporary change from the almost surfeit of new things, it occurred to me that it might interest you, and not be unsuited to this occasion, to take a backward look at medicine in our own section and state.

Rome counted time from the founding of the city, and we of the South count time from the Civil war, which revolutionized our civilization and started us into a new era. My connection with medicine in the "before-the-war" period was as a member of a doctor's family, who, when nine or ten years old, saw books and bones about the home in the hands of medical students, the pulling of teeth, the coming and going of negro slaves and white neighbors wanting medical help, and my father riding off either in a high-wheeled sulky or gig, or on horseback, often wearing a high hat and dressed very much as Dr. Mettauer is shown in the picture of him published a few years ago by Dr. Geo. Ben Johnston.

Prior to the war, medicine in the South, especially in all the slave-holding parts of the South, was a lucrative and highly respected calling, since self-interest, money invested, not to mention humanity or religion and the close friendship often existing between master and slave, made the owner look closely after the health of his slaves and anxious that they have the best medical advice. Therefore, there was a demand for men trustworthy and of high character, well equipped in their profession; and that our predecessors measured up to this high standard is attested by the recognition

they everywhere received. Such men deserved and received good fees, and those days were unlike ours in that if a sick negro died, you could sell a well one to pay his bill. These conditions induced many men to study medicine and when the Civil War began, the profession was getting crowded with young men, capable and educated, who entered the army as surgeons, the older men being left at home to care for the women and children, the negroes, and the sick and wounded soldiers who found shelter in nearly every home,—for there were few base hospitals in those days, the homes in the rear of the army and near battlefields serving instead. Of the memories left of the nightmare of war, which ended when I was fourteen, none is more vivid than recollections of rides I took with my father to drive his buggy, open gates, and help him dress soldiers' wounds by handing him instruments, holding pans of water and the like. My mind still carries indelible pictures of some of these wounds and, while of course I learned nothing, my experience probably saved me from dread of the dissecting room and from fainting at sight of my first surgical operation.

When the war was over, our beautiful Arcadia was left desolate and things so changed that through all the slave-holding South our people, like the exiled Jews of old, felt like hanging their harps on the willows and weeping, for while not in a strange land, they were so differently circumstanced that they might as well have been. No profession or calling was so hard hit as medicine. Poverty-stricken and dispirited, the whites girded themselves for the unequalled battle they had to make to reconquer their country politically and financially and, out of their poverty, most of them could spare but little to pay the doctor for his services. The negro, from having been once the doctors' chief and best source of rev-

*Presidential Address, delivered before the South-west Virginia Medical Society at a "Smoker" given in their honor by the Roanoke Academy of Medicine, December 21, 1916.

enue, became at once a charge on his charity. Naturally improvident and never having had to plan for the support of their families, want came on many of them in its direct forms, while sickness naturally followed in the wake of want, and humanity compelled the doctor to visit where there was, or could be, no hope of reward. Drugs were high—quinine \$3 to \$4 an ounce,—and the doctor must cure his negro before he could hope for pay, and both the state and the United States required him to pay a license fee.

The inevitable happened. Doctors quit medicine and went into other callings to support and educate their families and meet pressing debts. In Louisa County, where I then lived, I recall seven doctors, graduates of good schools, some of whom in other days had enjoyed a lucrative practice, who went into other vocations in a few years after the war. Many who had been satisfied with the almost ideal conditions of country practice moved to cities. Of such were Drs. M. L. James and Watkins, of Goochland County; Dr. Skelton, of Amelia, and Dr. Geo. Ross, of Culpeper, all of whom I knew as members of the adjunct or summer school faculty of the Medical College of Virginia in 1869 and who became prominent practitioners in Richmond. This list might be easily extended and would include men like Dr. Wm. B. Gray, of Fluvanna, my father's friend and my "sponsor" when I joined our State Society in 1872, who had moved to Richmond some time before this. Still others, no doubt influenced by the success of that brilliant coterie of Southerners, J. Marion Sims, Nott, Emmet and Gailliard Thomas, who had in New York created the specialty of diseases of women, left their southern homes, now desolate, for the richer and more populous northern cities, where they earned both money and reputation. If you will go over the men of mark who practiced and who taught medicine in northern cities and schools in the years immediately following the Civil War, you will be surprised at the number of southern men and have reason to feel proud that our section added such illustrious names to medicine. In 1871, I found in the faculty of the University of Maryland, Drs. J. J. Chisholm and F. T. Miles, of South Carolina, and Dr. W. T. Howard, late of North Carolina, originally from

Richmond, but all having moved to Baltimore after the Civil War.

You already know the sad story of our country's impoverishment and of the disorganization of all things, both social and economic, and, from the sketch already given, you can see that to a people whose every effort went to earn daily bread and to keep debts at arm's length, medicine held out few inducements to its young men; so, although there were no educational requirements for entrance, the number of young men who felt themselves qualified financially and mentally to enter our profession was small.

Dr. J. S. Wellford asked on the night he examined me where I expected to locate and advised me to stay in Virginia, saying he had recently counted the Virginia students in the catalogues of all the colleges and that there were fewer than were in the University of Pennsylvania alone just prior to the war. At the Medical College of Virginia both classes for 1869-70 did not exceed thirty-three and the graduating class of March, 1871, numbered ten. The graduating class at the University of Maryland, March, 1872, numbered fifty-five: I have all the names of both classes. I do not know the number in attendance or graduating at the University of Virginia, but the class was small.

In these first classes in our Virginia schools were soldiers, some of whom still wore their Confederate uniforms. Dr. Phil. Slaughter, who practiced at The Plains, Fauquier County, Va., told me that when he entered the University of Virginia he wore his uniform coat with the buttons covered with cloth because the military authorities in command in District No. 1, as Virginia was called in those days, forbade brass buttons of that variety. Among old soldiers from Southwest Virginia who served through the war and were known to many of you were Dr. Robert J. Preston and Dr. John S. Apperson, who graduated from the University in the class of 1867.

During the greater part of the Civil War all southern schools were closed, and this was true of medical schools, except the Medical College of Virginia, which, to meet the demand for surgeons for the Confederate army had almost continuous sessions, graduating two classes yearly. During this period of blockade and

war when the University and College buildings were largely used for hospital and other public purposes, not only had nothing been added, but for want of care the equipment had deteriorated, pathologic specimens had been ruined by evaporation or removal of alcohol, and doubtless many plates and articles of virtu found their way to the homes of looting curio-seekers and vandals. Such was briefly the condition of these unendowed medical schools when the clouds of war rolled away and the trustees again got control of their properties and began to rearrange for teaching. The new faculties elected were practically all ex-army surgeons, or men who had served the Confederacy in some medical capacity, and several of them, by reason of association with prominent men and events, will leave names that will go down in history.

It was under men of this class and type that I began the study of medicine, but however pleasing the task might be to stop and pay a just tribute to the memory of each of these worthy men, it would be foreign to the plan and purpose of this paper, and, besides, this has already been done in part by Dr. John N. Upshur in the Transactions of the Medical Society of Virginia for 1915.

To enter a medical college in those days the requirements were few and simple. There were no preliminary educational requirements as we have now, but you were expected to have read medicine one year in a doctor's office and to be of good moral character. In 1869, the Medical College of Virginia conducted a course of lectures, beginning early in April and lasting until in July, and this was recognized as in lieu of the year's reading in a doctor's office. These lectures and "quizzes" were by an adjunct faculty and, after reading two months with my father, I took this course of lectures and was one of a class of twelve or fifteen, some of whom had already taken a winter course. Drs. Christopher Tompkins, of Richmond, and D. Gregory, of King William County, are survivors of this summer class.

All over the United States the course of lectures in medical colleges covered two sessions of five months, each in different years, and you went over the same studies each year, except that you dissected the first year and did not the last year. Examinations for your de-

gree were all oral. At the University of Virginia the session was nine months and you were allowed to stand for graduation at the end of this session, and I knew several men who made their University M. D. degree in nine months.

In looking back at the course of instruction given both in Richmond and Baltimore, and, as I have reason to believe, given in other medical centers at this period, I do not think there was much, if any, difference in methods. Teachers in the large New York and Philadelphia schools, then as now, wrote text-books, and the other schools used their books as a basis of instruction, and in this way these schools influenced, much more than now, the medical practice of the whole country. When southern men wrote books, it was after they became identified with northern schools, which then got the credit.

Dissecting is probably the only thing in the whole course taught now as it was in 1869-70. In Baltimore, Dr. McLane Tiffany, afterwards to become a distinguished teacher of surgery, who recently died in Accomac County, was demonstrator. In Richmond, our demonstrator was Dr. Isaiah White, who, during the Civil War chanced to be surgeon in charge of the Andersonville, S. C., prison for Federal soldiers,—prisoners. When after the war the Federals hanged Col. Wertz, the commanding officer, Dr. White got away to Canada to save his neck and had in 1869 but recently located again in Richmond, where he made a fine teacher. There was an abundance of dissecting material, surreptitiously obtained, for the Anatomy Bill not having been enacted, there was then no legal way to get bodies. "Uncle Lewis," a negro, and Dr. S. W. West, got them, and how was their business. Students sometimes went out with them on their nocturnal excursions and on one or more occasions I was asked to go along, but this did not appeal to my ideas of a good time. The Richmond negroes were said to believe that medical students went out after dark and in passing a negro slapped a plaster over his mouth, when he just naturally quit breathing and walked up the back way to the dissecting room in the top of the college building. While there was no legal provision for dissecting, of course the officers of the law knew dissecting was done.

St. Paul tells us that at a certain period in the world's history God "winked at sin," and the police winked at dissecting, and we students dissected what was put before us, "asking no questions," just as St. Paul told the early Christians to do about eating meat.

We had no laboratory and did no laboratory work. The only times I recall coming in contact with a microscope during my two sessions in Richmond and one at the University of Maryland, were when Dr. Levin S. Joynes showed us the blood circulating in the web of a frog's foot and casts, pus cells, etc., in urine. Clinical advantages in those days in Richmond were very inadequate, and the University of Virginia had no hospital, and practically no clinics. People in those days did not go to hospitals as they do now. In fact, the word *hospital* was in bad repute, and sick folk went to infirmaries, retreats, and asylums. It is only in recent years that the old word hospital has come into its own again. At both the University and Medical College of Virginia the dispensary as a means to supply clinical cases was brought into use at a later day. At the University of Maryland I found a school unaffected by the war,—much larger classes, better equipment, and for that day a large hospital and better arrangements for clinical teaching, but no better teachers.

Teaching at all medical schools was didactic, and at both the University of Virginia and Medical College of Virginia, it was of a high order; in fact, the University came rapidly after the war to be regarded one of the very best theoretical schools in our country, and its graduates soon ranked as high comparatively as do Johns Hopkins graduates today. From this outline of medical teaching it is clear that while we had scores of able practitioners in America, they owed preeminence to their own efforts rather than to their college training, which at most only laid a foundation of medical knowledge, and the successful doctor learned medicine by practicing it, and the specialist, such as we had, made his own way in the world.

It would be interesting, if time permitted our going into such details, to take up the teachings and practice of medicine and surgery of fifty years ago and note the authors quoted and text-books used, but this would

serve no useful purpose since all this is now practically obsolete and is medical history. Louis, the first man after Floyer to use the watch in timing the pulse, in which his pupils, O. W. Holmes, Gerhard, and Jackson, followed him in America, died in 1872, the year I began practice. Garrison tells us that as late as 1870 the clinical thermometer was regarded as a novelty in Guy's Hospital, and that neither Keen nor Tyson, then U. S. army surgeons, saw either a thermometer or hypodermic syringe during 1862 to 1865, though Billings claims to have had both during the seven days' fighting around Richmond. To the best of my belief I had the first thermometer and hypodermic used in Louisa County when I began practice in 1872; and, looking back to my early experiences with the thermometer, I think I can say we succeeded in scaring both ourselves and our patients about as badly over high fever as we are doing now with the sphygmomanometer over high blood pressure. Chloroform was exclusively used in both Richmond and Baltimore, and Dr. Chisholm used to teach that a man who could not take chloroform was not a fit subject for operation. We heard lectures on pyogenic membranes, laudable pus, the dangers of sewer gas and the like. In Erichsen's Surgery, Vol. I, page 173, edition of 1873, the author defines antiseptic surgery as "rigidly excluding the impregnating germs from the wound," and says: "This may evidently be accomplished in two ways; either completely excluding all air from a wound or else by destroying the germs floating in the air around the wound by an antiseptic vapor, as of carbolic acid." So you see antiseptic surgery had a long way to travel, and I have an idea that Lawson Tait had to figure in it to get *aseptic* surgery on its feet.

Both we and our teachers were unconscious of the fact that we were living at the end of an era, that we were listening, like St. Paul at the feet of Gamaliel, to the teachings of a dispensation about to pass away, for even then Pasteur was preparing the foundations of a new knowledge destined soon to produce in our ideas and practice a change which I may compare to that which came to St. Paul when he saw the light on the Damascus road. With St. Paul the ten commandments and the moral law

had not ceased to exist but their application to man and man's relation to them had forever changed; and so the fundamentals of medicine, anatomy, physiology, symptoms of disease, etc., continued with us, but the teachings of Pasteur and Lister changed all our ideas of the causes of disease and the application of remedies and in a few short years revolutionized the practice of medicine and surgery.

Briefly stated, the advancement of scientific medicine in the second half of the nineteenth century was characterized by the introduction of biological or evolutionary views of morphology and physiology, out of which came the sciences of cellular pathology, bacteriology, and parasitology, new modes of seeing disease and its causes which had in them the germ of novel methods of treatment by sera and vaccines. The discoveries of Pasteur led immediately to Listerian or antiseptic surgery with its remarkable applications to such regions as the abdomen, the brain, the joints, the thorax and special sense organs and its great extension to operative gynecology. Great improvements in medical education, public hygiene, and military medicine followed on these developments in due course, and were further helped out by the great increase in the number and quality of scientific periodicals, and by the growth of rapid means of national and international communication. In this way, the various medical specialties had their origin and rapid growth and soon became something more than mere names; so that it now seems our profession is destined to become one of specialists rather than general practitioners as in a former age and generation.

From this outline it is evident that we older men have had full work, and interesting work, keeping up with the procession, and to be honest I must say we have paid more attention to the application of new ideas to practical work than to the scientific side of medicine. In other words, in an age of scientists we are more or less open to the old charge of being empirics, but we "get there all the same."

Before the war there was a Medical Society of Virginia, and from a copy of its constitution found in one of my father's old medical journals it seems to have been "hand-picked," composed of a select number of Richmond doctors who elected as associate members such

other doctors over the state as came up to their professional ideals. It was run much as is the Medico-Chirurgical Society of Maryland today, had frequent meetings, and had a library. I now own Bell's Surgery, printed in Edinburg in 1789, in six volumes, in each of which is pasted the printed label of the Medical Society of Virginia, and on each label is written "presented by Dr. Jas. Henderson."

This society ceased to exist during the war, so in November, 1870, a convention of physicians met in the chemical lecture room of the Medical College of Virginia and re-organized the society on a more popular basis. As a second year medical student, I attended all the sessions of this body, but the only speech of which I now have any distinct recollection was made by Dr. Albert Snead, of Richmond, deprecating the inadequate provision for medical education and proposing higher entrance requirements and a longer course of study, much as we have now. So many things might be said about this society, its politics, sometimes exciting, its officers, and especially in commendation of the unselfish services of its long-time secretary, Dr. Landon B. Edwards, that time would fail me, and I had best not begin. This society has been of incalculable benefit to our profession in many ways and can be made of yet greater benefit if properly fostered by the rising generation of doctors who have already reaped the benefits of its earlier efforts in promoting medical education, weeding out of the state incompetent, irregular practitioners, legalizing dissecting, promoting public health legislation, and freeing us from a license tax.

Some of the most pleasant memories and hours of my professional life are connected with the social features of our society meetings, and in other days the meeting of old acquaintances and friends brought more than ample compensation for the often inconvenient loss of time and absence from home, but in recent years I find the faces getting to be all new and young, and I feel like one "who treads alone some banquet hall deserted."

"As life runs on, the road grows strange
With faces new—and near the end,
The milestones into headstones change—
'Neath every one a friend!"

Prior to the establishment of the State Board of Medical Examiners in 1885, all that was necessary to get a license to practice med-

icine in Virginia was to pay the state license fee of \$10, and the state accepted any man's money, asking no inconvenient questions as to either qualifications or character. The applicant for license need never have attended lectures, and there were a number of physicians in regular practice who had taken only one course of lectures. In fact, this was not uncommon. A doctor who in his day was quite prominent in Southwest Virginia began his medical career during the civil war as a hospital steward and clerk, and after the war located and practiced medicine in Grayson County until he got together enough money to pay for his M. D. degree at the University of Virginia. When I located in Marion in 1881, I found there a regularly advertised non-graduate cancer doctor who moved about from one locality to another, first flooding the section to be visited with advertisements of his wonderful cures of cancer and chronic diseases. It used to be no uncommon thing for men of this kind to drop in on a community and fill the papers and mails with promises to cure all incurable diseases, and they usually succeeded wonderfully in separating the fool and his money. Comparing conditions now and then, it is hard to realize how difficult it was to convince our lawmakers that it was good public policy to protect people from these impostors and give them physicians who had some training in their profession; yet the bill creating the examining board was before several legislatures before it finally became a law in 1884, and the inside history of the fight to get it enacted would in some respects be interesting. To lessen opposition on the part of physicians, it was agreed that the law should not be retroactive, that it should apply to doctors applying for license the first time, and these applicants were not required to be graduates in medicine; in fact, there were no requirements except that the applicant must be examined by and pass the board, which was appointed by the Governor on the recommendation of the Medical Society of Virginia, and pay a fee of \$5 to cover the expenses of the board.

The first board, whose commissions were signed by Gov. Wm. E. Cameron and dated from January 1, 1885, consisted of three members from each congressional district and two

from the state at large, and, while the law provided for regular examinations as now held, a man could at any time go before any three members and be examined on the whole course by each of them, after which, if he passed all three examinations, he got his license.

Dr. Wm. C. Dabney, of Charlottesville, was the first president, and the board authorized him to assign four members to conduct examinations on each branch. He assigned me to chemistry, along with Dr. Hugh Nelson, of Charlottesville; Dr. Richmond Lewis, of Richmond, and Dr. Peak, of Hampton, and the first set of questions ever put up at an examination of doctors in Virginia was put up by our section in Richmond in the spring of 1885. I served one four-year term and part of another, but as I had no practical interest in chemistry and found the frequent individual examinations quite a nuisance in several ways, and as the fees paid did not begin to pay my railroad fare and hotel bills, I resigned, feeling that membership on this board was, to use a political phrase of that day, "an honor that did not buy a breakfast."

There can be no sort of doubt that this law has been of the greatest advantage to our profession by improving medical education and putting entrance into the profession under control of those interested in elevating professional requirements and standards. The public has benefited by reason of much better qualified professional advisers and by the development of a widespread popular interest in medical education and all that concerns health and hygiene, so that we doctors have to be ever on the alert to keep up with newspaper medicine and be able to answer oft propounded questions.

To tell about the efforts of our profession, extending over a number of years, to induce our lawmakers to establish a State Health Board and to show how, through this agency, all that pertains to public hygiene has been fostered and many lives saved to the state might interest some, but many of you are doubtless old enough to have taken part in this work and I can add nothing to what you already know. As a result of the activities of our most excellent Health Commissioner, Dr. E. G. Williams, a popular interest has been excited and

people are being educated in things medical, and the attitude of the public towards our profession is changing. People begin to seek advice oftener and rather from the life insurance point of view, that it is better to be kept well than to be cured; so the doctor is becoming the family health adviser and public sanitarian; and it is the duty of our profession to meet this new public attitude in an intelligent, open and frank way. The doctor can no longer be content to confine himself simply to treating the diseased of his community, but must take a wider range of action. Disease, poverty, and crime can not now be considered separately, for he who seeks to remedy one becomes an authority on the other, and sanitation has so extended its domain and interwoven itself into the fields of sociology and ethics that we all begin to see the truth of Dr. Gorgas' statement that a living wage for the laborer is the very first step in sanitation; that sanitation lessens disease, poverty and crime—a circle, and a vicious one. Socialism is fast losing much of the opprobrium once attached to the word, and people are coming to believe there is as much need for a commonwealth's doctor to look after the public health of each county as for a commonwealth's attorney to look after public morals. In fact, the day may not be distant when we will have state medicine such as was enacted a few years ago in England and in Germany, by which every person is insured ample medical and surgical attention and the physician prompt payment for his services. Even now California and other states have such a law under consideration, and the working man's compensation laws now in force in various states are but steps in this direction.

The necessary limitations which time places on such a paper as I have attempted make it needful to omit many circumstances and incidents which would have added interest and shown the parts played by individuals. I have, therefore, tried rather to show how the profession as a whole has advanced and somewhat of the unfortunate and difficult conditions with which we have had to contend in the past fifty years, and shall have to leave you to compare the somber past and brighter outlook for the future of medicine. While I feel I am due you an apology for the inade-

quacy of my attempt to portray this interesting period in our history, I am sure you agree with me that it is well to look back at these events, the actors in which are all fast passing away, and leave on the minds of this younger generation some knowledge of the struggles of those who have gone before as an incentive to action on their part.

Of the 92 physicians who met in Richmond in November, 1870, and organized our State Medical Society, which has been the active agent in urging all these reforms, only six were reported alive in our Transactions for 1915. Of the six, I know five more or less well and knew well many of those now dead, and can say of them that they won and wore life's honors well. As one who, in a modest way, had sometimes a part and always an interest in these events briefly outlined, I have thought it a possible duty to help perpetuate the memory of these struggles and perhaps thereby excite someone to a more worthy effort at preserving and writing our State medical history.

DILATION OF THE RIGHT VENTRICLE WITHOUT DILATION OF THE LEFT: CAUSES AND SYMPTOMS.*

By PHILIP S. ROY, M. D., Washington, D. C.

Causes. The right ventricle occupies most of the anterior aspect of the heart, therefore it is the most accessible portion of the heart for physical examination. It is the thinner of the two ventricles and the more distensible, particularly that portion adjacent to the pulmonary artery called the conus arteriosus. We all know how the left ventricle in times of distress turns to the right for assistance, causing the right to dilate, but in the condition I shall describe dilation of the right ventricle is primary.

While I will say something about dilation of the whole ventricle, it is dilation of the conus arteriosus and adjacent tissues to which I especially call your attention. The conus arteriosus commences at the third rib on the left side of the sternum and extends down to the fourth rib. It and the part adjacent are the portions of the right ventricle most often dilated. The causes of the dilation are rheumatism, phthisis, typhoid fever, nephritis,

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over-strain, pneumonia and asthma. Other infections than those I have mentioned may also cause the condition. It occurs more often in childhood and early adult age, but no age is exempt.

Symptoms. In all cases of heart failure, one of the earliest indications that the heart is unable to do its work is dyspnea: in the condition I am describing, it is often severe, particularly when the dilation is due to anemia: I have known patients to become breathless upon going up three or four steps. Occasionally there is a certain amount of discomfort or pain. Globus hystericus is another not uncommon symptom. Fulness of the veins of the neck is an early symptom of failure of the right ventricle. This fulness results from the difficulty which the right ventricle experiences in forwarding the blood through the lungs at the normal rate. The veins have what we call a false pulsation, which can be distinguished from the true pulsation in tricuspid regurgitation by noting that the emptying and filling of the veins are not influenced by the heart-beat, but by respiration. The pulsation is more distinct during inspiration than during expiration. It is in this condition that we so often have the venous hum or murmur most marked in anemia.

Physical Signs. On inspection and palpation we find a pulsation at the fourth left interspace. As the ventricle dilates, this pulsation rises to the third and second interspaces and extends out as far as the nipple line. I have seen it in one case as far as the anterior axillary line: The pulsation is wavy in character and does not resemble the strong pulsation of aneurism. Wilson, of Birmingham, England, after careful observation, does not believe that this pulsation ever comes from dilation of the left auricle. On percussion we get dullness over the dilated portion, and this dullness is more marked when the patient is in a horizontal position. A systolic murmur is heard in these cases at the pulmonary valve. And a pulmonary systolic murmur in anemia nearly always means dilation of the conus arteriosus. The apex beat in dilation of the left side of the right ventricle is often higher than normal; the dilation of the right ventricle seems to drag the heart upward. Certainly in most cases of primary dilation of the right ven-

tricle the dilation is upward and to the left, but the ventricle under further strain may also dilate to the right, in which case we will get a pulsation to the right of the sternum, and with this will occur three characteristic symptoms of complete dilation of the right ventricle; tricuspid regurgitation, systolic pulsation of the veins in the neck, and pulsation in the liver, and, at times, a murmur in the vena cava superior. I mention this murmur because it has been mistaken for the aortic systolic murmur, and I believe at times it is very hard to differentiate the two. The aortic systolic is heard best at the second interspace. The venous murmur is heard at the third and fourth interspaces. The aortic murmur is better conducted along the subclavian artery than is the venous murmur along the subclavian vein, owing to the presence of the venous valves. Another point that will aid us in differential diagnosis is that the aortic murmur is nearly as loud in the neck as at the second right interspace, while the venous murmur is generally lost in the veins of the neck. The physical explanation of a murmur in the superior vena cava is that, in dilation of the right ventricle the superior vena cava is dilated to the point where it passes through the pericardium, and the narrowing of the vein at this point causes the murmur.

I wish to report three cases of dilation of the left side of the right ventricle, without any physical signs of dilation of the right side of the ventricle and no tricuspid regurgitation.

Case 1. Child, ten years old, great shortness of breath, hemoglobin index 55; upon examination he was found to have all the physical signs of dilation of the left portion of the right ventricle. With rest, diet, arsenic and iron, the patient recovered.

Case 2. A young woman of 30, with acute inflammatory rheumatism, was seen in consultation. The dyspnea was so great that she could not lie down, and rested only after hypodermics of morphia. The pulsation on the left side of the sternum in this case extended out beyond the nipple line and up to the first rib. The patient was made as comfortable as possible with opiates. Digitalis was given, also rheumatic treatment, and although on several occasions it looked as if death were near,

she gradually recovered and all heart symptoms disappeared.

Case 3. A man of 68, with pneumonia of the right lung. He progressed very favorably; the crisis was followed by rapid improvement for five days, when, against my instructions, he got out of bed and attempted to move around. I was sent for in great haste. Patient was suffering intense shortness of breath and presented the picture of a very ill man. Upon physical examination I found that the right ventricle had dilated on the left side, and this entirely explained his condition. Fortunately, under rest and treatment, the man made a complete recovery.

It is interesting to note that, in infections, the heart muscle is often changed in character and made as distensible in old age as it is in youth.

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SOME OF THE INDICATIONS WHICH CALL FOR OPERATIVE INTERFERENCE IN ACUTE MASTOIDITIS.*

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When to operate and when not to operate in acute mastoiditis is a question we are frequently called upon to decide, and I am taking up this subject on account of the diversity of opinions among various surgeons.

As a matter of fact, we see cases when we do not hesitate to advise an immediate operation, but a great many cases come under our care in which we cannot decide whether it is best to operate or to institute an abortive treatment, hoping that the mastoid will clear up. Personally, this has been one of my difficulties, deciding which method to pursue. Each case has to be decided individually and the decision will rest entirely upon one's surgical judgment.

I believe in acute mastoiditis that if we can keep good drainage through the drum many cases can be aborted.

It is not sufficient to do one myringotomy and then wait for developments. A thorough examination of the canal should be made daily and if there is the slightest retention of pus several myringotomies should be done, if

needed, and the canal irrigated with some hot solution every two or three hours.

I wish to emphasize the importance of a thorough irrigation of the canal immediately after doing a myringotomy, for so frequently there is a considerable hemorrhage and a blood-clot is formed in the canal; unless this is removed you have accomplished nothing as the drainage is blocked. You may find a good deal of discharge and still have some retention of pus, so it is not sufficient that you inquire whether there is any discharge from the ear and be satisfied when they show you the cotton saturated with pus, but the canal should be cleaned and a thorough examination made.

A boy, twelve years old, was referred to me recently with a history of being unable to sleep on account of pain in the mastoid. There was edema, mastoid tenderness and a discharge from the ear, which had lasted for about one week. On examination I found a bulging of drum with retention of pus. A free myringotomy was done and hot irrigation given every two hours. The pain subsided at once. The edema and mastoid tenderness gradually subsided in about one week.

I recall the case of a child, four years old, that was sent to the operating room for immediate operation. There was a history of a discharge from the ear for several days, with considerable post-auricular swelling. The case, however, was turned over to another surgeon for operation. After the child was under the anæsthetic, he decided to make an examination and thought it best to do a free myringotomy and keep the case under observation. This was done and hot irrigations given every two hours. The edema gradually subsided and the mastoid cleared up.

In uncomplicated cases of acute mastoiditis in children, even if there is an edema of mastoid, a free myringotomy should be done so as to give thorough drainage before submitting the patient to operation.

How long should we wait before operating in acute mastoiditis? It is best to wait from 36 to 48 hours in uncomplicated cases after the advent of mastoiditis. It affords time to observe the case, get the character of infection, and to institute abortive measures. The body resistance is better several days after infection, and, also, nature will shut off the venous blood-

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vessels in the mastoid and lessen chances of invasion of the sinus.

In the aged we fear complications a great deal more. Osteo-sclerotic changes are more apt to be found in the old than in the young individual, and the harder the osseous wall enclosing the purulent process the more danger of pus spreading in other directions and thereby setting up some cerebral complications.

If we have an acute mastoiditis on a chronic middle ear suppuration we should operate at once. There is apt to be a necrosis of bone due to a chronic inflammatory process and we may have serious complications.

A total white-blood count and differential is a great assistance to us in making our decision whether or not to operate. Pain is quite an important symptom, and if the pain persists after you are satisfied that there is good drainage from the ear, then, I think, an operation is called for. However, some of the gravest cases we have to deal with complain of no pain. These cases are frequently found among the diabetic, alcoholic, syphilitic and the tubercular.

I saw a case of acute mastoiditis in a man of 50 years, in which there was little or no evidence of pain present. He was kept under observation for about one week. Then, on operation, there was found a very extensive necrosis, so that it was necessary to make a posterior incision.

Headache is a symptom we should not overlook, and whenever a patient complains of headache with mastoiditis we should respect it. When we see a patient it is easy for us to forget to attach any especial significance to the complaint that he has a headache. If a severe headache is a prominent complaint in mastoiditis, it is wise to do a lumbar puncture, so we may know exactly what conditions we are dealing with.

The Roentgen-ray is one of our greatest aids in diagnosis in showing the involvement of the mastoid. If the plate shows the walls broken down between the mastoid cells, there is no question about the diagnosis. However, the various degrees of cloudiness of the mastoid cells shown by the plates are a more difficult thing to interpret. As an illustration of this, I recall the case of a woman, aged 30, who had

been in the hospital for one week, under observation, with furunculosis of external auditory canal. She complained of pain constantly and there was edema and mastoid tenderness. On account of the swelling of the canal it was impossible to get a view of the drum. There was a purulent discharge from the ear and she ran a temperature of 100° to 101°. A mastoid-ectomy was done on account of the Roentgen findings, which showed a cloudiness of the mastoid cells. At operation it was found to be a normal mastoid. There was pus under the skin, over the mastoid, and this was the reason given for the mistake in the interpretation of the Roentgen plate.

In acute mastoiditis of diabetics, we should not operate unless it is imperative, and I believe local anæsthesia is preferable, but if a general anæsthetic is called for I think we should use gas-oxygen.

The character of the discharge, the appearance of the canal wall and the drum are of great assistance to us in making our decision whether or not to operate. It is best to take a culture in all cases and, of course, if we are dealing with a streptococcus mucosus-capsulatus infection we are always more apprehensive and the case should be closely watched; for this form of infection has a tendency to develop a most dangerous and insidious latent period. There may be no symptoms, except the discharge containing the mucosus-capsulatus. It is not safe, as a rule, to watch these smouldering cases with mucosus-capsulatus infection for longer than three weeks, and I think cases of this nature demand at least an exploratory operation.

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FORTY YEARS ON THE FIRING LINE.*

By W. B. BARHAM, M. D., (Univ. Penna.) Newsoms, Va.

Surely this is an era of "Wars and rumors of wars." In Isaiah, second chapter and fourth verse, we find this prophecy: "And he shall judge among the nations, and shall rebuke many people; and they shall beat their swords into plowshares and their spears into pruning-hooks; nation shall not lift up sword against nation, neither shall they learn war

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any more." And in Micah, fourth chapter and third verse, we find the same delightful prophecy. Coming down to a more recent date, England's greatest laureate, in his half-epic and half-lyric poem, "Locksley Hall," sang in these words:

"Till the war-drum throbbed no longer, and the battle-flags were furl'd
In the Parliament of man, the Federation of the world."

"There the common sense of most shall hold a fretful realm in awe,
And the kindly earth shall slumber, lapped in universal law."

Surely these pleasing prophecies are sadly belated. Happily we have been kept at peace with the world and out of the great maelstrom of conflict that has engulfed well-nigh all Europe, fulfilling the dream and desire of our forefathers that this nation should be the arbiter among the nations of the world. In poor bleeding war-stricken Europe every cranny, nook and recess of nature has been ransacked, every ingenuity of man has been brought into play, in order that men may find instruments of war for the destruction of their fellow-men. Surely we realize as never before that

"Man's inhumanity to man makes countless millions mourn."

And when we think of the awful carnage over the seas, we are constrained in the bitter agony of heart, to exclaim with the Psalmist, "How long, oh God! how long!" and to pray for the gladsome day when we may grasp, with all its true meaning, the spirit and teaching of the Man of Galilee who, when footsore and amid persecutions, trod the plains of Judea and proclaimed that greatest and sweetest of all evangelions, "Peace on earth, good-will towards men!"

But, happily, there is a reverse and brighter side to the picture, and while the sunny slopes and plains of France and Italy are deluged with blood, and, while little Belgium is battling in a death-struggle for her liberties, and the Russian and Turk have met again in deadly conflict, it is pleasing to know that there are here and there throughout the civilized world men and women who, in the true spirit of humanity, are giving their substance, their time and their lives, not to the destruction of their fellow-beings, but to the cure of their diseases, and to the alleviation of their sufferings. This

is the real firing-line as physicians see it; and the one redeeming feature of the war that is now desolating Europe is that physicians of the opposing armies can rise above their hatred and prejudices and leave them at the threshold of the hospitals. There the sick and suffering are not known as Germans, Frenchmen, Italians, Turks, Englishmen, and Austrians, but as God's creatures, requiring and receiving medical attention, regardless of race or nationality.

In this paper I shall discuss no problems of therapeutics, pathology, etiology or diagnosis; no improved technique in the various surgical procedures. Nor shall I have anything to say about my patients. They shall have a short rest, which they will, no doubt, relish. I shall talk about doctors themselves; something about them which I have learned from rubbing shoulders with them in an active practice of forty years, and I shall "Nothing extenuate, nor set down ought in malice," and lest any offence be taken I will say that every page of this paper is a leaf from my own life's history, observation and experience. It has been written from the viewpoint of the Country Doctor, whom Will Carleton had in mind when he wrote these lines:

"In the night-time or the day-time, he would rally
brave and well,
Though the summer lark was piping, or the frozen
lances fell;
Knowing if he won the battle, they would praise
their Maker's name,
Knowing if he lost the battle, then the doctor was
to blame.
'Twas the brave old virtuous doctor,
'Twas the good old faulty doctor,
'Twas the faithful country doctor—fighting stoutly
all the same."

"When so many pined in sickness, he had stood so
strongly by;
Half the people felt a notion that the doctor couldn't
die;
They must slowly learn the lesson how to live from
day to day,
And have somehow lost their bearings—now this
landmark is away.
But perhaps it still is better that this busy life is
done;
He has seen old views and patients disappearing
one by one;
He has learned that death is master both of Science
and of Art;
He has done his duty fairly, and has acted out
his part.

And the strong old country doctor,
And the weak old country doctor,
Is entitled to a furlough for his brain and for his
heart."

For convenience I shall divide my paper into two sections: First, the day of optimism, illusions and credulity; second, the day of disillusionment,—when a man comes to himself.

First, the Day of Optimism, Illusions and Credulity:

Perhaps in no profession or avocation is there more to inspire one with optimism than in that of medicine. Especially is this true the nearer we approach that of an exact science, when all the doubts of the past have been swept away, and when the atmosphere has been clarified by exact laboratory investigations and findings. Both the secular and medical profession team with the wonderful achievements of men like Crile, the Mayos and the lamented Murphy in the realm of surgery, while advances just as marvelous and beneficial, though, perhaps, not so spectacular, are the result of laboratory investigations in the field of pathology, bacteriology and in the therapeutics of internal medicine. Old theories and methods of treatment are put off and discarded as we would a worn-out garment. The abdominal cavity, which only a few decades ago was to the surgeon a veritable *terra incognita*—a tabooed region,—is now fearlessly invaded and explored for diagnostic purposes as well as for treatment. At a meeting of this Society in Petersburg 39 years ago, the distinguished surgeon and philanthropist, J. Marion Sims, opened the abdominal cavity in a woman for supposed tumor and, because he found extensive adhesions, instead of breaking them up, finishing the operation and saving the life of the patient, he closed the wound, confessing failure. The now common disease, appendicitis, was not recognized as an entity until Reginald Fitz, of Boston, in 1886, flouted his opinion in the face of the great Dupuytren, of Paris, and gave it a place in the nomenclature of diseases.

These wonderful discoveries and achievements in the methods of diagnosis and treatment have had an effect not always for good. While they have inspired a sane optimism in competent hands, adding one triumph to another as the years go on, they have caused others, not so fortunate and well qualified for expert work, to see visions and dream dreams that wrought in many cases disaster to their patients—visions and dreams that like the

child's soap bubbles, break and collapse at the first point of resistance.

This over-optimism, if I may coin a word, may be harmful, especially among certain younger men of the profession, leading to habits of waste and extravagance in the buying of instruments and medicines. I speak advisedly, because, in days gone by, I was one of them, and I have now in my office instruments long since useless and obsolete, of no use whatever, whether in the heavens above, the earth below, or in the water under the earth. They were bought when my life was tinged with the most roseate hue, and when the proverbial silver lining to the cloud was in full view. These lines of Longfellow.—

"Lives of great men all remind us,
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time."

have been many a man's undoing, spoiling many a good carpenter and making many a poor physician; many a good shoemaker and making many a poor minister of our Lord's gospel; many a good blacksmith and making many a poor lawyer.

But do not misunderstand me. There can be no earthly objection to optimism and enthusiasm, so long as they are kept within reasonable bounds. As a matter of fact, the men and women who have accomplished anything in the world's affairs, have been the men and women whose lives have been strongly tinged with these elements. It is said that when the inventor, Samuel G. Morse, was trying to perfect his telegraph apparatus, he applied to a committee of congress in Washington for government aid. One day, strange to say, there was a lull in the proceedings, when one member, half in jest, moved that the committee see that crank man again, referring to the crank by which the apparatus was operated. Little did he think that he was coining a word that would go down through the ages, and now when at certain times that name is applied to certain Mark Tipleys and Happy Hooligans of this body, they are placing us in better company than they imagine.

But if habits of extravagance were the only dangerous things to be considered, the fault could be condoned. Then only the physician himself is harmed. But the great menace lies

in the fact that, emboldened by the successful work of some noted and competent surgeon, the young man loses his head and attempts things for which he is neither fitted nor prepared. The result can only be failure and humiliation to the surgeon and, too often, death to the patient. Too late he realizes his limitations, and finds to his sorrow that every physician cannot be a noted surgeon or clinician. All his fine-spun illusions of fame are:

"Like to the apples on the Dead Sea's shore—
All ashes to the taste."

Human nature and particularly doctors' nature is the same the world over. We, like other people, are of like passions and attributes and intensely human, and the physician who, with any ginger in his make-up, has never

* * * * "builted with roofs of gold,
His beautiful castles in Spain,"

has never been born. We receive our diplomas and other credentials, and, following the advice of Emerson, we "Hitch our car to a star." For a time everything goes well. Life is like one long sweet song. And then comes a hitch. Something is out of gear. Instead of getting an automobile, it is possible that he has purchased a "Ford," or it may be that the garage man has given him a bad job, or he has an inferior grade of gasoline, or his carbureter is not working as it should. At any rate he has received a terrific jolt. He finds that his professional mechanism needs readjustment; that if he is to fill his niche in the world's affairs he must take an inventory of his mental liabilities and assets.

Now, if he is made of the proper material, he goes through a process of introspection; he casts his eyes about him for new and solid bearings on which to move and looks for some beacon light to guide him as he starts anew his professional voyage through life. His day of disillusionment has come,—he has come to himself.

Second, The Day of Disillusionment,—When a Man Comes to Himself.

Woodrow Wilson says that there is no particular age at which a man comes to himself—at which he may become disillusioned; that there are men so hopelessly inane that they go through life in a sort of fool's paradise, never

coming to themselves, like driftwood borne on life's flood. They drop out of the world's affairs and their absence is never known or felt.

And there are different ways by which one may be disillusioned—brought to himself,—or, to use an every-day expression, have the conceit taken out of him. Will you pardon the mention of two taken from my own experience? Three of us met at the home of one of my patients, intent on operating for some abdominal trouble. Everything was in readiness, when the patient called me to him and, after thanking me and my friends through me, he firmly told me that he had decided not to have the work done—that he wished to remain with his family a while longer, and that he preferred a natural death. And sure enough he did remain with his family several years longer. The second was a frightful railroad accident, requiring Larry's shoulder-joint amputation. For the lack of better instruments I used a butcher's knife. To the surprise of everybody the patient recovered. Of course, I felt a pardonable pride in the case. Before he had fairly recovered I rushed him to the photographer for his photograph. This together with an account of the operation I sent to my old teacher, D. Hayes Agnew. Imagine my chagrin and surprise when I received a letter from him strongly condemning such crude, barbarous and unscientific surgery, and closed his letter by quoting something about fools rushing in where angels fear to tread.

Another way of accomplishing the same thing is done by a personage whom a noted gynecologist in New York very inelegantly but aptly defined as, "A human being of the female persuasion with the pain in the back and a constipation, a woman." Those of us who have read Washington Irving's entrancing romances will recall how Katrina VanTassel, the Jilt of Sleepy Hollow, brought to her feet the suave pedagogue, Ichabod Crane, and how, spurred on by his rival, Brom Bones, she gave him the mitten in such a way that he departed from Sleepy Hollow never to return. These personages have departed from the field of action, but they have left their successors. The Katrinas are still exerting their charms and the Ichabods are still acknowledging their sovereignty. We love them for their very foibles. They are our queens and we fall at their feet.

They are puzzles to us and are never more so than when, at a critical moment in our lives, they calmly express their surprise at our declaration and, with a manner peculiar to them, decline our proposal, and offer to be our sisters; and I would say, in passing, that, if every woman who had made this promise were here today, every man would be standing and the women would be comfortably seated.

Yes, in one way or another, the physician has come to himself. Whatever the disillusioning process has been, if he has the proper fiber in his make-up, he adjusts anew his chart and compass and begins anew life's problems and duties, content in that sphere where his talents have placed him.

"What each day needs that shalt thou ask,
Each day will set its proper task."

Carlyle struck the key-note in our daily problems and anxieties when he said that "Our main business is not to see what lies dimly in the distance, but to do what lies clearly at hand." The trouble with many of us is that we have not gotten the proper perspective of life; we see through a glass darkly. "Surely," says Woodrow Wilson, "a man comes to himself only when he has found the best that is in him, and has satisfied his heart with the highest achievement he is fit for. It is only then that he knows of what he is capable and what his heart demands. And, assuredly, no thoughtful man ever came to the end of his life, and had time and a little space of calm from which to look back upon it, who did not know and acknowledge that it was what he had done unselfishly and for others, and nothing else, that satisfied him in the retrospect, and made him feel that he had played the man. That alone seems to him the real measure of himself, the real standard of his manhood. And so men grow by having responsibility laid upon them, the burden of other people's business. Their powers are put out at interest, and they get usury in kind. They are like men multiplied. Each counts manifold. Men who live with an eye only upon what is their own are dwarfed beside them—seem fractions while they are integers. The trustworthiness of men trusted seems often to grow with the trust." And what applies to other men in this connection, applies equally to physicians. So "Let us hear the conclusion

of the whole matter: Fear God and keep His commandments; for this is the whole duty of man." And happen what may, so let us act that it may in the end be said, we "bore without abuse the grand old name of gentleman."

A NEW TREATMENT FOR STATUS EPILEPTICUS.

By WM. HELD, M. D., Chicago, Ills.

He to whose lot it ever fell to attend a case of status epilepticus, will readily appreciate the feeling of misgiving which takes possession of the physician as he approaches another such patient. The attack at first has the characteristic appearance of one of the many which the patient experienced in the past. The family, having exerted themselves by the employment of the usual measures which aim to protect the epileptic from injury during convulsions, relieving of constriction by tight clothing and similar services, becomes alarmed at the fact that the patient does not regain consciousness after the attack but, instead, passes into another convulsive state. It is generally at this point that medical aid is summoned. The sad foreboding of prolonged and repeated convulsions, without regaining consciousness during the convulsion-free interval, soon gives cause to justified alarm. One seizure follows another until, after a variable period of time, the patient, under complete exhaustion and deep epileptic intoxication, breathes his last.

Recovery from genuine status is extremely rare. This being the well-known fact, I have often prepared the family to face the impending danger by stating this fact. Where so much is to be gained and little to be lost, any reasonable method of treatment should be given a fair trial. Arguing that the remedy which has proved beneficial in periodical epileptic seizures, should or might be of value in a siege of the same condition, I determined to put this reasoning to a practical test at the next opportunity.

Within one year I have treated six status cases by the method and with the results here described: Hot application to patients' feet and cold to the head. Plenty of fresh air was admitted by opening of windows during which time the body was protected against chills. Phlegm in patients' mouth was removed by the protected finger to prevent forcible inspi-

ration of particles during convulsions. A high rectal enema of two quarts of warm water was given. This aided bowel and kidney action and was sometimes enhanced by hot application over bladder and kidneys. All treatment was carried out regardless of convulsions, for which reason a good assistant was essential. One arm was bared, constricted above the elbow and 10 or 20 cc. of blood withdrawn into a glass syringe. The larger quantity was obtained in cases with marked congestion of the head. The blood was placed in test tubes and for a few minutes cooled by holding same under stream of running water, or by placing on ice where such was obtainable. The blood was then centrifuged and two cc. of the serum drawn off. This was placed into a sterile vial and two cc. of sterile physiological salt solution added. After thoroughly shaking this solution, one-half of the same was poured out, that is two cc. thrown away. To the remaining two cc. of solution another two cc. of the salt solution was again added and the process of shaking and discarding of one-half of the quantity, repeated until fifteen solutions had been prepared. To the last solution of four cc. I added two drops of dissimilar anti-epileptic serum, and of this solution—(that is, the patient's blood serum, the salt solution and the anti-epileptic ferment)—five drops were injected intravenously into the epileptic, again utilizing a vein at the elbow. The serum was obtained from any epileptic just then under treatment and is the same which I have used in all cases of epilepsy.

My reasons for using this anti-epileptic serum are based upon the fact that epileptics have promptly responded to such injections by registering reactive attacks, thereby proving the homogenous character of the injected and the disturbing elements present in the system. Moreover, it is known that injections of nerve substance and of pituitary substance lessen blood pressure, which again reminds of the Wentzel theory (1806) which held that epilepsy is caused by accumulation of colloids in this gland, so that the employment of my anti-epileptic serum, which contains these elements, seems very justified. The results in the four successful cases consisted in a gradual diminution of convulsive intensity. No other convulsion followed the injection. The patients be-

came quiet, slept on and behaved as after ordinary attacks of epilepsy. Two of the patients experienced a delay of five and five and one-half weeks, respectively, in the recurrence of their next attack, following recovery from status. This may have been due to the introduced anti-epileptic ferment or to protective ferments liberated during the siege. Two of the six patients died in status without any noticeable change despite the treatment, but in one of the fatal cases the anti-epileptic serum addition was not made, it not being on hand in time.

The results obtained and bearing the usual gravity of status in mind, warrant the earnest consideration of the suggestions here made.

The serum treatment, being intravenously, should be administered by one experienced in specific serum therapy or at any rate by one very observant as to aseptis.

5511 Higgins Ave.

Communications.

Provision for Doctors Who Enlist in Case of War.

To the Editor:—Should the country ever be engaged in war, the Medical Department of the Army in calling for Reserve officers to the colors, wishes to cause as little hardship and sacrifice to the Reserve medical officers as may be consistent with the needs of the country. With this end in view the Department desires that you bring to the attention of the profession at large the necessity of the city, county, and state medical societies organizing for the purpose of taking care of the practices of the officers of the Reserve who respond to a call for service. In England this plan has proven of great benefit. The idea of the Department is that the profession should organize upon a similar basis.

For example, should Dr. Jones be called to the colors, the local medical society, through its members, would take care of his practice during his absence. Upon relief from active duty his practice would be returned to him intact. Such a plan will cause no unnecessary hardship upon the officer responding to a call for service; while the absence of such plan would penalize the officer who gives his ser-

vice to the country in a crisis. The Department appeals to the patriotism of the profession, to protect the interest of those of the profession who may be called to duty in war.

For the Surgeon General,

ROBT. E. NOBLE,

Major, Medical Corps, U. S. Army.

Proceedings of Societies. Etc.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

(Continued from page 565.)

Pathogenesis of the Nasal Neuroses.

By CHARLES P. GRAYSON, M. D., Philadelphia.

The subject is reintroduced because of the fact that during the past few years some very important additions have been made to our knowledge of the causes and consequences of certain disturbances of metabolism, the effects of which should arouse particular interest because of their bearing upon the genesis of the nasal neuroses, being those that are exerted upon the cerebrospinal and sympathetic nervous systems. Reference is intended only to the vaso- and secretomotor neuroses of the nose, and not to the functional disorders of the olfactory nerve, nor the neuralgias of intranasal or accessory sinus origin. The treatment of these affections has not been rational, in the sense of having been directed against their cause rather than their effects. It has been too largely local. Loss of vasomotor equilibrium is almost invariably due to a greater or less degree of nervous exhaustion. Anaphylactic reaction may explain a moderate number of cases. The basic condition of almost all of these patients is one of neurasthenia due to metabolic derangement occasioned by persistent violation of the laws of personal hygiene. The studies of Abderhalden, Fanser, Katka, and others, of the physics and chemistry of the colloids and of the effects of ferments, toxins and hormones upon the sympathetic nervous system have a close relation to the etiology of the nasal neuroses. No strict pathogenic analogy exists between these diseases and the angioneuroses of the nose, but it requires no great stretch of the imagination to discern a possible or even probable relationship between the metabolic processes concerned in

each. It is almost a certainty that in dealing with the nasal neuroses we are dealing with phenomena that are the outcome of some perversion of metabolism. Its exact nature may vary in different cases, involving at times some glandular disfunction, at others toxemias of intestinal origin, and at still others the presence in the blood plasma of certain ferments or hormones, but in all cases the symptomatic result is due to the same intermediate cause—a toxic action which expresses itself through the sympathetic or autonomic nervous system. To be successful in suppressing the neurotic type of nasal disorder, we must abandon our fruitless search for specific remedies and apply ourselves to the hygienic instruction of our patients and to the development of an internal treatment founded upon a recognition of the essential nature of the disease.

DISCUSSION.

Dr. Greenfield Sluder, St. Louis: The entire text of Dr. Grayson's paper is so at variance with the work I have done, beginning in 1909, that I feel impelled to recall some of the things that are within this discussion. I realized then, and I do now, that there are many elements, all of which Dr. Grayson has cited, which must be considered. Patients are sometimes highly neurotic and neurasthenic, and all of the various features he has mentioned are there, but if you can trace some of these patients back to the beginning, you will find that up to a certain time they were in good health and supposed to be normal; that they began with a violent coryza, with a terrific headache, and in the wake of that followed the pain in their neck, chest, etc., conceived by the neurologist as pathognomonic of neurasthenia. The pain in their necks and stiff necks was transferred to a "dislocated vertebra," and for twenty years they were spoken of as neurasthenic. Watching these cases from time to time, it has been my opportunity to make out that preceding these symptoms was a sphenoidal postempyema, and in the wake of that remained a subacute inflammation, sometimes localized sharply to the sphenoid palatin formation or the membrane which overlies the nasal ganglion. The membrane overlying the nasal ganglion is a sharply inflamed patch of redness, clear as one of the lamps on the wall, and an application of cocain to that particular

point will relieve all the symptoms—the pain in the neck will vanish, the eyes become normal, etc.

It seems very difficult to work out that such a case in an able-bodied normal man, hard worked and responsible in life in every way, should point to the fact that that individual had suddenly become neurotic.

I shall not say anything more about it other than that my observations are in direct diametric variance with those of Dr. Grayson.

Dr. Burt R. Shurly, Detroit: It seems to me that we all err in taking care of this class of cases because of the fact that we do not classify them where they properly belong. In my opinion these cases should at least come under three large classifications: (1) Those cases which are sensitized to some particular condition, a food sensitization perhaps; (2) a so-called pollen sensitization; (3) a sensitization to some other chemic phenomenon.

We are just beginning to understand a few of the phenomena which may give rise to these devious motor disturbances. When we carry this subject deeper and farther, I think that these three classifications will include those cases which Dr. Sluder has mentioned, where we have termination in a purely localized condition; again, where we have a sensitization; and still again, where we have what has been so beautifully demonstrated in the laboratory with the carrier pigeon—a condition of early nerve fatigue in the granules in the giant cells of the spinal cord. You can take a carrier pigeon that has been on a long flight and examine histologically the giant cells of the spinal cord and find it completely changed from the picture of another pigeon's cells histologically. The granules in the first pigeon are absolutely used up, and the whole problem of nerve fatigue following that long flight of the carrier pigeon can be absolutely seen under the microscope. It is very remarkable—the change which the nerve cells adopt.

It would, therefore, seem very easy for that class of neurasthenics whose vasomotor function is less under hereditary disability, to have nerve fatigue develop under the slightest exercise. It seems to me that we must be very much broader in our consideration of this subject.

Dr. George A. Leland, Boston: It had

seemed to me for a long time that we have an autointoxication in these cases. Why are some patients so highly susceptible to nascent proteins? Is it not because they are so hypersensitive to all proteins? That means that we are overfed in a nitrogenous way. If the patient is highly sensitized to nitrogen, if he has autointoxication from hyperacidity of his blood, shown by the hyperacidity of the urine, then it is reasonable to suppose that a nascent proteid in its most terrible state coming from a germ of pollen should set up these nasal neurones. I do not consider it altogether a case of neurasthenia, but the "last straw breaks the camel's back." The patient is hypersensitized and therefore affected by these proteids.

He cited a case of a fashionable young lady, about thirty years of age, who came into his office one day, very indignant because she had been treated for a long time in various ways without obtaining any relief. So he asked about her general condition, and in the course of the questioning it developed that previous to four years before she saw him, she had been a stenographer, living very simply in a cheap boarding house and taking a normal amount of exercise each day. For the past four years she had been married to a wealthy man, and since that time had been living at a very fashionable hotel in Boston, eating heavy and rich foods, drinking regularly, and not exercising at all. When she had finished the story I told her, "Back to the simple life for yours!" and put her on a proper diet, and in less than three months she had no more hay fever and has had no more since.

Dr. Lewis A. Coffin, New York City: I have had some satisfaction in my treatment of this class of cases, which has been direct general treatment of the patient, particularly in regard to diet, elimination and cleaning up of the bowel.

Dr. J. Solis Cohen, Philadelphia: It has given me great pleasure to hear the paper, under discussion, because it confirms the opinion I expressed more than a generation ago in one word—"coddling."

Dr. Joseph L. Goodale, Boston: There is undoubtedly a psychic effect in some forms of this condition. We know that the outbreak of hay fever in certain cases frequently occurs on exactly the same day every year, notwith-

standing the great seasonal variations and the fact that the pollen does not appear always on the first of August. There are certain cases in which the hay fever appears on the first of August regularly, and that is the result, it seems to me, of a psychic expectancy. The man who went into the barn to set the broken leg of his friend was not thinking about his hay fever, and that is another reason why it probably did not develop. His psychism was not fixed upon the fact that he might develop hay fever.

Dr. Charles P. Grayson, Philadelphia (closing the discussion): I did not intend to teach anything new in this paper. My only intention was to refer to and emphasize certain facts of comparatively recent discovery or elaboration. I think *Dr. Shurly's* classification of these different cases is a thing we ought to be particularly cognizant of in every new case we examine.

There is no question of the occurrence and existence of cases such as those referred to by *Dr. Sluder*, but they are in a class by themselves. If he means to imply that it is a very large and extensive class, I have my doubts. Of course, there are a great many in the aggregate, but the proportion to all others is, I think, comparatively small.

(To be Continued.)

Analyses, Selections, Etc.

Clinical Review of 240 Cases of Non-Surgical Infection of the Kidneys and Ureters.*

By GILBERT J. THOMAS, M. D., Rochester, Minn.,

Mayo Clinic. (From the "Transactions of the Chicago Urological Society" for the year 1915-1916.)

In an attempt to discover the predisposing factors, if any, in non-surgical infection of the kidneys and ureters and to determine the relative value of the present modes of treatment, he has considered in this study, antecedent infection, previous operations, etc. Stones in the bladder, kidney or ureter and obstructions in the lower urinary tract have been excluded.

Such infections, except those due to obstruction in the lower urinary tract, are hemato-

genous in origin. In the infections due to obstruction the lymphatics probably play a part in carrying the infection to the kidney. It is possible that they, also, are of hematogenous origin and that obstruction lessens resistance by mechanical means and is the predisposing factor, not the cause, of the infection.

Brewer states that all renal infections are hematogenous, including those that come from an infection primary to the bladder. *Sweet and Stewart*, after careful anatomic and experimental study, have concluded that the lymphatics of the bladder, ureter and kidneys anastomose rather freely and that they can carry infection from the bladder to the kidney. They believe this route of infection is frequently the one by which the pelvis and parenchyma of the kidney become infected from the infection in the bladder. *Cabot* and others believe that cases in which there are a great many elements in the urine and few symptoms are lymphatic in origin, while those showing few such elements and marked general symptoms are hematogenous in origin.

The present study comprises a review of 240 patients who received urologic treatment in the Mayo Clinic from January 19, 1910, to January 19, 1915; 32.8 per cent. were women and 67.2 per cent. men. The average age of onset was 30.3 years. Twenty-six per cent. of the patients did not give a history of previous diseases; 18 per cent. had infections of the genital tract, giving a history of gonorrhoea or pelvic infection; 12 per cent. had had a previous attack of typhoid fever; 9 per cent. gave a history of childhood infections; 6 per cent. of pneumonia; 3 per cent. of tonsillar infection; 4 per cent. of arthritis and rheumatism; 4 per cent. of scarlet fever; 2 per cent. of empyema of the antrum and chronic abscesses; 2 per cent. of syphilis, and five gave a history of severe abdominal injury. The remaining patients gave histories of infections as follows: Lung, one; ruptured urethra, one; phimosis, one; dysentery, one; malaria, four; pregnancy, two, etc.

Of the 240 cases, the first symptom complained of was frequency of urination, being present in 76 per cent. In 37 per cent. pain was the primary symptom. Painful and burning urination occurred at some time during the history of 60 per cent.

*Abstracted by *Dr. Lawrence T. Price* for the *Johnston-Willis Journal Club*.

Patients noted hematuria as the first symptom in 7 per cent. and it was noted at some period of the history in 41 per cent. of the cases. In 2 per cent. temperature and chills were the first symptoms, these symptoms being present in 25 per cent. of cases. Pyuria was a primary symptom in 2 per cent. An appreciable loss of weight was noted in 41 per cent. Cystoscopic examination demonstrated the existence of bilateral infection in 174 (73 per cent.) patients. Bacteriologically, the colon bacilli predominated in 63 per cent. Other organisms were pyocyanus, micrococcus urea, pneumococcus, streptococcus and the staphylococcus group.

CONCLUSIONS.

1. Infections elsewhere in the body are predisposing factors in infections of the kidney and ureters.

2. Seventy-three per cent. of these infections are bilateral at the onset of the disease. The lack of pus or bacterial growth of the catheterized urine does not always mean non-infection, but non-active infection.

3. Pyelography and guinea-pig inoculation may be necessary to identify tuberculous infection and to differentiate the unilateral from the bilateral infection. The renal functional tests were frequently not of much value in differentiation between the locations of the infection.

4. Treatment affords relief or cure in 64 per cent. of cases, and should always be carried out in some form. No single method will give results in every case, so that all methods should be tried. Pelvic lavage has probably been the most satisfactory, but whenever possible should be used in conjunction with autogenous vaccine. Nephrectomy, when necessary, affords complete recovery from general symptoms and improvement or cure of the infection in the remaining kidney.

ENCOURAGEMENT.

There never was a day so dreary and gray
That the blue was not somewhere above it;
There is never a hillside so barren or bleak
That some little flower does not love it.
There never was a night so wild or so dark
That the stars were not somewhere hiding.
There is never a cloud so heavy and black
That it has not its silvery lining.

—Exchange.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Refraction of the Human Eye and Methods of Estimating the Refraction, including a section on the Fitting of Spectacles and Eye-Glasses, etc. By JAMES THORINGTON, A. M., M. D., Emeritus Professor of Disease of the Eye, Philadelphia Polytechnic and College for Graduates in Medicine. 344 illustrations, 27 of which are colored. 12 mo. 407 pages. Cloth, \$2.50 net. Philadelphia: P. Blakiston's Son & Co.

This book is an amalgamation of the author's works, "Refraction and How to Refract," "Prisms" and "Retinoscopy." The contents have been rearranged and coordinated by amplifications, modifications or deletions, so as to produce a book suitable for beginners, and particularly for those who have a limited knowledge of mathematics. The text is concise, yet comprehensive, though there is occasional repetition to avoid frequent references. Dogmatic statements are made for clearness, and explanations are simple and direct. The chapter on "Prisms" has been very much enlarged, and, to make it more entertaining, the subject matter has not been limited to the consideration of prisms in ophthalmic practice alone. Dr. Thorington's double prism, a new and delicate test for the detection of errors of muscular imbalance, is fully described, while other new material includes retinoscopy without a cycloplegic, etc. Many of the illustrations shown are original. The volume is systematically arranged, thoroughly practical, and a credit to the ability of the author.

A Text-book of the Practice of Medicine. For Students and Practitioners. By HOBART AMORY HARE, B. Sc., M. D., Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College, Philadelphia. Third edition, revised and enlarged. Imperial octavo, 969 pages, with 142 engravings and 16 plates in colors and monochrome. Cloth, \$6.00, net. Lea & Febiger, Publishers, Philadelphia and New York.

The second edition of this work was published in 1907. During the period that has elapsed so much progress has been made in various directions in the field of medicine and so many changes have occurred in our conception of almost every disease as to etiology,

pathology, and symptomatology, not to speak of treatment, that the author has found it necessary to make corrections and additions on nearly every page in order to bring this third edition up to the more modern viewpoint. In other words, the present book is practically a new work, except that the author, with his distinctive literary ability and a greater experience, is the same. New sections have been added to include the recent advances in every department of medical science. The plan of the work is such as to emphasize the usefulness of the material presented. In the consideration of each disease a definition and general discussion is followed by a statement of its distribution and history; etiology; prevention and frequency; pathology and symptoms; complications and sequelae. Diagnosis and prognosis are taken up in order and in full detail, and an exhaustive discussion of treatment follows. A splendid index of 64 pages renders every item of essential information readily accessible. The book can be recommended as a work of the highest didactic quality, of practical use, and great interest.

Editorial.

Nervous and Mental Manifestations in Women in Relation to the Generative Organs.

Facts dealing with the function of glands with internal secretion are indeed few, but nevertheless they are pretty well established clinically and physiologically. For example, removal of ovarian tissue before puberty arrests or prevents the development of the uterus; removal after puberty prevents menstruation. Removal of it is followed by atrophy of breasts and arrest of general physical development. On the other hand, after removal of ovaries, anatomic changes have been observed in other glands, namely, hypophysis, thyroid, adrenals. In the hypophysis there is an increase of its size (hypertrophy) with an extraordinary number of eosinophilic cells and dilatation of its blood-vessels. Goldstein (*Munch. Mediz. Wchr.*, April 8, 1913) reported a case of acromegaly which developed after oophorectomy. In the thyroid there is an increase of the acini, dilatation of the follicles and increase of col-

loid substance. In the adrenals hypertrophy has been observed. The same histological modifications which are observed after removal of ovaries in women have been found experimentally in animals. It is also very well known that after transplantation of ovarian tissue into the abdominal cavity in women previously castrated, the physiologic functions of the genital organs are restored. In a number of cases improvement of all symptoms following oophorectomies has been obtained from the internal use of small quantities of ovarian tissue.

A physiologic inter-relation between various ductless glands is well known. In acromegaly and gigantism, for example, alongside the changes in the pituitary gland changes in the genitalia also were not infrequently noted, such as atrophy of testicles or ovaries. Enlargement of the thyroid at puberty and pregnancy also testifies to the relationship of the various glands when physiologic changes occur in the generative organs.

The influence of the tissue of the glands with internal secretion on the organism as a whole is borne out by some physiological and clinical facts. This is particularly seen with regard to the nervous system. There are certain morbid manifestations observed, especially after castration, which are of such a practical importance that they deserve special mention. From a study of 112 patients in whom ovaries alone or ovaries and uteri had been removed, the following observation was made:

(1) Removal of the reproductive organs in women causes disturbances in the domain of the nervous system. The disturbances are of a purely functional character.

(2) The generally observed symptoms are: restlessness; difficulty of self-control; dissatisfaction with all and everything; difficulty of finding contentment in one's own efforts; want of interest in all absorbing subjects and objects; indifference, indolence and pessimism. Sometimes there are outbreaks of anger with a tendency to attack. Among other symptoms may be mentioned: insomnia, gastro-intestinal disturbances of a functional nature, headache, vague pains or paresthesia; tendency to obsessions is also observed in some patients.

(3) While individual symptoms resembled those of psychoses, nevertheless there were no true insanities.

(4) The psychic manifestations persisted with great obstinacy for several years.

(5) Individuals who presented various manifestations of psychoneuroses before they fell into the hands of surgeons, had their psychic phenomena decidedly aggravated after their uteri and ovaries or only ovaries were removed.

(6) As in the removed organs healthy portions of tissue were invariably found, it is to be supposed that the removal of the latter is in some relation to the morbid phenomena observed after the operations.

The conclusion seems to be that one must be very cautious in advising operative procedures on the generative organs, and the tendency should be to preserve as much as possible of any amount of normal tissue found in the uterus or ovaries. Operation advised on healthy organs only because a woman complains of vague nervous disturbances is to be avoided.

ALFRED GORDON, M. D.

Tri-State Medical Association of Carolinas and Virginia.

The nineteenth annual session of this Association was held in Durham, N. C., February 21 and 22, with possibly the largest attendance in its history, and a number of new members joined. Dr. S. D. McPherson, Durham, chairman of the local committee of arrangements, presided at the opening meeting. After the addresses of welcome by the Mayor and Dr. Joseph Graham, Durham, which were responded to by Dr. Curran B. Earle, Greenville, S. C., and Dr. A. G. Brown, Jr., Richmond, Va., the president, Dr. J. Allison Hodges, Richmond, took the chair and commenced on the formal program. Many interesting papers were read. Before the close of the meeting, Dr. M. O. Burke, Richmond, made a motion which was adopted, that at future meetings the welcoming exercises be discarded. A number of entertainments added to the pleasure of those in attendance.

The following officers were elected for the ensuing year: President, Dr. David T. Tayloe, Washington, N. C.; vice-presidents, Drs. James K. Hall, Richmond; A. G. Brenizer, Charlotte, N. C., and James R. Young, Anderson, S. C.; secretary-treasurer, Dr. Rolfe E. Hughes, Laurens, S. C. (re-elected); new mem-

bers of executive council, Drs. A. L. Gray, Richmond; Edwin G. Moore, Elm City, N. C., and William W. Fennell, Rockhill, S. C. The next meeting is to be held in February, 1918, at Spartanburg, South Carolina.

Virginia State Epileptic Colony.

The seventh annual report of this institution shows a most satisfactory condition of affairs in all its departments. The per capita cost of maintenance was \$156.47, lower by \$4 than the rate for the previous year. This cost included some necessary repairs on buildings and equipment, in addition to food, clothing, luxuries and diversions and educational facilities for the patients. As far as we are informed, the per capita cost of supporting epileptics in the Virginia colony is lower than that of any like institution in the United States, regardless of the number of patients. On October 1, 1915, there were 355 patients in the colony: 185 were admitted during the year and 60 died or were discharged, leaving 480 at the close of the year, or an increase over the previous year of 125. Where practicable, the patients are given employment, the men aiding materially in improving the grounds and doing the farm work, while the women do much of the indoor work. The boys are given instruction in industrial training and the girls are taught sewing, basketry and other fancy work. The work done by both boys and girls is very encouraging. Weekly dances and attendance upon moving pictures in Lynchburg furnish some of the diversions and also aid in causing the patients to take more interest in their personal appearance and behavior.

The Richmond Academy of Medicine and Surgery

Has inaugurated a series of clinics to be held on the third Tuesday of each month in Memorial Hospital, this city, which has been formally engaged for the purpose. These clinics will consist of a surgical operation or demonstration, the demonstration and discussion of a case in medicine, and an operation or exhibition of a case in a medical or surgical specialty. They will in no sense interfere with or act as substitutes for the meetings held on the second and fourth Tuesdays of each month which, as heretofore, will be devoted to the

transaction of regular business, discussion of case reports and the consideration of special papers. Two of these clinics have already been held.

The National Board of Medical Examiners

Will hold its second examination in Washington, D. C., June 13, 1917, the examination to last about one week. The following states will recognize the certificate of the National Board: Colorado, Delaware, Idaho, Iowa, Kentucky, Maryland, North Carolina, New Hampshire, North Dakota and Pennsylvania. Favorable legislation is now pending in twelve of the remaining states.

A successful applicant may enter the Reserve Corps of either the Army or Navy without further professional examination, if their examination papers are satisfactory to a Board of Examiners of these Services. The certificate of the National Board will be accepted as qualification for admittance into the Graduate School of the University of Minnesota, including the Mayo Foundation.

Application blanks and further information may be obtained from the secretary, Dr. J. S. Rodman, 2106 Walnut street, Philadelphia.

Medical Military Instruction in Colleges Commenced.

While Col. Louis A. LeGarde is giving a course of lectures at the Medical College of Virginia on military instruction along medical lines, Maj. Walter D. Webb, U. S. Army, professor of surgical pathology and oral surgery at Georgetown University, School of Medicine, is giving the first lectures along this line at the University of Virginia Medical School. The first sixteen lectures will be on hygiene, surgery and treatment of wounds; the last sixteen on camp sanitation and detail work required of medical officers. A number of graduate doctors and nurses are availing themselves of the opportunity to hear these lectures.

Richmond Surgical Society.

Sixteen prominent surgeons of this city met on January 17, 1917, for the purpose of organizing a society, the object of which should be to encourage fraternal and professional relations between the surgeons of Richmond, and

to cultivate and improve the science and art of surgery. It was decided to limit the membership and to hold monthly meetings except in July, August and September. Dr. Stuart McGuire has been elected first president of the society and Dr. J. W. Henson, secretary-treasurer.

Dr. S. R. Klein

Has been appointed pathologist, bacteriologist and roentgenologist of the Lakeview Hospital, Suffolk, the private hospital of Drs. Rawls, Harrell and Rawls. Dr. Klein is a graduate of German and Austrian Universities and has contributed articles to some of the most prominent medical journals in this country and abroad.

Dr. H. U. Stephenson,

Toano, Va., has been appointed by the Governor a member of the board of directors of the Eastern State Hospital. Other appointments made at the same time were of Mr. J. Gordon Bohannon, Petersburg, as a member of the board of directors of Central State Hospital, and Mr. J. T. Puckett, Blackford, as a member of the board of directors of Southwestern State Hospital. All appointments were for six years, effective March 1, 1917.

Dr. Smith Ely Jelliffe,

Of New York City, has become a member of the editorial staff of the *New York Medical Journal*. Dr. Jelliffe, who is a specialist in neurology, is well-known in the journalistic world and is a writer of note. The Journal is to be congratulated on having secured his services.

Association of American Medical Colleges.

At the meeting of this Association in Chicago, early in February, Dr. William S. Carter, of Galveston, Tex., was elected president, and Dr. Fred C. Zapffe, Chicago, was re-elected secretary-treasurer.

Dr. Alfred Gordon,

Of Philadelphia, delivered an address before the Medico-Legal Society of New York, the latter part of February.

Occupational Diseases Reportable.

Physicians and superintendents and man-

agers of institutions and hospitals in New York City are required to report to the Health Department all cases of patients coming under their care, who may be suffering from occupational diseases. It is noted that a number of such diseases caused by various chemicals have not been reported.

Dr. John E. Phillips

Returned to his home in Suffolk, Va., about the middle of February, after a stay of some time in the mountains of Virginia.

Dr. Perkins Glover,

Of Arvon, Va., was a recent visitor at his old home in upper Buckingham County, this State.

Health Officers Work for Uniform Dairy Inspection Law.

On February 19, chief health officers, Drs. E. C. Levy, Richmond; R. A. Martin, Petersburg; P. S. Schenck, Norfolk; W. B. Foster, Roanoke, and C. C. Hudson, Danville, held a meeting in Richmond, to arrange, if possible, a uniform system of dairy inspection for this State.

Hospital for Crippled Children Wanted.

Several organizations in the State have pledged their moral support and cooperation to try to secure from the next legislature an appropriation for founding in Virginia a hospital for crippled children. There is no such hospital in the State at this time.

Dr. W. J. Coleman,

Mineral, Va., was a recent visitor in Charlottesville, Va.

Dr. J. G. Trant,

Richmond, has tendered his resignation as district physician in this city. A successor will be appointed upon recommendation of Chief Health Officer, Dr. E. C. Levy.

Dr. Edward F. Parker,

Charleston, S. C., has been visiting at White Sulphur Springs, W. Va.

Army Medical Corps Examinations.

The Surgeon General of the Army announces that preliminary examinations for

appointment of First Lieutenants in the Army Medical Corps will be held at convenient points the first Monday in each month. Full information concerning these examinations can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C."

The essential requirements to secure an invitation are that the applicant shall be a citizen of the United States, shall be between 22 and 32 years of age at the time of commission at the close of the Army Medical School, a graduate of a medical school legally authorized to confer the degree of Doctor of Medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training as interne after graduation.

Graduate physicians who are serving their internship and who meet the other requirements can be examined for appointment with the understanding that they will complete the required post-graduate hospital internship before coming to the Army Medical School.

Those who qualify at their preliminary examination and complete their hospital internship by July first will be ordered to the Army Medical School for the special session of the school, commencing July ninth. The regular session of the school will open on October first.

In order to perfect all arrangements for the examination, applications should be completed at the earliest practicable date.

There are at present 230 vacancies in the Army Medical Corps. After July first, there will be 222 additional vacancies.

Base Hospital Offered Red Cross as Memorial.

Eli Lilly & Company, of Indianapolis, has offered the local chapter of the American Red Cross, \$25,000, in event of this country being drawn into war, to establish a base hospital of 500 beds, surgical and medical equipment, and tentage. The offer was made as a memorial to Colonel Eli Lilly, whose splendid service as a soldier and a citizen is worthy of the highest honor that can be accorded him.

The equipment of this base hospital will include every kind of supplies from surgical instruments to bandages and clothing for patients. It is the intention of the local medical society to form a staff to operate the Col-

onel Lilly Memorial Hospital, which will be made up of twenty-three medical officers, two dentists, a chaplain, fifty nurses, twenty-five nurses' aids, fifty men for administrative duties, and ten civilians for general assignments. In event of war the unit staff will be available to move forward with the equipment of the hospital. Steps have already been taken to organize classes of men and women for training in first aid. The entire equipment and staff will be under the command of the Red Cross.

Dr. John W. Robertson,

Onancock, Va., has offered a prize for the best original composition of the music class of the Onancock High School, the work to be judged at the Peabody Institute, Baltimore.

Dr. Thomas W. M. Long,

Roanoke Rapids, N. C., delivered an interesting lecture to the public at the opera house in Weldon, N. C., on the evening of February 27.

Dr. Llewellys F. Barker,

Baltimore, was elected president of the National Committee for Mental Hygiene, at its annual meeting in New York, early in February.

Dr. John W. Carroll

Has returned to his home in Lynchburg, Va., after a visit to relatives in Indianapolis, Ind.

The Richmond Medical Society,

Composed of representative colored doctors of the city, elected Dr. Herbert Allen, president, Dr. Jas. Blackwell, secretary, and Dr. Oswald Bowser, treasurer. Members of the society have decided to shortly erect in this city a well-equipped professional building, in which they may have their offices.

Dr. E. A. Gorman,

Alexandria, Va., was a visitor in this city in February, having come here as master of Virginia District, De Soto Province, to preside at a meeting of the Knights of Columbus.

Dr. Joseph A. White,

Of this city, was elected a member of the board of governors of the Virginia Society,

Sons of the American Revolution, at its annual meeting in this city, February 22.

Lectures on Red Cross Work,

Being held at the Young Women's Christian Association, have proved exceedingly popular and additional classes have been organized. Among the doctors who are conducting classes are: Drs. N. T. Ennett, R. S. Fitzgerald, W. H. Higgins, P. D. Lipscomb, I. T. Gorsline and A. P. Traynham.

A Number of Cases of Measles

Have been reported in Richmond, recently, the total number of cases on hand on the 26th of February being 105. The disease is apparently of a mild type, no deaths having been reported, but the unusual feature is the large percentage of adults affected.

The Journal of Urology,

Which made its initial appearance in February, 1917, and is to be published bi-monthly, has been founded with the intention that it become the archives in the United States for papers dealing with the urinary tract and correlated subjects. These papers will thus be in a readily accessible form for the experimental, medical and surgical man as the value of urological study is not limited to any one department in medicine. Dr. Hugh H. Young, of the Brady Urological Institute, Johns Hopkins Hospital, Baltimore, is editor, and he has associated with him a number of men who are greatly interested in this branch of medicine. The policy of the journal will be to encourage and stimulate original contributions in its domain and it will also present papers of a historical nature. Subscription orders should be placed with the publishers, Williams and Wilkins Company, Baltimore. The price is \$5 in this country.

The editors and publishers are to be congratulated on the excellent and interesting articles in its first number, as also upon its appearance, which is neat and handsome.

Dr. William Beverley Pettit

Has again returned to his home at New Canton, Va., after a stay of several months abroad. On his last trip he was ill for sometime in Alexandria, Egypt.

Dr. Roy K. Flannagan.

Of the State Health Department, has been appointed by Governor Stuart as one of the delegates from this State to the National Conference on Child Labor, to be held in Baltimore, Md., March 23-25.

Dr. Alexander G. Brown, Jr.,

Has been re-elected a member of the board of directors of the Chamber of Commerce of this city.

New Member of State Board of Pharmacy.

T. Ramsay Taylor, Norfolk, has been appointed by Governor Stuart a member of the State Board of Pharmacy of Virginia, to succeed H. S. Arrington, also of Norfolk, who declined to serve another term. The appointment is for five years, beginning March 1, 1917.

Hospital Incorporated.

Certificate of incorporation of the William A. Crowder Memorial Hospital was recorded in the clerk's office of Petersburg, Va., February 24. The corporation is composed of leading colored people, whose purpose is to promote and maintain a well-regulated hospital for colored people in that city. It is located at "Birdville," in the southern section of the city and is already in operation.

Dr. Stephen H. Watts,

Professor of surgery at the University of Virginia, was elected president of the Virginia Chapter, Johns Hopkins Alumni, at their annual meeting in this city, February 23.

Dr. F. L. Banks,

Gordonsville, Va., was a recent visitor in this city, having been here on business.

Dr. Henry A. Christian,

Boston, Mass., visited his old home in Lynchburg, Va., the latter part of February.

Home of Lepers in Cuba Burned.

The pest-house at Mariel, in which more than 100 lepers were housed, was burned February 24. The lepers were at Mariel temporarily, having been sent there several months

ago after sale of the San Lazaro Hospital site to an American Syndicate. The proceeds of the sale are being used to build a new leper home at Rincon.

Tuberculosis Survey in Norfolk County.

Under the direction of Miss Randolph, executive secretary of the Virginia Anti-Tuberculosis League, a comprehensive tuberculosis survey was begun in Norfolk County, February 19. The State Health Department and Norfolk County authorities are cooperating with the League and gathering statistics. Later it is planned to undertake an extensive educational campaign with meetings in every part of the county.

Dr. F. W. Lewis,

Morattico, Va., was a recent visitor in this city.

Dr. and Mrs. E. S. Boice

Have returned to Rocky Mount, N. C., after a short stay with relatives in this city.

Dr. J. Morrison Hutcheson,

Of this city, who has been quite sick at Johnston-Willis Sanatorium, is much better.

Money Raised for French Ambulance.

As the result of an appeal recently made in this city for an ambulance for the American Hospital in France, more than \$1,000 has already been collected by the War Relief Association of Virginia for this purpose. Since January 1, it is stated that this Association has also sent to France, England and Italy, a total of 15,762 surgical dressings, valued at \$701.13.

Dr. A. A. Houser,

Of this city, acted as toastmaster at the annual banquet of the Gamma Chapter, of the Zeta Delta Chi Fraternity, held at Jefferson Hotel, February 21.

Another College To Admit Women.

The Long Island College Hospital, Brooklyn, has decided to open its doors to women matriculates, thus increasing the number of co-educational medical colleges in this country.

The American Pediatric Society

Has just issued the Transactions of its twenty-eighth session, copy of which has been received at this office through its secretary, Dr. Howard Childs Carpenter, Philadelphia. The volume has been edited by Dr. Linnaeus Edford LaFetra. It contains thirty-five articles on pediatric subjects "up to the minute," and we feel it is an addition to our library.

Dr. Howard A. Kelly,

Who has been ill in Florida for sometime, is much improved and hopes to shortly return to his home in Baltimore.

The Chi Zeta Chi Fraternity

Gave its annual banquet February 22, at Jefferson Hotel, this city. After-dinner talks were made by Drs. Turner S. Shelton, T. B. Weatherly, and P. D. Lipscomb.

Effects of Hookworm Disease on the Mental and Physical Development of Children

Is one of the publications issued by the International Health Commission. It chronicles a number of mental and physical tests made of children suffering with hookworm disease and compares these with tests made after treatment. The conclusions demonstrate forcibly that hookworm disease interferes very radically with mental and physical development. While treatment alleviates the condition, it does not, immediately at least, permit the child to gain as he would if he had not had the disease, and the longer the child has had the disease, the less likely is it that he will ever reach his normal mental and physical development.

The National Association for the Study and Prevention of Tuberculosis

Will hold its next annual meeting in Cincinnati, May 9-11, under the presidency of Dr. E. R. Baldwin, Saranac Lake, N. Y. Dr. Henry Barton Jacobs, Baltimore, is secretary, and Dr. W. S. Rankin, Raleigh, N. C., first vice-president of the Association.

A New Tuberculosis Sanatorium.

Work was commenced the first of this month

on a tuberculosis sanatorium six miles east of Springfield, Ill. The cost is to be \$500,000.

The Death Rate

Among colored people in Baltimore of 28 to 32 a 1,000 as opposed to a white death rate of 16 to 18, is so alarming, that a meeting of physicians, social workers and some representative citizens was recently held to devise ways of improving the health conditions of the colored population. Poor housing conditions are thought to be chiefly responsible for this high death rate.

Obituary Record.

Dr. John L. Stearnes,

For many years a prominent practising physician in Salem, Va., died at his home in that place, February 22, after an illness of about two weeks with pneumonia. He was born at Taylor's Store, Va., December 15, 1834, and, after completing his academic education, entered the University of Pennsylvania, from which he received his medical diploma in 1858. He first located in Dublin, later going to Salem. He served as a surgeon and examiner in the medical department of the Confederate service from 1861 to 1865. He had been physician to the Baptist Orphanage in Salem, since the founding of that institution. His widow and six children survive him. The interment was made at Dublin, Va.

Dr. John R. Harris,

A native of Louisa County, Va., but recently of Paducah, Ky., died at that place February 13, aged 77 years. His academic education was received at Richmond College, after which he taught school until the war between the states, when he enlisted with the Confederacy. He was taken prisoner and later paroled. He then went to the Medical College of Virginia, Richmond, and after graduating was made an assistant surgeon in the Confederacy, which position he held until the close of the war. His wife and four sons survive him.

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Original Communications.

OBSERVATIONS IN A SERIES OF CASES OF TWILIGHT SLEEP—A REPORT OF FIFTY CASES.*

By M. PIERCE RUCKER, M. D.,
and
H. NORTON MASON, M. D.,
Richmond, Va.

At the last two meetings, this Society was treated to several excellent papers on "Twilight Sleep." The writers went fully into the opinions of the authorities, both adverse and favorable, and covered the field so thoroughly that it is useless for us to review the literature on the subject at this time. We have, however, compiled and appended herewith a rather extensive bibliography for the benefit of those who may not have been so fortunate as to have heard the papers in question. It is our purpose this afternoon to report briefly our results in a series of fifty cases that have occurred in the practice of one or the other of the writers within the past year.

The technique used in these cases has been that of Gauss, as outlined and described by Harrar and McPherson. In this connection, we desire to emphasize the importance of restricting the term "Twilight Sleep" or "Dammerschlaf" to those cases in which the dosage of scopolamine is regulated in accordance with the memory test as is insisted on by Gauss. By doing so, a great deal of the confusion and controversy that attaches to this subject will be avoided, as most of the unfavorable reports of the method have come from those who have been using a fixed scheme of dosage,—in other words, from those who have not been giving "Twilight Sleep." Gauss' technique is very

exacting and it is well wherever possible to work in pairs so that one's outside work will not suffer while he is engaged with a case. Most authorities emphasize the importance of using a stable preparation of scopolamine, which is secured by dissolving the scopolamine in a 10 per cent. solution of mannite (Straub). This preparation is now on the market by at least two chemists. As to the bad effects of using the drug in tablet form, we have no experience. All of our cases have gotten the solution prepared in accordance with Straub's formula. We have no experience with narco-pin, as our results with morphine have been so satisfactory that we are loath to change.

The indications that have governed us in this series are: The prospect of a long, tedious labor, or of an easy labor in a very nervous individual, where there is no mechanical obstruction; and, secondly, in moderately contracted pelvis where a trial labor is indicated. Most authors consider a contracted pelvis a contraindication, but Polak thinks that scopolamine anesthesia is a distinct advantage in these cases, and that they can be given a trial labor with less exhaustion with "Twilight Sleep" than otherwise. The contraindications are: any of the more serious complications of childbirth, such as placenta previa; a dead foetus; the prospects of a short labor, and uterine inertia. It is well to get at least three hours away from the initial dose of morphine, thereby avoiding the depressant action of this drug on the respiratory center of the baby at the time of its birth.

Forty-six of our cases were white and four were negroes. Their ages ranged from 16 to 38 years, the average age being 23.5. Forty-one were pregnant for the first time, four had been confined previously, one twice before, three four times, and one six times. The pelvis was practically normal in forty-five cases,

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

two had contracted outlets, and three flat contracted pelves. The series includes forty-eight* cephalic presentations and three breeches. The positions were as follows: L. O. A., 30; R. O. A., 6; R. O. P., 12; L. S. A., 1; R. S. A., 2. The character of the Labor was classified as easy in sixteen of the L. O. A. cases, normal in nine, and hard in five. Two of these latter were interrupted. One of them was given a trial labor and as the head did not engage, a Cesarean section was done (by Dr. Robins.) The second case had an accouchement force on account of an impending eclampsia. Of the six R. O. A.'s, five were easy and one normal. Four R. O. P.'s terminated in easy labors, six in normal and two in hard labors. One R. S. A. resulted in an easy delivery, while the other two breeches ended in hard, dry labors. In all, there were seven dry labors, of which two were hard and five were easy.

The duration of the first and second stages could not be determined in six cases. In the remaining forty-four cases the first stage averaged 12 hours and 42 minutes; the second 3 hours and 43 minutes, and the third 14 $\frac{3}{4}$ minutes. In 48 cases in which labor was not interrupted the administration of the morphine and scopolamine was begun on an average of 6 hours and 45 minutes before delivery. Our longest case was 31 hours and 36 minutes, and our shortest was one hour and forty-one minutes.

It seems to us that Polak has the right conception of the proper use of "Twilight Sleep" when he states that it is distinctly a first stage procedure. The multiparae and some of the primiparae will need no other anesthesia, but the majority of the primiparae will require an inhalation anesthesia in the perineal stage. The following table, in which the cases are classified as to the anesthetics used and the result obtained, illustrates this. A case is considered ideal when there is no memory of the event at all. When there are one or two islands of memory it is classed as satisfactory, while if the memory is retained in a large measure but the pain relieved it is classed as fair. A poor result is when the mother has both memory and pain.

Anesthetic	Total No. of Cases	Ideal	Satisfactory	Fair	Poor
No Inhalation Anesthetic	18	12	2	4	0
Ether (4 to 150 minutes, average duration 40.6 minutes)-----	23	21	2	0	0
Chloroform (for 5 to 100 minutes, average duration, 43.6)-----	7	5	2	0	0
	<u>40</u>	<u>38</u>	<u>6</u>	<u>4</u>	<u>0</u>

The two cases that were interrupted are not included in this table.

The Perineum.—There were no stitches necessary in twenty-five cases or 50 per cent. of the series. Eleven cases had small tears in which only one stitch was necessary. No tear extended into the sphincter ani. This compares favorably with labor without scopolamine.

The Puerperium.—The puerperium was uneventful in all cases. It was noticeable to physicians and nurses in attendance that the mothers awoke in a bright and happy frame of mind and stated that they felt as well as they ever had in their lives. Post-partum hemorrhage and excessive bleeding did not occur. Lactation began on the second day in most cases, and in no cases was there an absence of milk.

Blood Pressure.—Norris, in his recent monograph on Blood Pressure, states that the normal blood pressure during the second stage of labor ranges between 130 and 150 m.m., and that immediately after rupture of the membranes and again at the birth of the child there is a marked but temporary drop of 60 to 90 m.m. of mercury. Blood pressure readings were taken in our series at intervals of 15 to 30 minutes both in the first and second stages. The readings remained fairly constant throughout labor. In no case did a drop occur when the membranes ruptured. In only one case was the birth of the child followed by a marked fall in blood pressure. The behavior of the pulse was interesting. Where there is a rise to 100 or more the cases are invariably ideal. This coincides with Harrar's observation. In those cases in which the pulse remained more or less constant the result was sometimes ideal and sometimes not. In only one case was there a distinct fall in pulse rate.

Babies.—In this series there were 51 babies, there being one set of twins. One case, deliv-

(Continued on page 602.)

*In one case with twins, both presented by the head.

No.	Serial No.	Color	Age	Previous No. of Children.	Pelvis	Position	Character of Labor.	1st Stage			2nd Stage			3rd Stage, Min.			Duration of Twilight		Cervix at beginning of treatment	Frequency of pains at beginning of treatment, min.	Kind	Anaesthetic		Pituitrin	Forceps	Result	Child	Perineum No. of Stitches	
								Hours	Min.	Hours	Min.	Hours	Min.	Hours	Min.	Kind	Duration Min.												
1	10135	W	2	0	Normal	L. O. A.	Easy, dry	3	0	1	37	10	5	10	4	cm.	10	E	25	1/2 c.c.	0	Ideal	O. K.	0					
2	10148	W	24	0	Normal	L. O. A.	Normal	13	52	0	0	32	20	3	25	2	cm.	15	E	15	0	0	Ideal	Oligopnea	0				
3	10162	W	19	0	Normal	L. O. A.	Hard	20	45	0	0	43	13	3	48	4	cm.	5	E	0	0	0	Ideal	O. K.	0				
4	10 82	W	22	1	Normal	R. O. P.	Tedious, infrequent Pains	8	32	2	35	6	5	33	Not stated		20	O	0	Sty any	0	0	Ideal	O. K.	0				
5	10191	W	22	0	Normal	L. O. A.	Hard	13	48	3	37	15	16	30	4	cm.	4	O	0	0	1/2 c.c.	0	Satisfactory	O. K.	3				
6	10239	W	24	0	Contracted Outlet	H. O. P.	Slight pains	32	0	2	19	10	17	6	cm.	4	cm.	5	E	12	1/2 c.c.	Mid.	0	Ideal	O. K.	7			
7	10252	W	23	0	Normal	L. O. A.	Normal	15	0	5	4	5	6	9	9	cm.	4	E	79	0	0	0	Ideal	O. K.	2				
8	10290	W	23	0	Normal	L. O. A.	Easy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Ideal	O. K.	0			
9	10312	W	28	1	Normal	R. O. A.	Easy	5	13	0	46	17	10	13	13	8	cm.	2	4	10	0	0	0	Ideal	Oligopnea	0			
10	10316	B	16	0	Normal	R. O. P.	Hard	30	40	4	0	10	31	36	1	cm.	—	—	—	—	—	—	—	—	Ideal	O. K.	1		
11	10336	B	29	0	Normal	L. O. A.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Ideal	O. K.	—		
12	10342	W	20	0	Normal	R. O. P.	Slow pains	4	37	4	4	9	6	25	4	cm.	—	—	—	—	—	—	—	—	—	Ideal	Stillborn	—	
13	10374	W	20	0	Flat	L. O. A.	Easy	7	44	0	45	7	3	43	5	cm.	—	—	—	—	—	—	—	—	—	Ideal	Cyanosed	0	
14	10376	W	21	0	Normal	R. O. A.	Easy	7	15	5	6	22	9	3	43	5	cm.	3	15	15	1 1/2 c.c.	0	0	Ideal	O. K.	3			
15	10345	W	20	0	Normal	L. O. A.	Easy	6	42	5	40	17	4	7	8	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	2	
16	10396	W	19	0	Normal	L. O. A.	Easy	13	10	0	42	18	3	46	4	cm.	—	—	—	—	—	—	—	—	—	Ideal	Oligopnea	0	
17	10403	W	24	0	Normal	R. O. P.	Normal	13	10	0	35	16	3	10	6	cm.	—	—	—	—	—	—	—	—	—	Fair	O. K.	0	
18	10426	W	21	1	Normal	R. O. P.	Easy	10	30	0	40	11	7	45	4	cm.	—	—	—	—	—	—	—	—	—	Fair	O. K.	0	
19	10442	W	21	0	Normal	L. O. A.	Easy, dry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Ideal	O. K.	0	
20	1 451	B	19	0	Flat and Conf. 10.5	L. O. A.	Hard	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Ideal	O. K.	2	
21	10452	W	22	0	Normal	R. O. P.	Easy, dry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Ideal	O. K.	2	
22	10491	B	29	6	Normal	L. O. A.	Easy	8	32	3	18	30	3	29	2	cm.	—	—	—	—	—	—	—	—	—	Satisfactory	Art. Resp.	0	
23	10495	W	22	0	Normal	R. O. A.	Normal	6	25	8	12	15	8	22	2	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	1	
24	10516	W	19	0	Normal	R. O. A.	Normal	18	47	7	10	28	8	52	4	cm.	—	—	—	—	—	—	—	—	—	Satisfactory	O. K.	1	
25	10536	W	23	0	Contracted Outlet	R. S. A.	Hard, dry	5	46	6	24	27	11	10	3	cm.	—	—	—	—	—	—	—	—	—	—	Fair	Art. Resp.	3
26	10537	W	30	0	Normal	L. O. A.	Normal	4	0	8	8	8	13	6	cm.	—	—	—	—	—	—	—	—	—	—	Ideal	O. K.	1	
27	10549	W	19	0	Normal	R. S. A.	Easy	29	0	3	35	20	3	0	8	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	1	
28	10599	W	23	0	Normal	L. S. A.	Hard, dry	12	8	4	32	20	13	5	4	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	5	
29	10628	W	20	1	Normal	R. O. A.	Easy	3	45	0	60	15	3	53	4	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	0	
30	10 38	W	22	0	Normal	L. O. A.	Easy	14	28	1	10	9	23	4	cm.	—	—	—	—	—	—	—	—	—	—	Ideal	O. K.	3	
31	10664	W	18	0	Normal	L. O. A.	Slow	14	51	9	29	15	19	7	4	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	0	
32	10680	W	28	4	Normal	L. O. A.	Easy	5	0	4	20	1	44	4	cm.	—	—	—	—	—	—	—	—	—	—	Satisfactory	O. K.	0	
33	10760	W	18	0	Normal	L. O. A.	Easy	13	51	0	54	20	3	40	4	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	0	
34	10790	W	38	1	Normal	R. O. A.	Easy	5	24	1	31	16	3	10	4	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	1	
35	10825	W	3	0	Normal	R. O. A.	Easy, dry	7	50	3	5	8	8	29	2	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	0	
36	10826	W	23	0	Normal	R. O. P.	Hard	15	0	3	12	22	10	42	2	cm.	—	—	—	—	—	—	—	—	—	Satisfactory	O. K.	0	
37	10854	W	25	0	Normal	L. O. A.	Normal	5	23	4	18	14	5	21	8	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	4	
38	10936	W	24	0	Normal	L. O. A.	Normal	17	0	2	35	10	13	40	4	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	0	
39	10981	W	18	0	Normal	L. O. A.	Easy, dry	3	55	2	46	6	9	37	8	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	0	
40	10982	W	28	0	Normal	L. O. A.	Easy	35	42	3	10	3	5	4	cm.	—	—	—	—	—	—	—	—	—	—	Ideal	O. K.	1	
41	10990	W	26	0	Normal	L. O. A.	Normal	21	56	3	9	14	5	47	8	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	2	
42	11009	W	21	0	Normal	L. O. A.	Normal	3	42	1	10	2	20	8	cm.	—	—	—	—	—	—	—	—	—	—	Ideal	O. K.	0	
43	11021	W	22	0	Normal	R. O. A.	Easy	8	22	0	58	16	4	50	6	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	0	
44	11077	W	25	2	Flat	L. O. A.	Easy	9	15	0	27	16	1	23	6	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	0	
45	11099	W	22	0	Large	L. O. A.	Easy	3	47	3	7	8	7	9	cm.	—	—	—	—	—	—	—	—	—	—	Ideal	O. K.	1	
46	11209	W	16	0	Normal	R. O. P.	Normal	7	14	1	52	24	4	36	5	cm.	—	—	—	—	—	—	—	—	—	Ideal	Oligopnea	1	
47	11210	W	34	0	Normal	L.S.A.-R.O.P.	Tedious	38	25	1	30	10	6	14	6	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	1	
48	11388	W	28	0	Normal	L. O. A.	Normal	7	34	2	40	11	4	29	6	cm.	—	—	—	—	—	—	—	—	—	Satisfactory	O. K.	1	
49	11579	W	33	0	Normal	L. O. A.	Easy	14	13	0	6	6	1	41	6	cm.	—	—	—	—	—	—	—	—	—	Ideal	O. K.	0	
50	11593	W	30	4	Normal	L. O. A.	Easy	4	54	0	26	21	2	45	6	cm.	—	—	—	—	—	—	—	—	—	Ideal	Oligopnea	0	

REMARKS.

- The pains became more regular and more frequent after treatment was begun. Pulse increased to 152. Restless in expulsive stage.
- Pulse increased to 108. Patient was restless in the perineal stage. Patient had initial dose of 1/4 gr. morphine.
- Pulse increased to 120. Patient did not consent to the treatment until she was having severe pains. She was very restless.
- Pulse was decreased slightly. 108 to 98.
- Pulse increased to 118. On account of the long treatment she was allowed to come out once and she had an island of memory.
- There was very little change in the pulse. The head was arrested at the outlet in transverse position, requiring mid forceps.
- There was very little change in the pulse. Patient was very restless. 21 days before delivery she had false labor and was given twilight for 22 1/2 hours.
- Pulse rate constant. First and second stages together lasted 5 hours and 25 minutes. The head was born without any one knowing it.
- Pulse rate constant. The baby was easily resuscitated.
- Pulse varied from 75 to 100. Cervix was long and cartilaginous and dilated slowly. Head was born without attendant's knowledge.
- At outset B. P. was 180-119, pulse tension 61. Pulse 130, foetal heart 150, temp. 102, resp. 42, leucocytes 27,000, urine was loaded with granular casts, blood pressure rose to 240 and it was deemed wise to terminate labor. The cervix was dilated manually by Dr. Baughman, and mid-forceps applied. The child was delivered easily. Patient had received the second dose of scopolamine before her condition was realized.
- No change in pulse rate. Military position. Head was born by lateral flexion with sagittal suture lying transversely.
- Pulse increased to 100.
- Pulse increased to 108. The child required two dashes of cold water.
- Pulse varied from 64 to 96.
- Pulse varied from 72 to 92. The child breathed immediately and then stopped, and did not breath again until artificial respiration was used.
- Pulse increased to 116. Patient went through the first stage ideally. In second stage she seemed not to be suffering and as she was very big and strong, it was deemed best not to give her ether, for fear of making her restless.
- Pulse increased to 108.
- Pulse increased to 100. The first and second stages together lasted 8 hours and 27 minutes.
- Floating head. Patient was given a trial labor. After beginning the twilight the pains became much harder and longer. Cesarean section was done by Dr. Robins, as the head did not engage. Walcher's position increased the diagonal conjugate two cm.

- 23—Pulse varied from 104 to 116. Patient bled profusely for a few seconds immediately after delivery.
 24—Pulse rate practically unchanged.
 25—Pulse increased to 132. Difficult breech extraction. Child resuscitated with difficulty and died after five hours.
 26—Pulse increased to 100.
 27—Pulse unchanged. Restless.
 28—Pulse decreased from 92 to 76.
 29—Pulse increased to 104.
 30—Pulse increased to 112.
 31—Pulse unchanged.
 32—Pulse increased from 68 to 88. Baby died on second day of enlarged thymus, confirmed by autopsy. All of patient's previous labors had ended in forceps after long periods of suffering.
 33—Pulse decreased from 80 to 68. Patient had organic heart disease. The pulse was very irregular until after treatment was begun. It then became regular.
 34—Pulse increased to 112.
 35—No change in pulse rate.
 36—Practically no change in pulse rate.
 37—Pulse increased to 112. Very restless.
 38—Pulse rate practically unchanged.
 39—Pulse increased to 108.
 40—Pulse rate unchanged. Restless in the expulsive stage.
 41—Pulse rate unchanged.
 42—Pulse rate unchanged. First and second stages together lasted 29 hours and 50 minutes.
 43—Pulse increased to 108. Blood pressure dropped to 60 (systolic). Pulse tension 25, immediately after the birth of baby.
 44—Pulse unchanged. The baby was born before any one knew it.
 45—Pulse increased to 112. Patient was very restless.
 46—Pulse increased to 108. Baby was given artificial resp. for 20 minutes.
 47—Pulse increased to 120. Babies were premature, weighing only $3\frac{1}{2}$ lbs., and died in a few hours.
 48—No change in pulse rate.
 49—Pulse rate increased to 100.
 50—Pulse increased to 120. Baby was of good color but would not breathe spontaneously for 15 minutes, except immediately after birth.

(Continued from page 600.)

ered by accouchement force for threatened eclampsia was still-born. Two did not breathe spontaneously on account of birth trauma, and required artificial respiration to resuscitate them. One of them was born with the cord tight about the neck. The attendant was asleep, and the baby was in a state of white asphyxia when discovered, but recovered promptly. The other case was a difficult and prolonged breech extraction. This baby was resuscitated with difficulty, and died after five hours. Two cases were cyanosed and required a little spanking or sprinkling with cold water. The mothers of these had gotten one and a half and two and a half c.c. of pituitrin respectively. Five cases were oligopnœic. Two of these promptly recovered without treatment. The remaining three, after an initial cry on delivery, sank into a deep slumber, from which they were aroused only by artificial respiration for periods of from fifteen to twenty minutes. This condition is said to be harmless and, if left alone, the babies will recover spontaneously. It seems to be due to the action of the morphine on the child and is seen only when the dosage of morphine is excessive, or where delivery takes place shortly after the initial

dose. The remaining forty-one cases breathed spontaneously. One of these died after two days of an enlarged thymus, which was diagnosed at autopsy. The twins were premature, weighing only three and a half pounds apiece, and while they breathed spontaneously at birth, died within twelve hours. The remaining babies were in excellent condition at the time of their discharge, and continue so at the present time. In no case can the death of the babies be attributed to the use of the morphine and scopolamine.

CONCLUSIONS.

1. The method is safe from the standpoint of the mother.
2. When properly administered there is no danger to the child.
3. It is the best procedure for alleviating pain in the first stage of labor.
4. Inhalation anesthesia is necessary in the perineal stage in the majority of primiparæ.

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STAB WOUND OF THE ABDOMEN, WITH PROTRUSION OF INTESTINES—REPORT OF A CASE.*

By

G. BENTLEY BYRD, M. D., Norfolk, Va.,
and
GEO. S. RIGGINS, M. D., Churchland, Va.

In reporting this case to the members of the Society, we do so, with no claim for unusual or elaborate technique, but merely wish to show that, with ordinary care and perseverance, many of the apparently fatal conditions that so often confront the general practitioner of the rural districts can be met and handled with safety and success.

The articles needed in this or any other case under similar circumstances are few, and can be found in any doctor's office. They consist simply of sterile gauze, towels, adhesive tape, rubber tubing, scissors, a knife, artery clamps, needle and suture, bichloride tablets, a pan in which to boil water and instruments, and a place to boil them.

The following is a history of the case: Blanche P., aged 22; colored; female; married; housewife. Family and personal history are negative.

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

Present trouble: About 9 P. M., September 9, 1916, met with a stab wound of the abdomen, the instrument passing through clothing and abdominal wall. Following this she walked several yards to the office, and upon examination we found a mass of intestines (about three feet in length), which we took to be a part of the ileum, protruding through a two-inch skin wound located in the left lower quadrant of the abdomen. Just here let us state that the peritoneal wound was about twice as long.

Within a short time the patient vomited several times, expelling large quantities of heavy food, and complained of intense pain. Morphia, gr. 1-6, and atropia, gr. 1-100, was given hypodermically at this time for two reasons, namely, to allay the pain, and to minimize shock. The pulse was rapid (135) and rather running in character.

At 10 P. M. the patient was anesthetized with ether.

Having no sterile towels, the operative field was surrounded by those wrung-out in 1-2000 bichloride solution. The protruding intestines were then bathed with 1-3000 bichloride, followed by sterile water. (This water was obtained by simply boiling it.)

Our next step was to look for perforations, but, luckily, none were to be found. There was one spot, however, where the peritoneal coat was cut, but this wound did not involve the muscular coat of the intestine. The problem now was to replace the protruding intestine within the abdominal cavity. This was done by gentle manipulations, exceeding care being taken not to bruise, so as to lessen the chances for obstruction later on.

Naturally, assuming this to be a generally infected peritoneal cavity, our next thought was, how it could be most successfully combated. Free drainage is the secret in these conditions. Consequently, the wound was enlarged sufficiently to allow the introduction of a large rubber tube (perforated in several places), which was placed well down into the pelvis; besides, several gauze and rubber-dam tail drains were placed in various directions. The free ends of the drains were pushed well towards the outer end of the wound. The suturing of the wound was done quickly, by merely passing non-absorbable silk-worm gut

sutures through and through the abdominal wall, thereby stopping hemorrhage as well as approximating the edges. Three such sutures were taken.

After dressing the wound, the patient was left absolutely still for about an hour, during which time she vomited once more. The pulse was still up. A hypodermic of morphia, gr. 1-6, atropia, gr. 1-100, and digitalin, gr. 1-50, was now given. Within a few minutes the patient was moved in an automobile to her home, three-quarters of a mile away. During the ride she was kept elevated and inclined towards the left side.

The post-operative treatment was that which is usually followed in general suppurative peritonitis cases, and is most important. The head of the bed was elevated about 40 degrees and the patient kept on the left side to facilitate free drainage and also to keep the infection in or as near the pelvis as possible. Tap water with one ounce of glucose and one ounce of bicarbonate of soda to the pint, was given by the continuous drop method (40 drops per minute.) This was done to keep up the body fluids as well as to prevent acidosis. Absolutely nothing was given by mouth at this time. At 3 A. M., atropia, gr. 1-100, and digitalin, gr. 1-50, were given hypodermically.

During the following day the temperature was 101 and the pulse was 136 and slightly intermittent. An ice-cap was placed upon the head. At 4 P. M., 600 c.c. of normal salt solution was administered subcutaneously under the right mammary gland. This was done to keep the blood vessels well filled and also for fear she was not retaining the irrigation in sufficient quantities. The same procedure was repeated on the second day.

The patient was allowed to wash her mouth frequently, but permitted to swallow nothing. Abdominal distension was nil, although she complained of some pain in the region of the wound. She vomited once during the first day, but at no time was there suspicion of dilatation of the stomach.

On the second day the temperature was 100, pulse 124, and by the fifth day both temperature and pulse were normal. Medicines when needed were given hypodermically until the fifth day, and from then on were given by mouth.

Water and crushed ice were given on the afternoon of the second day, and albumen water in one ounce doses every three hours were added on the third day. After this, general liquid nourishment was increased gradually, and by the tenth day she was taking soft diet in small quantities.

The tap water was expelled at intervals from the beginning, and by the second day it was highly colored with fecal matter. Enemas were unnecessary for this reason. On the fifth day castor oil was given with good result. This was repeated from time to time as necessary.

During the first and second day the dressing was changed twice a day (the tube and drains were not disturbed.) Drainage during this time was scant and of a sero-bloody character. The quantity increased gradually for about a week, at which time the gauze was saturated with pus at each dressing. From that time the quantity lessened from day to day. The gauze and rubber-dam tail drains had loosened up and were removed on the fifth day, but these were replaced with other gauze wicks. The tube was cut off as it rose out of the pelvis. After the first removal of the drains the abscess cavity was irrigated daily with a weak bichloride solution.

At present the girl is about well and the wound is completely closed.

In closing, we hope you gentlemen will pardon us for the many details that we felt it necessary to mention in order to give you a concise description of the case and its management.

MEDICAL TREATMENT OF GASTRIC ULCER.*

By GEO. P. HAMNER, M. D., Lynchburg, Va.

Following the time-honored method of medical treatment for this condition, there arose a surgical age for gastric ulcer. This began when it was discovered that the abdominal cavity could be invaded with impunity under proper asepsis, and for a time almost every diagnosed ulcer of the stomach came to the surgeon when the consent of the patient could be gained. The brilliant results hoped for were by no means always obtained from oper-

ation, and the pendulum has again swung back to at least a faithful trial by the internists, for healing before surgery is resorted to. This is as it should be, for it is a well known fact that gastric ulcers are frequently multiple, and sometimes inoperable, and, again, there is a tendency to recurrence in other parts of the gastric mucosa even after excision.

The expectant treatment for the healing of ulcer is first, and most important of all, rest in bed, next to which comes diet, and, lastly, medication.

The rest cure should last from ten days to four weeks, according to the severity of the symptoms. The diet should be divided into about four periods. For the first ten days it should consist almost if not exclusively of liquids,—milk, buttermilk, nutritious soups, bouillon and meat extracts. Cases in which these are not well borne are exceptional. Broths made of wild game are usually grateful to the palate and well tolerated by the stomach.

In mild cases, when nausea and pain are of a minimum type, semi-solids may be begun during this period. The feeding should, of course, be fractional, the intervals being from two to three hours. During the second period, of about seven days, the diet, in addition to liquids, may consist of two or three cakes (old-fashioned sweet cookies), soft eggs, rice, breast of tender chicken, pigeon or quail and sweet-breads.

The third period: Tea, coffee, or cocoa with milk and sugar, English biscuit, scraped, rare steak, mashed potatoes, scraped ham. All solids should be finely divided, and the patient cautioned to masticate thoroughly. "Eat slowly and chew thoroughly" is a good slogan.

The fourth period: A bland diet, based on a test breakfast analysis, acid free and with a minimum amount of sweets, should be prescribed, to be continued until a complete cure is effected.

Medication: When not too exhausting to the patient, and there is little or no bleeding produced, it has become my practice to begin lavage at once, cautiously, with a soft rubber tube, using alkaline solutions, and frequently running in at the last from one-half to one pint of a 1-6,000 or 1-8,000 silver nitrate solution, which is left in the stomach. Also a solu-

*Read before the South Piedmont Medical Society, at South Boston, Va., November 19, 1916.

tion of bismuth subnitrate about the consistency of buttermilk to fill up the ulcer and leave a smooth coating over the inflamed area around it is advisable.

If one is cautious in passing the tube and the operation is not extremely distressing to the patient, the danger of harm is almost nil.

I have seen persistent vomiting yield to this method time and again when every other procedure had failed, and the result is frequently immediate and most gratifying.

As in all other diseases in which little result is obtained from medication, the list of drugs that have been vaunted for the treatment of gastric ulcer is exhaustive. Personally, I have little faith in any of them. Nitrate of silver with hyoscyamus in pills, or bismuth subnitrate, might be tried, but the healing of a gastric ulcer is a reconstructive process and must be accomplished by the tissues concerned.

Keep the wounded mucosa clean, free from mechanical irritation, the gastric secretions as nearly alkaline as possible, give the ulcer a fair chance to heal, with the patient under close observation, and if the case is not progressing satisfactorily do not hesitate to resort to surgical methods promptly, or you may suffer the humiliation of a perforation and lessen greatly the chance of curing your patient.

1016½ Church Street.

SEPTIC ABORTION.*

By RALPH W. BROWN, M. D., Roanoke, Va.

I know of no condition confronting the physician in the whole realm of medicine that requires more judgment than the management of septic abortion.

There is no rule nor set of rules that can be laid down for the management of individual cases. We can only state broad general facts,—some things we certainly ought to do, and some that should never be done.

It will be my endeavor to discuss the most salient and important general indications. In the short time allotted to me for preparation, I have made a hasty review of some recent literature, both in text-books and journals. Puerperal sepsis is as old as the race, and records are found in the earliest books. The management of these cases depends largely on the

causation; for that reason, I will divide the subject into several heads.

Before proceeding further, however, I will say a few words on the prophylactic treatment. A great many simple abortions become septic through carelessness of the attending physician. We cannot be too careful to observe asepsis. I care not how urgent our business engagements may be, nor how many other patients we have needing our assistance, the physician should never proceed without thorough cleansing of the hands, careful preparation of his patient, always using rubber gloves when he makes the vaginal (pelvic) examination to ascertain the true condition. He can be the means of preventing many criminal abortions, which are practically all septic, if he will explain (when opportunity offers itself) to the thoughtless woman, the great risk she subjects herself to, when she foolishly allows some one to induce her to free herself of the undesired pregnancy by use of instruments in the hands of herself or some unscrupulous person.

A third point of prophylaxis was brought to my attention in an article by Dr. Joseph De Lee in the *Journal A. M. A.* for July 29, 1916. He relates the death of the embryo in apparently healthy mothers, death being due to virulent bacteria found in the baby's body. The thought he advances is, in general way, that there may be unobserved foci in the tonsils, throat and elsewhere, which may be the cause indirectly of kidney conditions and also the death of the embryo. Here is a practical deduction; that our pregnant cases should be more closely watched, and more thoroughly examined in order to prevent such untoward results. In the *Journal A. M. A.* for December 9, 1916, Dr. Arthur A. Curtis, of Chicago, has an article on "Streptococcic Infection as a Cause of Spontaneous Abortion," which is worthy of consideration along the line of Dr. De Lee's article.

Now, more directly to the subject:—It is well in all cases if the laboratory facilities are at hand, to examine the lochia, best gotten from the cervix or from specimens that have been expelled from uterus; the object of this being to note the type of infection we are dealing with. In the milder infections, we should follow one form of treatment; in the very severe, an entirely different form.

*Read before the Southwest Virginia Medical Society, at Roanoke, Va., December, 1916.

All types of infection should be put to bed, and laxatives administered. Water should be given in great quantities if the stomach is in good condition; if not, the Murphy method (about 30 drops to the minute per rectum). Most of these cases do better on the warm normal saline by the rectal route.

When the infection is severe the Fowler position is a great aid. Supportive treatment should always be promptly inaugurated, strychnine in some form, and such concentrated nourishment as the patient's general condition will allow. Of course, some of these cases can have nothing for a number of days on account of nausea and vomiting. There are quite a few septic abortions where the general condition of the patient would lead you to believe that there is no profound toxæmia, yet there is a very foul vaginal lochia. These cases often do best by treating them expectantly, and giving nature an opportunity to expel the uterine contents. De Lee says, "I learned that it was not a dangerous procedure to leave a uterus full of infected ovular remnants." These are usually cases of sapraemia with no virulent pyogenic bacteria.

There are still other cases with same general aspect of these just mentioned, yet the physician has had the opportunity to examine the lochia and find the placenta and embryo expelled. Unquestionably here, the best treatment is the expectant one, as usually any retained blood-clots or slight debris will find their way out, with no type of operative interference unless subsequent development demands it. I should have said before that hemorrhage demands some type of manipulation, and that depends largely on the type of infection you have. In mild infection immediate emptying of the uterus is expedient. In years gone by I used to place wicks of gauze in the uterus and tampon the vagina tight with sterile gauze, or sterile cotton as De Lee prefers. In from 12 to 24 hours this could be removed and the uterine contents usually followed. I do not believe this a safe method, as hemorrhage may continue, though concealed, and you get very much more absorption during that period of the septic material.

The method of procedure in the more severe infections will be dealt with later.

The condition of the cervix as to dilatation

is an important factor. Where dilatation is sufficient to permit emptying the uterus, the procedure is very much less dangerous than it is where dilatation becomes necessary. If we have to dilate it should be done very gradually, for if you get any lacerations of the slightest nature, you expose a raw surface, and thus infected material is liable to get into the general circulation. Any of the ordinary dilators do very well if the operator does not use too much pressure.

As to the method of emptying the uterus when it becomes necessary to do so, men of note differ materially.

Dr. Whitridge Williams, of Johns Hopkins, has always been a great believer in the use of the finger, and so far as I am able to ascertain, he still advocates its use, the reason being that you are less apt to break down the leukocytic wall which nature has established to prevent the absorption of septic material.

Others believe that the ovum forcep or perfectly dull uterine scoop, very gently manipulated, is safe, if carefully handled. This has been my method largely. Still other operators use sterile strips, wrapped around dressing forceps or long Kelly clamps, inserted in the uterine cavity, turning it in spiral way, thus dislodging any adherent particles. I have also used this with very satisfactory results.

As to douches, as stated above, the vagina and outer parts should be cleansed with soap and water and a weak bichloride solution (1-5000). After the uterus has been freed of its contents, an intra-uterine douche of a hot normal saline solution should be given. I do not believe it is necessary or advisable to use further douchings if you have good drainage, the Fowler position being used if necessary. Various other douches than normal saline are used, such as bichloride and carbolic acid of various strengths. These I do not advocate, as I feel they are dangerous and will do no more good than the normal salt. Also weak iodine solutions are in favor with some, while swabbing out the uterus with iodine is advocated by many. I do not think that this has any real advantage over cleansing and simple drainage, and yet there are certain cases in which it will be advantageous to use the intra-uterine iodine. A continuation of douching, uterine or vaginal, may be the cause of carry-

ing infection within, and producing a general pelvic inflammation.

A medical man should always be willing to acknowledge his errors. I have in the past used a sharp curette in septic conditions, but I cannot be too severe in denouncing myself or any one else for doing so in the light of our modern knowledge. You may get by quite a while with such methods, but sooner or later you will meet your Waterloo.

Treatment of Severe Infections:—Streptococcus and other severe pyogenic bacteria are the cases that require your best judgment, and then you are liable to lose a large percentage. *When* to operate and what form of operation is the question to decide. If the patient is in extremis, it is best to control the pain with small doses of morphine hypodermically, after first producing free catharsis. Hypodermoclysis or intra-venous saline solution may place your patient in better condition for whatever type of operation you may adopt. If there is no general pelvic inflammation, and the cervix is dilated, you may empty the uterus according to the methods above described. If, on the contrary, you already have a peritonitis of a local or general nature, your patient had better be placed in the hands of an abdominal surgeon if he is accessible, and let him decide whether an abdominal section or temporizing is the better procedure. If the general practitioner has to manage it alone, he had better temporize for twenty-four hours or more and be very slow to do anything of an operative nature, recognizing it is very easy to make a bad matter worse. Panhysterectomy will save some of these cases; it may hasten the death of others. All septic cases of whatever nature should have water by the Murphy method for several days, thereby stimulating the circulation and causing the kidneys to eliminate the toxins, and if the rectal water is well retained, it is usually expedient to give very little or no water by the mouth during that time. When the Murphy method is discontinued, water by the mouth should be forced.

De Lee, Williams and many others have found very little aid from anti-streptococcic serum. It may be best, however, to use it in very severe toxæmias, giving the physician the satisfaction of having neglected no form

of treatment. Whenever administered, it should be given as early as possible and in large doses.

One word of warning: Frequently you have complications which are of more importance than the apparent sepsis which you are treating. I recently had a case in which typhoid was found existing under just such circumstances, and for a while it had us in the air as to what course to pursue. A culture cleared the diagnosis and the patient is recovering from the typhoid.

There are other phases of this important subject that I would like to deal with, but I have already trespassed on your time. I, therefore, apologize for the incompleteness of the paper.

CONCLUSIONS.

The expectant treatment is frequently the safest when in doubt.

Light infections frequently take care of themselves; therefore, do not be too hasty to operate.

In the severe general infections, a good abdominal surgeon should be in consultation as it is difficult to know often whether to temporize or interfere. Do not use a curette, because you will jump from the frying pan into the fire.

1210 *Franklin Road.*

Proceedings of Societies, Etc.

Roanoke Academy of Medicine.

Regular meeting, February 5, 1917, Dr. Brown presiding.

Dr. Powell presented a paper on "Uterine Bleeding." The essayist may be commended for sticking to his text; he put into his thesis all that was necessary and left out nothing that was essential, and he wrote simply on uterine bleeding. He indulged in no fine-spun theories, but stated facts as he had observed them, and his deductions were clear. It might be styled a model paper.

It was discussed by *Dr. Jones*, who mentioned the value of electricity, the galvanic current with copper electrode and positive pole in uterine cavity.

Dr. Brady spoke briefly of X-ray in these

conditions, stating he had found it serviceable in selected cases—those near the menopause.

Dr. Tompkins alluded to the use of cotarnine hydrochloride.

Letters were read by the Secretary, as follows:

From *Dr. Chas. L. Minor*, regretting his inability to read a paper here in May.

From *Dr. Jno. Staige Davis* accepting invitation for March 5.

From Secretary of the State Society in reference to delinquent dues.

The Secretary read abstract of address made last fall before the State Society by *Mr. G. V. Sheridan*.

A committee was appointed to make preliminary arrangements for entertaining the State Society.

No meeting, February 19 (too cold to get quorum).

March 5.—Regular meeting, *Dr. Brown* in chair. Out of consideration for visitors present, the regular order of business was dispensed with.

The Academy had the privilege and pleasure of having at this meeting *Dr. John Staige Davis*, of the University of Virginia, who came by special invitation to read a paper on "Lymphatic Leucaemia." This scholarly and erudite address was delivered in most happy style, a touch of humor now and then bringing a smile to the faces of his hearers. The paper was, however, essentially a serious one, the essayist giving case histories, in part, of a number of patients under his care. One in particular with a count of 1,256,000 white cells, he said, was at first thought to be the highest recorded, until search at the Surgeon-General's library revealed two other reports slightly higher. Microscopic slides of his cases were shown.

In the discussion *Dr. Preston* led. He remarked: "While not claiming originality for this thought, the disease may be likened to malignancy. It is a lawless disease of the blood, just as sarcoma is a lawless disease of the tissues. The matter of infection may be an entering wedge, and the whole picture changed by vaccines."

Dr. Willis said: "I am convinced it is an infectious disease; the case *Dr. Davis* men-

tioned with a previous osteo-myelitis is suggestive. The hemorrhagic spots that appear are conclusive that an infectious endarteritis exists. It seems that at present the Benzol theory has not much support,—it has not given the results expected. I would like to know if the pneumonia *Dr. Davis* mentioned, changed the blood picture. In all depraved states I think we should make complete blood examinations. In many leucaemic cases we do not get the patients until an enlarged spleen is noticed. We would be able to get them in an earlier stage if more blood examinations were made."

Dr. Jones: "I would like to ask in reference to Hodgkin's disease if it is desirable to remove glands all over the body?"

Dr. Davis, in closing: "A lymphatic leucaemia with count of over a million is rare; in the myelogenous form it is not. As to surgical treatment, if we get a case of Hodgkin's disease early enough we may cut out accessible glands, but there is already bleeding, and in the operation more blood is lost and so there is generally no use in operating. It is not like malignant disease of tissues; these cells are in the blood plasma for transportation, so it is not a 'sarcoma of the blood'—the blood is not the seat of the disease. It is possible to have an aleucaemic leucaemia. My plea is for more routine blood examinations, especially in osteomyelitis."

Another visitor present was *Dr. Micajah Boland*, U. S. N., who came especially to lay before this body the matter of enrollment in the Coast Defense Reserve. He said: "It is my duty as well as a pleasure to appear before the medical men of Roanoke. I hope some of you will become interested in the Coast Defense Reserve and eventually enroll. Under present conditions, upon a declaration of war there are only medical officers sufficient in the navy to supply the ships, leaving all hospitals ashore to be cared for by civilian doctors. Our aim is to enroll five hundred civilian physicians and surgeons in the Reserve in order that they may be trained in special lines of work which they would be called upon to render in case of war." He then described the service required, the conditions pertaining to it, the compensation, and other features. He spoke at some length and was accorded close attention. *Dr. Armistead* led in a discussion of the subjects touched

upon, and many informal questions were asked.

Two other papers were scheduled for this meeting but, by request of the authors, were postponed to a subsequent date.

Thirty-four Fellows and five visitors were present.

E. P. TOMPKINS, *M. D.*,
Secretary.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, *M. D.*, New York, N. Y.
(Continued from page 590.)

Removal of a Large Rhinolith, With Exhibition of Specimen.

By D. BRADEN KYLE, *M. D.*, Philadelphia, Pa.

Patient, male, aged seventeen years. The right nostril was markedly obstructed by the septum, which was deflected and perforated by pressure from the body in the left nostril. This obstruction in the left nostril was found to be extremely hard, almost black in color, and covered by a great quantity of mucopurulent secretion of bad color. This object was large enough to fill the entire naris; it forced the septum to the extreme right, extending into the antrum, and could be felt projecting backward into the nasopharynx. It was freely movable and not attached at any point—pocketed, as it were.

An operation was performed October 8, 1914, under ether anesthesia. Attempts to remove the obstructing body in its entirety failed, owing to its large size and to the fact that it bore the relation to the surrounding bony structures of a ball to its socket. It was necessary to use heavy rongeur forceps, by means of which it was possible to break off small fragments from the granite-like mass. About one-third of the body was removed in this manner, when the remaining portion was removed entirely with only a slight tear at the nasolabial angle. The nose was packed with iodoform gauze. The entire operation occupied about one hour, and considerable blood was lost. The patient was cyanotic and in shock when taken to the ward.

Twenty-four hours after operation a distinct pneumonic area had developed in the lower left lung, and the patient was removed to the medical ward for treatment of this condition, which cleared up in due time. During the four or five days following the operation there developed considerable emphysema of the cel-

lular tissue at the root of the neck and below the clavicles. The face was markedly swollen and the eyes puffy. By the 17th of October a distinct abscess had developed at the inner canthus of the left eye. This was incised by Dr. Sweet, and found to communicate with the anterior ethmoid cells. This complication being relieved, and the lung having become clear, the patient was returned to the special ward on October 19th, where he made an uneventful recovery, and left the hospital on November 11, 1914.

DISCUSSION.

Dr. Harris P. Mosher, Boston: The objection brought out by the speaker that the case was septic and he did not feel like working the incision through the cheek, does not seem a valid one. You can get perfect drainage in this way. Had he gone after the tumor by making that incision, I feel that he could have seen what he was up to and stood a very good chance of getting his tumor out whole, which, of course, to any surgeon, is a certain amount of satisfaction.

Dr. D. Braden Kyle, Philadelphia (closing the discussion): I would like to say that this tumor weighed two hundred and fifty-four grains. It seems to me that if you can remove a mass without any serious trauma to the patient, you are highly justified, for the satisfaction of having the entire rhinolith, to subject the patient to a major operation. But in this case one could not possibly extend into the nasopharynx and not have trauma without doing a very extensive operation and splitting the whole upper jaw. I feel that in this case removing it in small portions was a much better surgical procedure than the one mentioned.

The Relations of the Sphenoid Sinus to the Eustachian Tube and Their Possible Clinical Importance.

By GREENFIELD SLUDER, *M. D.*, St. Louis.

When the sphenoid cell is prolonged downward into the pterygoid process it approaches the eustachian tube more or less, and it may come to such close association as to be separated by an egg shell thickness of the bone. This comes through two factors; first, the thickness of the bone of the pterygoid process is absent, and second, the origin of the tensor palati is not from the uppermost limit of the

plate. Should the tensor palati arise high on the plate, the thickness of the muscle will enter in between the tube and the bone of the sinus wall. Should, however, the tensor extend a lesser distance upward on the plate, the tube comes into close relation and in some specimens is in contact with the egg shell thick wall of the sinus.

(To be Continued.)

Analyses, Selections, Etc.

Prevalence of Syphilis as Indicated by the Routine Use of the Wassermann Reaction.*

By WM. M. BRYAN, Passed Assistant Surgeon, and JAS. F. HOOKER, Acting Assistant Surgeon, United States Public Health Service. (In the Public Health Report, Vol. 31, No. 47, November, 1916.)

The Wassermann reaction is steadily coming into more common use, and its value as a routine procedure is recognized. A number of reports of such routine examination have been made, notably one by Dr. Albert A. Homer (*Boston Medical and Surgical Journal*, February 10, 1916) on 500 cases at the Massachusetts General Hospital, in which he found that 17.4 per cent. of the patients tested gave a positive reaction.

For the purpose of comparing such findings, a series from seamen admitted to the Boston Marine Hospital was obtained and compared with the records of previous years, when the Wassermann had been used only occasionally.

Since February, 1916, blood has been drawn from every one admitted. Up to October, 1916, 312 cases were thus tested, 77, or 24.7 per cent., being positive.

Of the 77 positive cases 19 were obviously syphilitic, having either marked secondaries or other symptoms on which a definite diagnosis could have been made without the use of a Wassermann. If these 19 cases be excluded, the percentage will be reduced to 18.6 in the apparently non-syphilitic. On the other hand, it should be noted that 11 cases obviously syphilitic gave a negative reaction because of recent treatment, and had these cases been included with the 77 positive cases the

total incidence would be raised to 28.2 per cent.

Beginning in 1911 the Wassermann reaction was used at the Boston Marine Hospital as an aid to diagnosis in doubtful cases. From that date to 1916, 2,863 cases were admitted and 468 Wassermans taken, of which 191 were positive, 260 negative, and 17 doubtful, and in these years 9.1 per cent. of all cases admitted were diagnosed as syphilitic.

Reports for the five years 1907-1911 show that 4.3 per cent. of all cases treated in hospitals of the United States Public Health Service were diagnosed as syphilis. During this period the Wassermann reaction was used seldom, or only in suspected cases.

Editorial.

Climate and Tuberculosis.

The article under the above caption by Asst. Surg. Gen. John W. Trask, in a recent copy of *Public Health Reports*, should be handed in pamphlet form to every incipient tuberculous patient seeking a climate in which to live. His view is that "Much depends upon the climate to which the individual has become accustomed by previous residence." In going from the south to the north, or *vice versa*, atmospheric conditions which would be delightful and suitable to one would probably be found to be cold and unpleasant to another. No climate is favorable all the year, but most climates in the United States are favorable for a considerable portion of the year. While the climate of the southwestern part of the United States is most attractive for outdoor life for a large portion of the year in that it seldom rains and practically all days are bright, it has its unfavorable features in the excessive dryness of its atmosphere, which in many cases irritates the mucous membranes of the nose and throat, and the wind and dust storms which prevail in many localities during several months, when being out of doors, is far from attractive.

A favorable climate is greatly to be desired but many points are to be taken into consideration in making this selection. It is a case of "acres of diamonds" around us and yet look-

*Abstracted by Dr. Lawrence T. Price.

ing elsewhere for them. In going from this section to the Southwest, the question of railroad fare and living expenses is to be taken into consideration, and, a number of consumptives being afflicted with that *bete noire* of a large portion of humanity—insufficient funds—it becomes necessary for them to seek employment. If obtained, it frustrates their aim of outdoor life, and if not, leads to a wandering from one locality to another seeking work with the “best climate,” much the same as Ponce de Leon seeking his “fountain of youth.”

Dr. Trask has well said that “In one’s quest for a favorable climate one must not forfeit suitable food, rest, and peace of mind, or gain a more favorable climate in which to live at the price of homesickness and worry.” Sanatoriums a plenty can be found near home and in some respects they are preferable to home treatment. Where they cannot be afforded, however, most favorable conditions for recovery, including an outdoor life, rest, medical attention and nursing may be obtained at less expense at home or possibly in the suburbs near home. Then, rest as much as possible day and night on a porch in ordinary weather or in a room with open windows in very cold or stormy weather should furnish the most suitable atmosphere and climate.

The Wise County (Va.) Medical Society,

At its regular meeting held at Norton, January 31, elected the following officers for the ensuing year: President, Dr. W. R. Culbertson, Coeburn; vice-presidents, Drs. H. R. Smith, Appalachia; W. H. Bruce, Norton, and W. G. Painter, Big Stone Gap; secretary, Dr. W. B. Peters, Appalachia, and treasurer, Dr. J. H. Hagy, Inman. The next meeting was scheduled for March 21.

Southwestern State Hospital.

The twenty-ninth annual report of this institution, situated at Marion, Va., states that the total number of patients treated during its last fiscal year, ended September 30, 1916, was 1,069, or an increase of three in the daily average over the preceding year. A number of papers were returned due to inability to accommodate patients for lack of room. The percentage of deaths of 7.76 of the total number

treated was unusually high. This is explained by the large number of old and feeble inmates, a number of whom succumbed to a serious epidemic of influenza with pneumonia as a complication or sequel. Results from patients given manual exercise have been most satisfactory. It has been the aim of the officials to find work which was most agreeable and suitable for the patients, and the majority of recoveries were among the working force.

A number of minor repairs and necessary purchases, especially for the kitchen, were made. Owing to lack of proper appropriation by the last legislature, it was impossible to complete the new building for male patients. The hospital farm and the one rented for the past two years produced unusually good crops, but one of the great needs of this hospital is the purchase by the State of more land for a hospital farm, to aid in supplying necessary vegetables, etc., and because the longer the purchase is delayed, the higher the price will be.

Medical Students Win Internships.

We note from *University of Virginia Alumni News* that ten of the fourth year medical students of the University have by competitive examinations, received appointments as internes to leading hospitals in the East, to take effect at the end of the present session. The University of Virginia placed a larger number in proportion to applicants than any other university. The students awarded the places are as follows: Shield McCandlish, Philadelphia General Hospital; C. M. Griffith, W. H. Pott and G. P. McNeill, Post-Graduate Hospital, New York; Tayloe Compton, St. Luke’s Hospital, New York; B. R. Wellford, R. D. Anderson and Mason Romaine, King’s County Hospital, Brooklyn; Berry Green, Jr., German Hospital, New York, and D. S. Adams, Boston City Hospital, Boston.

Dr. James Howard, interne in the University Hospital last year, and Dr. Harvey Whitmore, of the class of 1916, have passed the examination for the medical service of the Navy. The former is now attending the Navy School in Washington.

Visiting Mayo Clinic.

A party of prominent Virginia surgeons,

who left early in March to visit the Mayo Clinic, Rochester, Minn., was composed of Drs. W. Lowndes Peple, A. M. Willis and C. C. Coleman, Richmond; R. L. Payne, Jr., Norfolk; Hugh Trout, Roanoke, and Richard P. Bell, Staunton.

Sarah Leigh Hospital,

Norfolk, Va., is being enlarged by the addition of a fourth floor for laboratory and X-ray equipment.

Dr. C. S. Lawrence,

Winston-Salem, N. C., has purchased a lot and expects to build a private hospital as soon as legal obstacles are overcome.

Dr. Carrie Chase Davis,

Hopewell, Va., spent a week in Washington, early this month, visiting relatives and attending the inauguration and a convention.

The Virginia Public Health Association

Will hold its annual meeting in Lynchburg, April 16-18, and all citizens as well as sanitarians and physicians are invited to attend. Special emphasis is to be placed upon the fly exhibit at this meeting to emphasize the importance of early action in the spring to abate the fly nuisance. All models of anti-fly devices which can be secured will be shown at this meeting.

Married—

Dr. Roy P. Sandidge, assistant surgeon in the U. S. Public Health Service, and Miss Jane Perley Gleason, Charlottesville, Va., March 8.

Dr. Edmund Madison Chitwood, Austinville, Va., and Miss Ethel Dale Tipton, Hillsville, Va., February 28.

The Norfolk County (Va.) Medical Society

Recently appointed a committee composed of Drs. L. T. Royster, D. Lee Hirschler and Southgate Leigh, all of Norfolk, to formulate a plan for developing post-graduate study and to arrange a series of clinics. It is the purpose of the Society to have some of these clinics given by men of national reputation. "Reading Clubs" have already been organized in connection with this work.

Dr. Charles M. Scott,

Bluefield, W. Va., was a recent visitor to New York City.

Winchester Memorial Hospital Receives Gift.

It has been announced by Dr. Hunter H. McGuire, president of Winchester, Va., Memorial Hospital, that Mrs. Henry B. Gilpin, of Baltimore, Md., and Clarke County, Va., has volunteered to erect and equip at the hospital a large children's department, the cost of which will be about \$10,000.

Dr. Stephen H. Watts,

University, Virginia, has been elected one of the directors of the University of Virginia Young Men's Christian Association, for a term of two years.

Appointment of Dr. Grayson Confirmed.

The appointment by President Wilson of Dr. Cary T. Grayson as medical director and rear-admiral in the U. S. Navy has been confirmed by the Senate.

Drs. Lynch and Bright Delegates.

Major Junius F. Lynch, Norfolk, and Major J. Fulmer Bright, Richmond, have been appointed by Adjutant-General Sale as delegates to the National Guard Association, which convenes in New York, March 27.

Dr. John Wyatt Davis,

Lynchburg, Va., has been visiting his mother in this city.

Campaign to Raise Funds for New Building for Retreat for the Sick.

A ten days' campaign, beginning March 19, has been undertaken in this city, to raise \$150,000 for the purpose of erecting a new hospital building to replace the Retreat for the Sick. Dr. Wm. T. Oppenheimer has been named as general chairman for the campaign. This hospital, which is 40 years old, is said to be the oldest non-denominational hospital in the South and the building it occupies is over 100 years old. A great deal of charity work is done here. The purpose of the board is to first

build a wing at the corner, before vacating the present building and then to complete the second unit, so that the hospital may not be closed during rebuilding. When completed, the hospital will have one hundred beds instead of its present capacity of fifty.

Typhus in Belgium.

Added to the devastations of war, it is now announced that typhus fever has broken out in Belgium. In one province with a population of 4,000, eighty deaths have occurred in the last two months.

Dr. H. Hertzberg

Has been appointed city physician of Hopewell, Va.

Dr. B. L. Taliaferro,

Formerly of Richmond, but for the past few years an assistant physician at Catawba Sanatorium, this state, has been appointed medical director of the Piedmont Sanatorium for tuberculous colored people, which will be located near Burkeville, Va.

Dr. Dandridge P. West,

Who for the past two years has been connected with the Pediatric department of Tulane University, has recently located in Norfolk, Va., and will limit his practice to diseases of infancy and childhood. Dr. West has also studied under some of the most prominent pediatricists in New York City.

The Medical College of the State of South Carolina

Will introduce military training as a voluntary course next season, according to a decision of the board of trustees.

Dr. and Mrs. E. R. Bradley,

Of Highland Springs, Va., have returned from a visit to their old home in Charles City County, Va.

New Medical Mission.

The extension department of the University of Virginia Y. M. C. A. has established its second absolutely free medical mission at Rock Hill, Albemarle County, seven miles from the

University. Members of the fourth year medical class hold weekly clinics and dispense medicines. Serious cases are brought to the University Hospital.

Dr. J. C. Wysor,

Clifton Forge, Va., was called to Indianapolis, the middle of this month, by the illness of his brother.

Dr. E. D. Wells,

Formerly of Hinton, W. Va., has arrived in Clifton Forge, Va., and taken up his duties at the new Chesapeake and Ohio Hospital.

Dr. Howard A. Kelly,

Accompanied by his daughter, stopped for a short visit to Dr. and Mrs. A. H. Deekens, in Lynchburg, Va., en route from Florida to their home in Baltimore. Dr. Kelly was quite ill with pneumonia while in Florida.

New Anesthetic Apparatus at Memorial Hospital.

Memorial Hospital, Richmond, has just purchased a very compact new apparatus for the administration of anesthesia. The machine is said to be the result of study on the part of a noted Southern surgeon and has a way of regulating the proper amount of gas or ether necessary to put the patient to sleep thoroughly without overcoming him.

Dr. and Mrs. Julian F. Ward

Have returned to their home in Winchester, Va., after a month's stay in Southern Florida and Havana.

Dr. Fred D. Brent,

Reedville, Va., was the recent guest of his father in Heathsville, Va.

Mr. J. R. McCauley,

Secretary-treasurer of the Medical College of Virginia, this city, has again been elected dictator of Richmond Moose, Lodge No. 330.

Spurious Neosalvarsan.

The *Bulletin of the New York City Department of Health* announces that as a result of

investigation by inspectors of the Bureau of Foods and Drugs, it has been discovered that considerable quantities of a spurious neosalvarsan have been marketed in that city. Analysis showed this to consist almost entirely of common salt to which a little yellowish coloring had been added. The imitation of the original package was such that detection was difficult. Perpetrators of the fraud have been and will continue to be arrested as apprehended.

Dr. Emil Mayer,

New York, has been appointed consulting laryngologist to Mt. Sinai Hospital.

Hopewell Doctors Visit Washington.

Among those who attended the inauguration of President Wilson, were Drs. B. L. Naiman, L. P. Milligan and F. Levinson, of Hopewell, Va.

"Endocrinology"

Is a new magazine, and the first issue consists of 130 pages devoted to the discussion of diseases of the ductless glands. The original articles are by Barker, Sajous, Harrower, Sergent and others well known in this new field of medicine. Eighteen pages are devoted to editorial articles. These are exceedingly interesting and aid one in keeping up with the discussion of recent advances in endocrinology. The original articles are followed by a discussion, a method which greatly adds to their value. The book reviews and abstracts are signed, very complete, and well done. The general appearance of the magazine is most attractive.

Hardly any advance in medical literature has been more important than the publication of this magazine, as it enables one to keep up quarterly with the whole field of literature on clinical, experimental and therapeutic investigation in the study of internal secretions.

The magazine is the periodical of the Association for the Study of Internal Secretions, and is published by Henry R. Harrower, M. D., Secretary of the Association, Glendale, California. The subscription price is \$5.00 a year in advance, single copies \$1.50. I can heartily recommend both the magazine and the Association. Application for membership in

the Association may be made through the writer, or any member of the Association.

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The North Carolina Medical Society

Will hold its annual meeting in Asheville, April 17, 18 and 19, with headquarters at Battery Park Hotel. Further information of this meeting may be obtained from the president, Dr. Charles O'H. Laughinghouse, Greenville, or from the secretary, Dr. Benj. K. Hays, Oxford.

Dr. Charles V. Carrington,

Of this city, has been elected one of the directors of the Old Dominion Beverage Corporation.

Dr. Charles A. Woodard,

Durham, N. C., has been appointed a member of the consolidated board of directors of the North Carolina State Hospitals for Insane.

Dr. Robert C. Kirkwood,

Of Lakeview, Wash., has been made an associate editor of the Western Medical Times and is in charge of the Department of Tuberculosis.

American Review of Tuberculosis,

A monthly technical journal, devoted exclusively to tuberculosis, and the only one of its kind in English, has been announced by the National Association for the Study and Prevention of Tuberculosis. The editorial policy of the new journal will be determined by a staff of seven experts appointed by the board of directors of the Association, consisting of Dr. Edward R. Baldwin, Saranac Lake, editor-in-chief; Dr. Lawrason Brown, Saranac Lake; Dr. H. R. M. Landis, Philadelphia; Dr. Paul Lewis, Philadelphia; Dr. M. J. Rosenau, Boston; Dr. Henry Sewall, Denver; Dr. R. S. Veeder, St. Louis. Dr. Allen K. Krause, of Baltimore, the managing editor, is widely known as a worker in the research field of tuberculosis. He recently left Saranac Lake to take charge of the new division of tuberculosis in Johns Hopkins University.

No New City Physician.

The Administrative Board has instructed

Dr. E. C. Levy, chief health officer of Richmond, not to appoint a successor to Dr. J. G. Trant, recently resigned as one of the city physicians, but to re-district the city, apportioning the work among the remaining city physicians and dividing the additional money among them.

Dr. and Mrs. Hugh M. Taylor,

Of this city, expect to leave shortly for a stay of sometime at their country place near Berryville, Va.

Dr. J. Bentley Squier,

Professor of genito-urinary surgery at New York Post-Graduate Hospital, has now been appointed professor of urology at College of Physician and Surgeons, New York.

Surgeon H. McGavock Robertson

Has been relieved from duty at the Hygienic Laboratory and sent to Fortress Monroe, Va., to assume charge of the Cape Charles Quarantine Station.

Tuberculosis a Serious Problem in France.

So great has been the increase of tuberculosis in France as a result of the war, that the country is organizing to combat the spread of the disease from men who have been weakened by the hardships of the campaign. It is stated that at least 100,000 men in the army have been attacked by tuberculosis, 80,000 of whom have been sent to their homes, and it is expected that 100,000 more will come back from German camps with the same disease. A chain of tuberculosis sanatoriums to deal with the plague has been proposed, and the soldiers afflicted will probably be given three months' treatment in a civil sanatorium at the expense of the State before being discharged from the army.

The Tennessee State Medical Association

Is to hold its regular annual meeting in Nashville, April 3-5, Dr. C. N. Cowden, of that city, presiding. Dr. Olin West, also of Nashville, is secretary-treasurer.

Dr. William B. West,

Fort Worth, Texas, has recently been visiting his brother in Louisa, Va.

Virginia Hospital Superintendent Resigns.

Miss Ethel Cummings, who has been super-

intendent of Virginia Hospital, this city, since that institution came under the direction of the city government, has tendered her resignation, to be effective August 1. The question as to some change in the management of the Hospital will be considered prior to the appointment of her successor.

Wanted:—An assistant resident physician at Catawba Sanatorium. Compensation, fifty dollars per month with board and lodging. Apply to Dr. John J. Lloyd, Catawba Sanatorium P. O., Va.—(Adv.)

Obituary Record

Dr. G. Hudson Makuen,

A prominent laryngologist of Philadelphia, died at his native home, Goshen, N. Y., February 21, aged 61 years. He graduated in medicine from Jefferson Medical College, Philadelphia, in 1889. Among the honors conferred upon Dr. Makuen were the presidency of the American Academy of Medicine in 1890, of the American Laryngological Association in 1916, and of the Section of Laryngology and Otology of the American Medical Association in 1902. He had also taught in several colleges.

Dr. Joseph W. Baker,

A greatly beloved physician of Louisa, Va., died at his home in that place March 14, on his seventy-eighth birthday. He was a Confederate veteran, having served throughout the war and was for thirty years commissioner of the revenue for Louisa. His wife and several sons and daughters survive him.

Dr. George S. Walker,

A prominent physician of the Valley of Virginia, died March 15 in Staunton, after an illness of two weeks. Two daughters survive him. He served with the Confederacy during the war between the States, first in Virginia cavalry and later as an assistant surgeon in the North Carolina infantry.

Dr. S. P. Hite,

For many years a well-known physician in the Valley of Virginia in the neighborhood of Harrisonburg, died March 10 in Radford, Va., and was buried in Staunton. He was unmarried.

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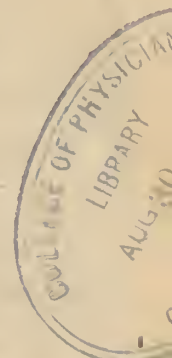
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