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THE

PROCEEDINGS

OF THE

Medical Society of the County of Kings.

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PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, JANUARY 20, 1880.

CONCLUSION OF THE ADJOURNED DISCUSSION OF DR. ARMOR'S PAPER ON THE "SYMPTOMS AND SIGNS OF THE PRECURSORY STAGE OF CONSTITUTIONAL PHTHISIS," READ BEFORE THE SOCIETY, DECEMBER, 1878, AND PUBLISHED IN THE "PROCEEDINGS" FOR JANUARY AND DECEMBER, 1879.

THE INFLAMMATORY ORIGIN OF PHTHISIS.

BY S. G. ARMOR, M.D.

I shall not occupy much of the time of the Society to-night, but will merely make a few general outline remarks for the purpose of opening the debate upon points which may be interesting to gentlemen who follow me.

It is, of course, well known to all members of this Society, that at one time all varieties of pulmonary consumption were classed as "*tubercular* consumption." This classification was based upon the prevalent idea, due largely to the teachings of Louis, Andral and others, that the disease was a unity; that all pulmonary consumption depended primarily upon tubercles, and that there was no other form of pulmonary consumption than that of tubercular. Hence in the older nomenclature it is invariably spoken of as "tubercular" consumption.

In modern times, and in the more recent literature, we frequently find the phrase "pulmonary consumption" used; and we might claim in favor of this more general form of expression that it does not commit us to the theory that all pulmonary consumption is caused by tubercle.

In the paper which I had the honor to present to the Society some time since, it will be remembered that I discussed but *one* variety of this disease. I alluded only to that which depended upon a *diathesis*—a constitutional state—and was known as *true* tubercular consumption—a variety which is known to you all as that which modern pathologists describe as tubercular. It is known as a variety which is inherited, and frequently manifests itself in early life. It is a disseminated constitutional form of tubercle, and, therefore, known as true tubercle. Tubercle is the primary dominating element. In cases of consumption of that kind the ordinary nomenclature of tubercular consumption would seem to be good.

I believe as much as I ever did that there is such a constitutional form of pulmonary consumption. Some of us believe, however, that there are other forms of pulmonary consumption which can be traced to local inflammatory action. May I not state the matter stronger by saying that a large proportion of cases of the ordinary forms of pulmonary consumption can be traced to a primary inflammatory condition of the lung. My belief is more and more in that direction.

In the early part of my professional life, I was an ardent disciple of Louis and was brought up in the teachings of that school. All my prejudices were in that direction, and I believed, with the adherents of that school, that there was no form of consumption that did not depend upon tubercle; but from subsequent careful study of the disease I have been obliged to abandon that exclusive view of the subject. I now believe that a large proportion of cases of pulmonary consumption have their origin in some form of inflammatory action of the lung.

It is an interesting question as to the relative *frequency* of the different forms of constitutional, acquired, or accidental consumption.

Now of these accidental inflammatory varieties we have the so-called catarrhal form of phthisis. That is, a primary epithelial trouble, commencing in the mucous membrane and finally involving the bronchioles and air cells, then producing, as the result of a low grade of inflammatory action, a cheesy degeneration, which ultimately eventuates in destruction of lung tissue. I need not discuss the relation of this cheesy degeneration to the development of tuberculosis—a subject familiar to all—nor need I allude to the fact that it is not *all* forms of bronchitis, or pneumonitis, or pulmonary disease that result in pulmonary consumption. This indeed is largely exceptional, so that after all we must recog-

nize, as a condition precedent, inflammatory action engrafted upon a *peculiar constitution*, and that we believe to be a general degraded condition of the nutritive system. This is an important point in the discussion of the question. Thus it is frequently observed in scrofulosis; indeed in all constitutional affections depending upon mal-assimilation and bad blood. Pulmonary inflammation occurring in such constitutions is apt to lead to pulmonary consumption.

German and other observers have noticed that a large proportion of cases of the catarrhal form of inflammation eventuate in quick "galloping consumption," so called. It is believed, however, by recent observers, that we have a slow, gradual, insidious form of the disease, primarily developing itself in the cellular connective tissue of the lungs, ending in a fibroid or albuminoid degeneration of the lung tissue. This is known as *fibrous phthisis*, undoubtedly a common form of disease. It is believed by others that a large number of cases of pulmonary consumption can be traced to inflammation which commences at the periphery of the lungs—*primary pleurisy*.

I shall not attempt to discuss that question to-night, and especially in the presence of a gentleman who has thoroughly studied the subject, and who therefore knows so much more about it than I do; I allude to my distinguished *confrère*, Prof. Leaming, of New York. He has given a great deal of attention to the subject, and has contributed some valuable articles to the literature of the same. I need scarcely say to you that he has been a careful observer of this subject for many years; and he certainly ought to be a good diagnostician of diseases of the lungs and chest, for he was brought up at the feet of Dr. Cammann, whose skill as a diagnostician in diseases of the lungs is so well known to the profession. I know we shall be all glad to listen to the remarks of Dr. Leaming.

THE FIBROID VARIETY OF PHTHISIS.

BY J. R. LEAMING, M.D., *New York City.*

I thank you for your flattering invitation to be present at this discussion, even while painfully feeling my inability to fulfill the part Prof. Armor would assign me. Indeed, I ought to know more of this subject than I do, having had the opportunity of learning from Dr. Cammann by constant familiar intercourse during many years in Demilt Dispensary, at St. Luke's Hospital, and in private practice—as Prof. Armor suggests.

I am expected to confine my attention, in considering this great subject, to the fibroid variety of phthisis—its cause, its early diagnosis, its tendency to excite tubercular degeneration, and finally its prevention and removal by remedial management.

I have said, and I wish to repeat, that I believe nine-tenths of all the cases of phthisis of any form that have come under my observation have had an interpleural origin ; that is, that the first discoverable signs of pathological changes were there located.

The primary cause of interpleural pathological processes is depressed vital power, as from mental irritation and worry, from prolonged anxiety, loss of friends, miscarriage of business—of hopes of any kind, over-work, bad air, bad food, and fever-and-ague poisons.

When these conditions are present, a slight cold or increased vital depression from any other cause may result in pulmonary hyperæmia, with plastic exudation upon the pleural surfaces, which, if the cause be not removed, may remain and become organized, forming pseudo-membrane and adhesions. The local disability from thickened pleura and adhesions, constantly contracting, invites new exudations from every new hyperæmic cause of debility, until contracting bands shoot into and through the lung, and progressive fibroid phthisis is established, which may result in progressive destruction of the air sacs, or the formation of cavities from caseous degeneration.

The point of great interest is, that remedial management, early applied, certainly prevents or wipes out the commencing factors of the disease. And more, in many cases of extensive interpleural fibroid, and even in the second stage of invasion of the lung, remedial measures may arrest progress and restore the patient to health and usefulness.

Diagnosis, and especially early diagnosis, is of prime importance.

The physical signs of interpleural exudations are those which have hitherto been wrongly considered as interbronchial or interpulmonary. In order to understand these, and to appreciate their cause and locality, it is first necessary to apprehend the true character of healthy respiratory murmur—to know that it is composed of two elements : air friction of the tidal movement in the convective tubes, broncho-respiratory, and the dilatation of the true respiratory system, which contracts upon the residual air with susurrus. When inspiration takes place in ordinary respiration in health, the residual air is increased, it has been estimated, one-tenth, which, dilating forcibly the contracting true respiratory system, causes a vibrating murmur of low pitch, resembling the roar of the sea heard at a distance.

To analyze these murmurs it is necessary to fill the lungs slowly while the attentive ear is placed against the chest wall. At the beginning of

the inspiration the air friction, or broncho-respiratory murmur, will predominate and be of comparatively high pitch, but as the chest fills, the roaring, vibrating low note will increase in power, until at the end of inspiration it will be full, when if the breath be held, the epiglottis closed down so that no more air can enter, the broncho-respiratory murmur will have ceased, and the true respiratory will continue alone, and the distinctive characteristics of each be readily analyzed.

Before hearing, locating, and properly appreciating adventitious râles, it is absolutely necessary that normal respiration should be analyzed and recognized in its dual character.

The theory of air passing through the bronchi to and into the air-sacs, and thence being expelled, was accepted and taught by Laennec, and upon it was founded the doctrine of the mechanism of crepitant and subcrepitant râles.

But it will not bear investigation; for, in order to do this, the air must first be displaced which is already in the true respiratory system, in order that the inspired air may reach the air-sacs, and thus to cause the bursting of bubbles in the small tubes and vesicles.

Attentively auscultating a bladder while being blown up, will convince any one that friction murmur, caused by air entering in a body, is confined to the neck of the bladder, and so soon as the air enters the cavity it meets the resistance of the residual air, and the air particles slide in among each other causing equal distension in every direction. Much more so is this the case in the human being, where the oxygen of the residual air is attracted with force by the blood in the capillaries of the true respiratory system. Then, again, the law of diffusion of gases causes almost instant admixture of the inspired air with the residual, a fact that precludes the idea of air friction or bubble bursting in such a manner as to create crepitant or subcrepitant râles.

Another theory has been eagerly caught up as explaining the crepitant and subcrepitant râles; which is, that after the air has been expired the inner surfaces of the air-sacs and bronchioli collapse and stick together, or a new inspiration separates them again forcibly, causing the râles. But in a lung capable of performing respiration at all, the inner surfaces of the true respiratory system are constantly kept apart by the residual air. A totally collapsed lung admits no air, consequently the râles are neither inter-pulmonary nor inter-bronchial, and in the nature of physics and facts, they cannot be.

Any one who has watched a case of centric pneumonia by auscultation is aware that, notwithstanding that the rational signs of sputa, temperature, respiration and pulse are all present, there will yet be no râles nor bronchial breathing until the inflammation reaches the pleural sur-

face, which may not be until the fifth day of the pneumonia, when all at once all the physical signs will be developed—râles, bronchial breathing, etc. Repeated and careful experience proves beyond cavil that crepitant and sub-crepitant râles, watched during life, have been demonstrated, by post mortem examinations, to have been heard over the site of interpleural pathological processes.

At the House of Rest for Consumptives, the late Dr. H. M. Sprague, in forty post-mortems, demonstrated the connection between râles and interpleural pathology. I have seen many cases equally convincing at St. Luke's Hospital and in private practice But, perhaps, none more so than during the last summer. The United States Commission for suppressing or tramping out the "pleuro-pneumonia contagion" among cattle, invited me, among others, to be present at the examination and and destruction of condemned cows at the foot of 38th Street and Hudson River, New York. Among nineteen there were three cows examined by auscultation and percussion, and the locality of râles noted, and post-mortem examinations were immediately afterward made. In these three cows the pleuro-pneumonia was confined to one lung; in each one the lung was consolidated throughout, so that no air could enter, yet there were râles, which in every instance were over the site of adhesions, and where there were no adhesions there were no râles.

At different dates in August four other cows were examined before their destruction, and afterward post-mortems made, and in every one these facts were demonstrated. The last one was of especial interest. The right side was dull under percussion everywhere. There was bronchial breathing over the centre of the lung, but no râles, except over the shoulder and over the diaphragm. Post-mortem showed consolidated lung, except a portion of the depending part, which was œdematous. The true respiratory system of this part was filled with glutinous fluid. There were adhesions at the summit of the lung and at the base, where the râles were heard, and there were none elsewhere. There was some fluid in the pleural cavity.

Over the left side there was a moist quality of the respiratory murmur (the cow had feeble non-respiratory murmur) which muffled it. Listening attentively, an occasional soft, moist, distinct râle could be heard. The diagnosis was hyperæmia of the lung, plastic exudation in the pleura, and commencing fibrination.

The post-mortem showed the pleural surfaces bathed with their adhesive exudation, and occasionally Prof. Law could raise, with the point of his knife, radiating fibres of beginning organization.

There was no pneumonitis, no pleuritis, and the hyperæmia was relieved by the bleeding. More positive and direct evidence of the inter-

pleural origin of râles of the crepitant and subcrepitant varieties, as well as of the priority of inter-pleural processes could not be desired than was present in the case of this cow.

Niemeyer noted that, in clinical experience, many of the patients with phthisis dated their illness from a cold. Such has been my own experience. In many of the cases hemoptysis occurred from two to eight weeks after a cold or bronchitis, so called, or pneumonia, and in all cases interpleural râles or restricted movement in respiration were present.

Organized exudation or fibroid within the pleuræ, at once interferes with the peripheral capillary circulation of the lungs, and as the nutrient arteries have no accompanying veins, the blood is thrown back upon the bronchial arteries from which they are derived, and bronchorrosa or bronchitis is the result, and is called catarrhal phthisis by Niemeyer, who says in effect, that the danger of its becoming tubercular (to which I agree), is imminent.

Should there be no tubercular tendency, progressive fibrination may extend into or through the lung until the function of the true respiratory system is destroyed. Pure fibroid phthisis is rare, but not more so than pure tubercular. The great majority of cases are mixed. I have heretofore endeavored to classify phthisis and to show the relative frequency of the different varieties as based upon my own experience,* and also the obvious connection between the initiative of fibrination within the pleuræ and in the lung and tubercular degeneration. The post-mortem examinations of the cows furnished decided evidence of this fact. Prof. Law informed me that he had also noticed it.

The practical advantage of the early diagnosis of interpleural processes which may lead to phthisis of either the tubercular or fibroid variety is its perfect curability by simple management, systematic and gentle expansion, by filling the lungs moderately and then holding the breath—the expansive force of the inspired air becoming rarefied by heat in mixing with the residual air being the efficient factor. Milk diet in large amount, so that the blood-vessels may be distended and nutrition carried to every part, with thorough and repeated application of spirits of turpentine over the region of the pathological signs, with removal of depressing conditions, will speedily cause to disappear all evidence of disease, which if left to the remedial efforts of nature, might result in one of the forms of pulmonary phthisis.

*Archives of Med.

THE STARTING POINT OF PHTHISIS.

BY E. N. CHAPMAN, M.D.

I have been very much interested in the remarks of Professor Leaming, particularly as he recognizes a stage in pulmonary consumption preceding the deposit of tubercles in the lungs. Being, however, by a defect in my hearing, shut out from those lighter sounds so familiar to specialists, I can offer nothing in regard to the preliminary stage of tuberculosis, drawn from auscultation and percussion. This matter I leave to others.

But it appears to me—an opinion I have long entertained—that consumption is something more than the mere deposition of tubercles in the lungs, as seems to be, more or less, the general opinion. The starting point is far back of the lungs. At first they are intact, and continue so until, by the deterioration of the health from defective digestion and assimilation, the blood becomes loaded with devitalized products, and then they become the centre of morbid action. The lungs offer a place for the local manifestation of a series of disorders implicating the whole system. Most local disorders can be traced to a faulty nutrition, or to causes which depress the vital resistance. Disease comes from within, and not from without. One person, from a slight exposure, will contract a pneumonia, whereas others, under the same conditions, will not experience the slightest inconvenience. Pneumonia, like many other diseases, occurs in persons whose nutritive functions are oppressed, and whose nervous energies are exhausted.

Children that are not allowed to play in the open air, but are shut up in houses darkened by blinds or shades, and crammed with animal food to restore their waning strength, are on the way to consumption, or some other disease that waits on mal-assimilation. The health running down still lower, nutrients are pushed with greater assiduity, and pepsin given to promote the digestion. To these iron and cod-liver oil are added, to enrich the blood and brace the nerves. No better way could be devised to insure the formation of tubercles in the lungs, or to excite the softening of any already present. Such a course overburdens the digestive organs and impairs the nutritive functions—just the condition in which tuberculosis is developed. The result is pretty certain, whether a person inherits a tendency to consumption or not. If the statement of Dr. Sizer is correct, that two out of seven of all deaths are from tuberculosis, we certainly have not improved much of late years in the

matter of treatment. Perhaps the use of animal food, cod-liver oil and tonics when the stomach is clogged, and the circulation loaded with poorly elaborated chyle, does more harm than good, and precipitates fatal degeneration of the lungs.

As to the precursory signs of tuberculosis, I think this discussion has been too much restricted to those derived from auscultation and percussion. In my experience, where a patient is developing a tubercular cachexia, he eats with less relish, becomes nervous, has a sunken countenance, a pearly color of the sclerotic coat of the eye, a quick, piercing look, loses flesh steadily without apparent cause, and gets no refreshing sleep. Besides, there is another symptom—one that should always excite alarm—the pulse is sharp and rapid, sometimes running up to 90 or 100 pulsations per minute.

The children in America are universally reared in a way to insure a low tone of the health and lead to a degenerative disease like tuberculosis. indeed, the nation is more than decimated by this scourge. Nitrogenized food, condiments, pastry, deficient exercise, dark rooms, foul exhalations and nervous strain are working silently but surely to the destruction of the coming generation. The first blow is struck at the digestive organs. Every now and then there are gastric attacks, attended with vomiting and diarrhœa, and sometimes with fever of shorter or longer duration. After a few days of low diet these attacks terminate with slimy passages, showing that the mucous membrane of the stomach and bowels had been congested, if not subacutely inflamed. The constant relighting of this condition by improper food at length disturbs the equilibrium of the sympathetic nervous system, and disorders all the nutritive functions. Now, not only is the blood loaded with materials unfit for the renewal of the tissues, but the agent by which the new is appropriated and the old cast off is shorn of its power. How can the young fail to develop the tubercular diathesis?

It is well known that cows, kept in large numbers in one inclosure, standing in their filth, breathing foul air, deprived of exercise, air and sunlight, and filled with heating food, become almost universally tubercular. Examinations after death have proved the fact beyond question. Why will not the same result follow the like treatment of our children?

That, in the case of children fed improperly, the gastric mucous membrane is in a state of constant irritation is shown by the experiments of Beaumot on St Martin. Whenever his stomach was overtaxed by the quantity or quality of the food, or overstimulated by spices and alcohol, its mucous coat became inflamed, and covered with pustules and aphthous patches.

Such being the condition of the gastro-intestinal mucous membrane in the young, the system is open to any low form of inflammation—

that of the lungs or pleura more especially. Nevertheless, as the disease started in the digestive organs, I would not direct my treatment to the chest. The lung trouble is secondary. Many years since, acting on the inflammatory theory of tuberculosis, I pushed antiphlogistics with becoming vigor, applying externally croton oil and blisters, and giving internally tartar emetics, ipecacuanha, senega, liquor potassæ and iodide of potassium. I am certain that the practice is wholly bad.

The plan, as I am fully convinced, is to begin with the digestive organs; and, first of all, place them in good working order. To do this, we must select a food containing all the elements of nutrition, unstimulating in its nature and fitted to relieve the irritation of the stomach and bowels. To aid the diet in restoring the digestion and assimilation, air, exercise, sunlight, mental occupation must be looked to, and everything else done that will promote the general health. Do not ply the patient with meat, cod-liver oil, the phosphates, pepsin, and the many panaceas that hurry thousands to untimely graves. The stomach is broken down, and is unfitted to bear new burdens.

Milk, with lime-water, fulfills all the indications, and will both nourish the patient and relieve the congestion of the gastro-intestinal surfaces. Gradually, farinaceous food and vegetable acids may be added; but meat, in any shape, should not be allowed until the digestion is perfect and the movements natural. Even now it should be restricted to the mid-day meal, and consist mainly of beef and mutton.

To tell what is the state of the digestion tube, the passages must be closely observed. The information thus gained is equal to, if not greater, than that from examination of the urine. In either case a neglect on this point deprives us of valuable help in practice.

The stomach being in order, the movements natural, the appetite good, and the nerves in equilibrium, various tonics, even cod-liver oil and the phosphates, may be used with advantage. Now they can exert their full influence. Since using the milk diet I have had four cases in which pulmonary consumption seemed imminent. In two there was local dullness on percussion; in one, dullness and prolonged expiration, and in one great prostration and rapid pulse, with no pulmonary signs. The third case, Dr. Colton diagnosed tubercles, and in the fourth Professor Flint thought the disease impending. Nevertheless, under the plan of treatment sketched above, these four persons are now in prime health.

EVIDENCE OF TUBERCLE.

BY J. M. HARCOURT, M.D.

I consider this a very interesting question; we are brought in daily contact with this disease; we see it select its victims from amongst the wealthy and intelligent classes as well as from the poverty-stricken family of the squatter.

After the most zealous care has been bestowed on a case; after the most approved treatment, we see our patients gradually lose flesh, lose strength, lose everything except hope, and it seems a peculiarity of this disease, that it haunts its victims with delusive hopes even to the last. About two thousand years ago, Horace wrote:

> "Pallida mors æquo pulsat pede pauperum tabernas
> Regumque turres."

With a slight modification, these lines of the Latin poet would make a very good heading to a chapter on phthisis.

Any one who will add to our information relative to this disease, is sure to meet with a cordial reception from the profession. I know it is not easy to bring forward a theory that will suit every case; but I think, after consulting some of the many good works on Pathology and the Etiology of Phthisis, and after devoting some original thinking to the subject, it may be possible to form a theory that will embrace all the strong points of the best modern writers. Of course, we are not to expect that such a theory would be perfect by any means, but we must remember that the different theories on the origin of light, electricity and many other departments of physical science are not rigorously exact.

Rokitansky has told us the order in which the various organs are invaded by tubercle, commencing with the lungs, the lymphatic glands, the intestines, the mucous membranes, the brain, and ending with the uterus and testes. He also reminds us that the apex of the lung, the pia mater, the base of the brain, and so on, ending with the fallopian tubes, are the usual sites for tubercular deposit.

With regard to the histology of the disease, there are many very interesting things that might be mentioned, but that Dr. Sizer has so ably covered this phase of the question.

There are a few points in Dr. Shaw's paper to which I wish to direct your attention.

You will be good enough to remember that Dr. Shaw's first case was one of pulmonary tuberculosis, accompanied by symptoms of brain dis-

ease. The doctor says there was evidently no tubercular disease of the brain at this time. This is a point I don't see clearly. I think the most obvious explanation of the brain symptoms is to consider them the direct result of a tubercular deposit in the brain. We know the brain may be the primary seat of tubercular deposit, or it may be invaded at the same time with the lungs; otherwise the doctor will have to answer the question: How long after the lungs are invaded is it before the brain becomes the seat of deposit? Now, it is manifestly impossible to answer this question. So is it impossible to say with any degree of certainty that the brain in this case was not the seat of tubercular disease. I think it reasonable to suppose there were tubercles in the brain of a subject whose lungs were crowded with them. I think this the more obvious and rational explanation of the brain symptoms, than to look on them as the result of an abstracted pulmonary circulation.

Dr. Shaw's second case is that of a child becoming suddenly hemaplegic without previous symptoms. In this case, the Doctor says: We have to admit there may be formed tubercles on the pia mater and cerebral vessels and remain in what we ordinarily speak of as a latent condition. Here we have a case of brain disease, the result of tubercles in that organ, although none are observed in any other part of the system; from this case, we have strong grounds to believe the presence of tubercles in the brain in the first where the system was saturated with tubercular deposit.

The third case is one where intermittent symptoms accompanied tubercular disease, and the doctor speaks of the possibility of intelligent physicians being misled in believing they had a case of intermittent fever to deal with. I don't see that these physicians would be wrong in such a case. Whenever I see a disease take on a periodic character, or complicated with a periodic disease, I always suspect the presence of malaria.

The doctor rejects the idea of malaria. I don't see why he does. He replies that such intermittent symptoms are not infrequently seen with tubercular disease. Granted; but he has still to disprove the presence of malaria.

I would remark that periodicity is not one of the characteristics of tuberculosis, except in the presence of malaria; then the doctor's case is supposed to be in a malarious district. I think we may safely admit the explanation that I suggest without doing violence to any pathological dogma.

But Dr. Shaw is a specialist and specialists are hard men to get along with sometimes; th won't accept what appears the manifest interpretation of certain symptoms, but go to work and get up an ingenious theory to enable them to explain those symptoms from their special standpoint.

There is another case in his paper in connection with inflammation of the middle ear.

He says, "When you remove the cranium and dura, you find that there is purulent inflammation of the pia especially, and sometimes at the base of the brain; you examine the dura covering the temporal bone, and you find that it is perfect;" the doctor sees no holes or openings and seems puzzled to know how this matter gets there. Now, it is well known that if we place a diaphragm between two liquids of different densities in a vessel, they pass through easily and form a sort of combination afterwards; no holes or rents are found in the diaphragm. The doctor in this case seems to believe that the product of inflammation infiltrates its way through the bone, rather than pass through the dura mater, for the simple reason, it would appear, that he is unable to find signs of it having passed through the dura; overlooking the common laws of endosmosis, etc.

In making the foregoing remarks, I don't desire to be thought as showing any unkind feeling towards Dr. Shaw; on the contrary, I consider his paper, as well as all the others, a very able one. There seems a tone of originality running through it, and although his explanations may not be satisfactory to me, yet I always wish to give credit to a gentleman who attempts to give an original solution to a difficult problem.

COLORADO AS A PHTHISIS SANITARIUM.

BY J. HAWES, M.D., *Greeley, Colorado.*

I came here to listen, not to speak; but, on request, will make some remarks upon the question before you, and Prof. Armor gave me the key to what I shall say, by asking me "what class of cases should be sent to Colorado."

The rule is that those cases which are of non-tubercular origin should be sent there, but there seem, nevertheless to be very many exceptions to the rule, for I have found quite a large number of tubercular origin who have been sent from the East to that asylum for consumptives, probably because it is more accessible than California, and perhaps it has some advantages over other parts of the United States; but these are exceptions to the rule.

Perhaps I can make my meaning clearer by the relation of one or two cases.

I have vividly, to-night, brought up to my mind a case with an extremely bad history. She was a member of a very tuberculous family. Every one of that family, consisting of eight or nine ladies, had died before thirty, except one, and that one before forty; and she was arriving at the age of about thirty, when she began to lose her appetite, to cough and fail in strength, and in this condition came to Colorado. On examination of the chest we found it was impossible for her to take in as much air as she ought or wished, that vocal fremitus on the right side was much more marked than was the normal difference between the right and left side. Percussion gave more than the normal amount of dullness. Auscultation discovered râles peculiar to an irritated nervous membrane; and, under the circumstances, I could only believe that she would follow the usual course of the rest of her family.

She remained without material improvement for several weeks. Imperceptibly her cough left her and during a period of two years I saw her almost daily, and during that time she had gained over twenty pounds. She ate heartily, having previously seldom taken a morning meal; now she took three good meals a day, slept well, and after about eight months had no cough and had never caught cold; previous to that time, on the slightest exposure, she had been liable to "catch cold," as the expression is. To-day she is one of the most healthy women that can be found.

Another case was that of a young man with whom I was quite intimately acquainted, a very intelligent member of the legal profession in the city of St. Louis. He had a bad family history and was compelled to leave his profession, and by many of his friends, it was believed that he had gone West to die. He went to Colorado, and at the end of one and one half years was as sound and hard almost as a bullet, and for the last two or three years has been pursuing his profession with all the health that any one could ask for.

I do not wish to detain the Society in the relation of individual cases; but merely speak of these as an illustration that there are many departures from the rule as stated; that while, as a general thing, those who get well are of a non-tuberculous character, yet there are many deviations from the rule. But were I a resident of this part of the United States, and a friend or relative of mine was in a pre-tubercular condition, or in a precarious condition as far as the lungs are concerned, and was not improving satisfactorily, I would send him there unless I desired to send him, for some particular reason to some other health resort.

THE PRE-TUBERCULAR STAGE OF PHTHISIS.

BY J. A. McCORKLE, M.D.

I would like to call attention to one or two points in connection with the *pre-tubercular* stage of consumption. I have studied it with some care, and have been somewhat disappointed in that study.

Dr. Armor has omitted, in his very admirable paper, to notice one or two points. Dr. Allcock, several years ago, in the "Army Medical Reports," calls attention to one symptom of the pre-tubercular stage which has not yet been mentioned, and that is a fall of temperature. He says that, in numerous observations of persons giving a history of the pre-tubercular stage, he has noticed that there is often a fall in temperature of from one-half to one degree. I have also observed it in a few instances, but they do not furnish data sufficient to form a satisfactory conclusion. May it not be true that this symptom is present? Here we have an organism, invaded by a terrible disease, where all the functions of the body are more or less subverted or deranged. It would seem strange if this observation of Dr. Allcock's did not hold good in a certain degree.

Again, the Doctor makes no mention of an instrument, invented by Hutchinson, of London, which is known as the "Spirometer," for the purpose of measuring the cubic capacity of the lungs. I know that an argument may be brought against it, that by exercise, use, or by a frequent repetition, a person may be able to empty his lungs more perfectly; but all persons are not gymnasts, nor are they enthusiasts on this subject of chest expansion; so with a great majority of patients it may serve a useful purpose.

Another point, which I have observed in my dispensary practice, is a congestion of the pharyngeal walls, in connection with lung diseases. Whenever I find this condition in dispensary patients, associated with dyspeptic symptoms, I am always led to examine the lungs, and in many instances I have found evidences of deposits. I have followed this practice five or six years, with good results.

Allow me to take exception to one statement made by the Doctor, in his paper, that being in regard to physical signs. I was somewhat familiar with his views on this subject before he read his paper, and I must say that I do not attach much value to physical signs in the pre-tubercular stages of consumption; for when the patient reaches the stage when physical signs are manifest, they are not in the pre-tubercular stage

—they are in *the tubercular stage itself*—for you know very well that we may often have quite extensive changes, and even small cavities, in the lungs, without there being any physical evidences of their presence.

In regard to scrofulosis, I desire to say only a few words. I read an article, a few days ago, written by Dr. Weber, a medical officer in the Austrian army, who, in referring to the Slavonians, says that a great many of the people suffer from this malady, it being more prevalent than any other constitutional disease. These people live under the most unsanitary conditions—their houses being badly ventilated, and their food unwholesome, and having no idea of personal cleanliness. They live in just that condition which is supposed to be most conducive to consumption, *and yet consumption is, among them, one of the rarest of diseases.* Now, are scrofulosis and tuberculosis twin sisters—or what? A few words in regard to the treatment of tuberculosis, and especially in connection with hopeless cases of consumption. All that has been said to-night has been based upon the idea that recovery was possible. There is a time, in the course of this disease, when there is little or no hope, and there are certain symptoms which we must treat. It is not always the province of the physician to cure; in fact, it is only rarely that he can cure. He must treat symptoms—especially the chill, hectic fever and sweating. We are now using large amounts of quinine in fevers; with some of us it is almost a monomania.

I want to enter my protest against the use of that remedy here. It does no good; in fact, does harm.

For these symptoms I have found nothing to equal arsenic. It is the remedy above all others. In my out-door department, I have a large number of consumptive patients; and when I find the conditions spoken of, I put them on small doses of arsenic, keeping, of course, within the irritant point, and in that way meet the indications. For if we stop the morning shivering, we lessen the hectic, and by so doing, we decrease the sweating—through the night-sweats our patient losing a large amount of the salts of the blood.

The cough is another symptom which is very troublesome at this stage, and should be treated. When I first entered upon my hospital duties, I tried almost everything for the relief of this symptom, using expectorants of all kinds freely. Almost every consumptive patient takes some kind of a cough mixture. They are generally nauseating in the extreme, and would make a well man sick, and a sick man worse. I now use small and frequently repeated doses of opium, in pellets of one-eighth or one-tenth grain each. One given every hour will generally relieve this troublesome symptom, and by bedtime enable the patient to secure a quiet and refreshing sleep. The opium does not give

sleep; it relieves the cough of the consumptive, and lets him sleep. By doing this, you meet two indications—in the first place, you get *rest* at once, refreshing and restorative; and in the second place obtain the sustaining effect of small doses of opium. You get a beneficial effect also upon the pulse of hectic. You are all familiar with the pulse of a consumptive patient—its quick and irritable action. After the administration of opium the pulse wave becomes longer and softer, more like the normal. In other words, the opium gives the heart rest, steadies its action, keeps it within the fatigue point—an essential indication in this as in other diseases where the tendency to death is by asthenia. Not only that, but your patients, with the cough quieted, will be more free from nausea and vomiting, a very frequent source of annoyance at this stage of the disease. Opium becomes an appetizer by taking away the various conditions upon which anorexy depends. Our patient now has a desire for food. What kind of food shall we give? Why, what Dr. Chapman has recommended. Milk or some of the good things that can be made from it. What will be the result? The food which he can now take will be relished, and he will assimilate—and it will do more. The opium having quieted the cough, the milk and other food will keep the gastric branch of the pneumo-gastric nerve out of mischief; for very often, much of the cough depends upon reflex irritation. With the good old Rum punch in the morning to lessen the fatigue of the morning cough and the effort of dressing, and with a nap in the afternoon, to break the long weary day, is about all we can do for the sufferer. His last days will be made more comfortable; for if we cannot bring our patients to live on the higher plane of perfect health, we must be content to let them live on the lower one of comparative comfort.

THE PROLONGED EXPIRATORY MURMUR.

BY B. F. WESTBROOK, M.D.

So much has been said to-night that one does not know just where to begin; but probably the best way to break that embarrassment is to begin at the beginning, and more especially, because in all the papers read here no gentleman, with the exception of Dr. Sherwell, and possibly Dr. Skene, has entered into any discussion of Prof. Armor's original essay.

The throat complications which Dr. Armor mentions, have been sufficiently discussed by Dr. Sherwell, so that it will be entirely unnecessary for me to say anything on that subject.

With regard to the early epistaxis which he mentions as one of the precursory signs of tubercular phthisis, I must say that I have been unable to observe it.

Since I got the idea from Kunze's book, a year or two ago, I have gone patiently over the subject, but I am unable to make a diagnosis between catarrhal and tubercular phthisis, and that may have led me into difficulties. I have questioned all my phthisical patients upon this point, and it seems to me that epistaxis is conspicuous by its absence; but that may be due to a limited observation.

In regard to physical signs, while I would not be willing to go as far as Dr. Armor does in designating physical signs for the precursory stage of phthisis, I admit more than Dr. McCorkle does when he says that we cannot have any physical signs in the lungs unless there is pre-existing disease of the lungs. We may have a peculiar formation of the chest; there may be diminished expansion of the same and a weak respiratory murmur—I think all these may be present without the presence of any physical disease in the pulmonary tissue. However, I do not think that theory can be considered exactly as indicative of the primary stage of phthisis—*i. e.*, as indicative of the immediate advent of phthisis. Patients who bear these marks on their chest have *carried them through life* in most cases. There are cases of *family* phthisis where the influence of heredity comes into play. They were abnormally developed—never had good chests for the free expansion of the lungs, or a good expiratory murmur. They may, at any given time, be in such a condition that they either may or may not have phthisis, as remarked by Dr. Chapman.

In regard to the prolonged expiration which Dr. Armor speaks of, I would say it is a sign which has attracted my attention to a considerable extent. I think it may be due to one of two circumstances. In the first place, I think we may have a prolonged expiration, or rather a *prolonged expiratory murmur*, from anæmia of the lung; and in the second place, this may result from a deposit in the lung. I exclude emphysema and chronic bronchitis, which of course do not enter into the question. Anæmia of the lungs, I presume, might form a part of the general anæmia of the body, and in this case the mechanism of the production of the prolonged expiratory murmur is as follows, I think: The lung is a very vascular organ. Whoever shall inject the vessels of a lung and then examine it microscopically, will be convinced of this, for the amount of blood circulating in the capillaries is very much lessened;

and in order to fill out the spaces, air passes into the cells, dilating them, and producing what might be called a cellular or compensatory emphysema. This vesicular murmur, both compensatory and expiratory, is then heard more distinctly than in health.

The reason I do not think that it is due to loss of elasticity of the lung, as Dr. Armor has suggested, is that we know that *normally* the expiratory phase of respiration is a little longer than the inspiratory. The only reason why we do not get a longer expiratory murmur is that it is weak compared with the inspiratory murmur. It is simply a passive phenomenon, due to the elastic contractility of the lung and the relaxing walls; the sound is not sufficiently loud to be conveyed distinctly to the ear. But, if the walls are thin and more air is passing into and out of the vesicules, we then get a louder sound, and a more ready conveyance of the sound to the ear. In that case we get a distinct expiratory murmur. On the contrary, if the lung is partially solid from phthisical deposits, the sounds are simply conveyed by the solid matter, as a better conductor of sound directly to the ear, and in that case we also get an increased expiratory murmur.

To support this view I refer to the investigations of Marey and others who have used the graphic method. Prof. Riegel, of Würzburg, states that the expiration is a little longer than the inspiration. He has also recently shown that in phthisis inspiration and expiration are of about equal length. There is not the prolongation of expiration which has been described. There is only the expiratory sound transmitted more clearly to the ear. And this is why I think it may be difficult to determine whether prolonged expirations were due to anæmia or to a partial solidification of pulmonary tissue. So that prolonged expiration is not of much value as a sign of phthisis, unless accompanied by dullness on percussion and elevation of pitch; and when these are present, the precursory stage has gone by.

The doctor further has divided phthisis into three varieties, namely: catarrhal, fibrous and tubercular, which division he characterizes as one of the greatest triumphs of the modern medical world (I cannot quote the exact words), and this evening he has stated this view in a modified form.

Some of the gentlemen present may remember that before Dr. Armor read his original paper, Dr. Kretzschmar read a paper in which he adopted this division from the German authors; and those who have a good memory may recall that I then took occasion to express my dissent. I can only say now, what I said then, that, in practice, I have been unable to make the distinction; and I must say that it is my belief that this fine distinction cannot be drawn during life. I do not believe that

phthisis originates from ordinary inflammation of the lungs, unless it may be in what is known as phthisis Florida, or acute galloping consumption.

Post mortem, the appearances are very confusing, and in no two cases are they exactly alike. I find fibrous contraction, cheesy pneumonia and miliary tubercle, all these varieties, but freqently in the same lung, and mingled in ever varying proportions, and it seems strange that during life such sharp lines of disease should be drawn where, post-mortem, the appearances are so distracting. The only way to settle this question is to let all the doctors bring their cases here, or to some other convenient place; let them be pronounced upon by some undoubted authority; and then compare post-mortem appearances as far as may be.

At present I am rather skeptical. I think, also, that the majority of pathologists of the present day—that is, those who write in this line—are going back to a modification of the old view, and that the doctrine of the trinity of phthisis is being abandoned to a considerable extent. It is now held by many that there is a peculiar lesion of the lungs, called desquamative pneumonia by Buhl, which consists of an infiltration of the connection tissue of the lung. This infiltration, or inflammatory product, whatever you may choose to denominate it, resembles, to some extent, adenoid tissue, and is called lymph adenoma by Wagner, and so closely does it resemble adenoid tissue, and so closely does ordinary tubercular tissue resemble it, that it requires a very expert microscopist to distinguish between them. In fact, it is a question whether it is not adenoid tissue, and whether phthisis and scrofula are not diseases of the lymphatic structures. In the first place, Buhl, in 1872, published his work on consumption, in which he advanced the idea of the unity of phthisis, on the ground of desquamative pneumonia. Later on, this view was adopted by various authors. Prof. Rühle, a distinguished writer in Ziemssen's Cyclopædia has adopted this view. Friedländer has essentially adopted it. Rindfleisch, in the same Cyclopædia, has written an article in which he denominates it tubercular inflammation, and calls all kinds of phthisis, except miliary tuberculous, by this name. The French school have always maintained it, and Charcôt and his followers have recently published interesting contributions upon this subject. Last year Dr. T. H. Greene, of London, the author of one of the best little works that we have on pathological anatomy, has published a small volume on phthisis, in which he takes the same view. Dr. Greene probably puts the matter in the best light for English readers. His view is, that we have in the lungs the desquamative pneumonia of Buhl; we have, also, a fibroid degeneration, so-called; the cirrhosis of Corrigan; miliary tubercle; and probably in the majority of cases we have them all mixed up together in the same lung.

Now, with all this conglomeration post mortem, it will be difficult to decide, ante mortem, the exact condition of affairs ; and it can only be done as suggested, namely let some authority diagnose cases and then compare post-mortem appearances.

Now, if Dr. Leaming will permit me, I would like to notice his observations. I will be brief, because the views of Dr. Leaming are almost entirely new to me and consequently, for the moment, I can scarcely frame a correct opinion in regard to them.

He says, that in order to distinguish between the broncho respiratory murmur and the respiratory murmur produced in the air vesicles, the patient should be instructed to take a deep inspiration, then close the epiglottis, and then continue in that state for a time. I may not have quoted him exactly, but I ask for information.

In regard to some other points, as for instance, the starting of phthisical trouble in the pleura, the diagnosis between pleural signs and intra-pulmonary signs, it seems to me at first sight that these views can hardly be maintained, for we have many cases of phthisis where there is little or no adhesion of the pleura. We have every now and then lungs where there are no adhesions to the pleura. In these cases we have ordinary râles in the lungs. I can hardly see how the Doctor will explain the production of râles, for instance, sub-crepitant râles with bronchitis, how he is to diagnosticate these from the râles which we have after slight pleuritis, which sometimes simulate these sub-crepital râles closely. Nor do I see why he denies that we shall have sub-crepital râles in inflammation of the lungs. I think that in *post mortem* we find fluid in the bronchial tubes ; and it is difficult to see how that may not produce râles. If it did produce râles, it is difficult to see how the doctor made a diagnosis in the cases related. I was also somewhat surprised by the doctor's pathology of pleurisy as being a simple exudation upon the surface of the pleura, through the vessels of the lung, as I understand the generally accepted view, inflammation of serous membranes is accompanied by a rapid proliferation of the endothelium which covers the surface of the membrane ; and we have abundant proofs of what the lesions are in these inflammations of serous membranes, a rapid and abundant proliferation of endothelium, with formation of leucocytes and exudation of plasma and blood corpuscles. The chronic pleurisy which we get with phthisis, I have always considered as a secondary affection, being consecutive to the inflammation of the pulmonary tissue.

THE RESPIRATORY MURMUR.

BY J. R. LEAMING, M.D.

Dr. Westbrook says my views in regard to respiratory murmur "are almost entirely new" to him. They may be found in *The New York Medical Journal*, May, 1872. Also, and more correctly stated, in "The Transactions of the New York Academy of Medicine," Second Series, Vol. I., p. 129.

The dual composition of the respiratory murmur in man in a state of health, has been practically recognized by many observers.

"Puerile respiration," describing an abnormal sign in an adult, has reference to the fact that true respiratory murmur is absent in a child.

Healthful respiratory murmur in an adult is when the broncho and true respiratory murmurs have each their proper proportion. Writers have described this perfect murmur as "vesicular," "broncho-vesicular," and "pure respiration."

I have attempted to analyze and measure the constituent parts of healthful, normal respiratory murmur, believing that in so doing we obtain a method of delicate and accurate diagnosis of immense importance in determining the earliest evidence of commencing disease. "As, for instance," in answering Dr. Westbrook's second question, "the starting of phthisical trouble in the pleura, the diagnosis between pleural signs and intrapulmonary signs?"

The accurate analysis of the respiratory murmurs makes it easy to determine by the ear the locality of the formation of râles, as was proved by the autopsies of the cows, as related. In consolidated lung, air cannot enter, and there is consequently no movement of air even in the larger bronchi, which remain patulous. This is confirmatory of the fact that râles are heard over the site of adhesions which are recognized by the ear as being directly connected with the chest wall. So that in consolidated lung the proof is positive that râles cannot be interpulmonary or interbronchial.

Tidal air enters the bronchi as far as the fourth division, where it meets the residual air, and is immediately mixed with it, according to the law of diffusion of gases. Consequently, should there be fluid in the bronchioli and air sacs, it could not be moved along so as to form bursting bubbles. This, again, is confirmatory of the fact that the ear recognizes the direct connection of the râles with the chest wall—that is, that they are interpleural and not interpulmonary. In the case of

œdema of the lung in the cow, as mentioned, there were no râles, except over the site of adhesions which were far removed from the site of the œdema.

Dr. Westbrook says, "we have many cases of phthisis where there is little or no adhesion of the pleura," etc. My experience is directly opposite to this. Phthisis without adhesions I have rarely found. In the very few cases which I have seen, there were no râles. Louis describes latent phthisis in which there were no râles, or only such as were developed near the close of life by extension of the disease to the pleura, and in these only fresh adhesions were found by post-mortem.

Interpleural plastic exudation with adhesions may be the result of two differing pathological processes:

One, the result of pleuritis, the serous membrane being primarily affected, or directly by irritation, as secondarily to tubercular phthisis.

The other, much more frequently met with, which is the result of lowered vitality and local hyperæmia, causing plastic exudation, which immediately, or very soon, commences to organize, forming pseudo membrane or adhesions.

This variety of interpleural disease, which may be the beginning of phthisis, is readily remediable simply by constant expansion of the chest by systematically breathing in a little more air, and holding it a little longer than ordinarily, with strictly milk diet in full quantity.

THE FINAL CAUSE OF PHTHISIS.

BY J. S. WIGHT, M.D.

When I read in our works on pathology and when I hear similar sentiments from our clinical lecturers and those who have looked into the matter, when I look upon the gross appearances of these tubercular cases, then read in books on pathology and hear our clinical teachers say that the final appearances are so and so, I look back to the connective tissue, to the general connective tissue of the body. There is not only this nucleus of proliferation here, but there may be at times some vascularity around it. This zone of vascularity I am willing to call inflammation—that Demon Terrible—but that is not what we are talking about. It is proliferation which lies at the bottom and is the foundation of this new process, and in this tissue there is sooner or later an-

other zone of structure that may be fibrine, that may be simply cellular; but when we find that in addition to this there is a breaking down of the tissue, a fatty degeneration or destruction, I begin to think that we have here an excellent illustration of the same process which is going on in a gummy tumor. In that, we have an irritation that we know something about, that it comes from syphilis and that touches, in my judgment, the very heart of this pre-tubercular question. We have an outset here of irritation, something which does not produce what we denominate "inflammation," something that is a little different from that. We find, upon examination, that in the lining tissue, in this connective tissue, we find this very fault of proliferation. That touches at the bottom of this proliferate which must come from some irritation. We must look back to the source of the irritation and not take up one of the concomitant symptoms as a cause of the disease. We must consider the food we eat, the air we breathe, the soil we live on, the house we inhabit, and hereditary tendencies. The problem is a vast one, the field is large, but in order to solve it we must take into consideration all the departments of the problem.

When I was a student I had an opportunity to examine cows which had died after having been confined in close and unhealthy stables. We found not only the lungs and the pleura but the liver and spleen and, in fact, all the abdominal organs filled with tubercular masses; now I do not suppose that an inflamed pleura had anything to do with causing tubercles in these cows.

And I do not regard it as sound reasoning, to conclude that tubercles are caused in rabbits by the scratch of a pin, when we find tubercles in a great many rabbits, and monkeys and other animals which have never been scratched by a pin.

INFLUENCE OF ALTITUDES ON CONSUMPTIVES.

BY P. H. KRETZSCHMAR.

It was my intention to say a few words about the influence of altitudes on consumptives; and, also, to quote more extensively German authors on the subject of "Brehmer's method of Treating Phthisical Patients." The lateness of the hour will not permit me to do so. Since I wrote the paper on "Goerbersdorf" I have been criticised about the statements made in it. To get at the truth, I wrote to a well-known professional

gentleman in New York, Dr. Arcularius, of 180 Second Avenue, who had himself been suffering from pulmonary phthisis, and had been for some time a patient in Brehmer's Sanitarium. The doctor's answer is very apt to strengthen my statements about the value of Brehmer's method, and although he does not seem to admire Dr. Brehmer personally, he says that the method used by him is by far superior to anything that has ever before been done for the cure of consumption.

The interesting part of Dr. Arcularius' letter reads as follows:

"....I would like to call your attention to one point in your paper on 'Brehmer's Sanitarium in Goerbersdorf.' You state that the cold douche is used with almost all patients excepting those who are very debilitated. In fact you speak of its favorable influence in febrile conditions, and its beneficial effects in cases of night-sweats, etc. Allow me to contradict you on this point. After very careful observations made by Dr. A. v. Sokolowsky (the first assistant), the correctness of which I had a chance to examine myself, the use of the cold douche has been abandoned in cases of febrile excitement. *The existing fever is a contra indication for the use of the cold douche.* In such cases the reaction (redness and warmth of the skin) appears only to a very limited extent; the patients feel chilly; they remain cold; get weak and tired, and it often takes them hours before they feel as well as they did before the application of the douche. It is the powerful reaction, the warmth of the skin, the increased sensation of strength, the improved power of resistance against external influences, such as heat and cold, which makes the cold douche so valuable."

After criticising certain faults which exist in Brehmer's institution, or more particularly in his own personal character, Dr. Arcularius closes his letter as follows:

"....Taking it all in all, after due consideration of everything that might be said pro or contra, I come to the well-founded conclusion that the *method* used in Goerbersdorf is by far superior to anything that has ever before been attempted for the cure of pulmonary phthisis. It is *not only* the pure air or the location of the sanitarium within the so-called immunity from phthisis which brings about such favorable and astonishing results. For what I said I could bring to bear the testimony of hundreds whose health has been restored at Goerbersdorf; fifty per cent. of whom would not breathe the air which surrounds this world, if it was not for Goerbersdorf."

PHTHISIS IN CHILDREN.

BY H. N. READ, M.D.

I think it a striking illustration of the little importance attached to children's diseases, that, in the whole course of this discussion on tuberculosis, if we except Dr. Chapman's remarks on feeding, no one of the speakers has alluded to tuberculosis as it is manifested in the young. It is a weakness, doubtless, of those specially interested in any one branch of medicine, that they are apt to think their own specialty of paramount importance, and whether children's diseases deserve the attention claimed for them by those who are specially interested in them I will not decide; but, I opine, there will be no doubt of the importance of studying in children, a disease hereditary, constitutional and diathetic, a disease which has received more attention than any other, in the adult state—a period of life where we can hope but for very poor results—a disease which has received but very little attention, comparatively, in the infant state, a period of life where we can reasonably expect much better results than in the former. It is very improbable that tubercular phthisis will ever be a curable disease. In spite of all the advancement of our science, we are able to do practically no more for this affection than our predecessors have done. It is a disease in which we can expect no help from nature; as a rule, therefore, the only way to treat it is to prevent it, and the only way to prevent it, the only way we can intelligently study it in this connection, *is in the young*. Little has been effected towards improving the constitutional health of the people, as a class, by arresting the morbid processes of constitutional life, or destroying the inherited disease germs while they are yet nascent. If we except vaccination, next to nothing, Yet it seems to me, that if we are ever to be able to treat successfully the many inherited diseases, cancer, tubercle, scrofula, gout, many of the neuroses, it must be while the germs of these diseases are as yet in a state of quiescence and non-development, in other words in the young, and *inherited diseases* must be subjected to *preventive* and *destructive* treatment, through action on the organisms of successive crops of infants, and the benefit will result if not in the next, at least in the future generations; and whether we solve this problem or leave it to those who come after us, the key of its solution, I believe, will be found in the study of the processes of infant life. Dr. Walker, in his remarks on Phthisis in Children, has omitted, through lack of time, some points which I shall briefly advert to. With regard

to the differences of tubercle in the adult and in the child. These are many and important. I have come to regard it as an axiom, that any child may become tubercular no matter what its inheritance. Given, a healthy child with a perfect heredity, and tubercles may be developed, either through poor hygienic surroundings, or by an uncured antecedent disease. I remark a very strong diagnostic point of difference between tubercle and scrofula in this connection. Scrofula may be developed extra heredity, it is true, as well also as rickets, but not in anything like the proportion that tubercle is. The number of tubercular children, far exceeds the combined proportion of scrofulous and rachitic children both, in my experience. Some other factor then, than mere surroundings, seems to be necessary for the production of scrofula. Again, an uncured disease in a child of sound constitution often produces tuberculosis, but it is exceedingly doubtful if it ever does scrofulosis, I have certainly never seen a case, and the authorities on the subject either do not mention this point, which is the case with most of them, or allude to it so vaguely as to make their remarks of little value.

Dr. McCorkle's quotation of the Hungarian authority in the non-identity of tubercle and scrofula, was of peculiar interest to me, believing, as I do, that tubercle and scrofula are as different as tubercle and syphilis; though, of course, they may exist conjointly. Dr. Walker has spoken of the peculiarity of tubercle in children, in that it exists simultaneously in several of the viscera, while in the adult it usually exists in the lungs alone. Another peculiarity consists in the existence of gray granulations and crude miliary tubercles in the lungs of children very frequently, entirely independent of each other, and of any other form of tubercular deposit. West found miliary tubercles alone in 20 per cent. of his cases, and gray granulations alone in 16 per cent.; the average proportion in adults being 1.6 and 4 per cent. respectively. Another peculiarity of tuberculosis in children is the great frequency of the so-called *yellow infiltrated* tubercle. Another difference lies in the fact that in from 10 to 15 per cent. of the cases of tuberculosis in children *the lungs* are free from deposit. This condition seldom or never obtains in the adult. Again, the *rarity of cavities* in the lungs of children constitutes another point of difference in the two classes of cases. Adults, it is well known, present cavities in at least 90 per cent. of the cases of pulmonary phthisis. In children only from 20 to 30 per cent. is found, and Bouchut's cases gave only 8 per cent. As a rule, the younger the child the less the liability to ulcerative excavation. Absence of the exhaustive *night-sweats*, absence of *hæmoptysis*, absence of *sputum*, all constitute striking peculiarities of pulmonary tuberculosis in children. Another and most important difference is in the prognosis. I regard it as

much more favorable in infants than in adults. The reason is problematical. Most likely to be found in the greater assimilative powers of children. Another reason, I believe, is, the greater toleration of cod-liver oil and fats generally by infants. I have never treated a child for tuberculosis to whom I could administer cod-liver oil. We all know what a large proportion of adults can never bear it in any form. Prominent among the *causes* of tuberculosis in children, not mentioned by Dr. Walker, I reckon *early weaning* in infants of good heredity. Of the infectious diseases I have found pertussis most often develop tuberculosis. With regard to the *frequency* of tuberculosis in *young life*, we know that it is a very common disease in children, more so than in adults; but the percentage of these cases is difficult to determine exactly. Very little information is to be found in the various works on children's diseases on this point, so I have searched the records of my dispensary practice. An examination of 4,600 cases of sick children, where diagnoses were made, gives between 8 and 9 per cent. of them as tubercular, either inherited or acquired. This, though not strictly accurate, may serve as an approximation to the frequency of the disease. Of tubercular children, 25 per cent. inherit the diathesis; the remainder acquire it. This is only from my personal observation. In closing, should like to add my unqualified approbation to Dr. Chapman's remarks on feeding children. I have long been convinced, from painful experience, of the error of feeding infants—tubercular or otherwise—large quantities of nitrogenized foods. The milk diet is the most suitable, both from theory and experience. Next in value, I hold the farinaceous foods, used, of course, with judgment. Fresh butter is useful; meats should be given sparingly. Nature provides for a surplus injesta of carbo-hydrates, by storing them up as fat; but no such provision is made for disposing of the nitrogenized injesta, if taken in too large quantities; consequently, they have to be excreted in the shape of decomposition products, and the emunctories are thus overtaxed, to their detriment. The Doctor's remarks, also, on the examination of fæces were of great interest to me. I always examine the alvine discharges in tubercular children with care, and much may be learned of the case from it. The presence of free fat in the fæces may be often detected in this way, not only in tuberculosis but in many other wasting diseases of children. As a symptom, I consider it of great importance, especially in the earlier stages of tuberculosis. A ready method of testing for fat in the fæces, and of ascertaining what is normal and abnormal in this respect, would be fully as valuable, I believe, as testing for albumen in the urine, and in the future is destined, perhaps, to play as important a part.

SODIUM SALICYLATE IN PHTHISIS.

BY A. HUTCHINS, M.D.

I desire to call attention to certain useful results to be obtained from Sodium Salicylate in the advanced stage of phthisis. I am indebted to Dr. B. A. Segur for the original suggestion. The cases in which its effects have been observed are too few, and the effects not sufficiently constant to justify any positive statements as to the precise indications for its use, yet, so far as have been observed, the effects are pronounced enough to justify further observation. My studies, thus far, have been limited to cases in the Brooklyn City Hospital, while Dr. Segur, in addition to some experience in St. Peter's Hospital, has had some cases in private practice, where its effects have been observed.

Allowing this paucity of experience to stand for marginal notes for future observers, it may be stated that the Sodium Salicylate acts promptly and pleasantly in modifying the colliquative diarrhœa of phthisis. Its action is accompanied by no such contingent or secondary effects as belong to the use of opiates. Of course, no *cure* of the diarrhœa is expected, and a recurrence of the symptom can be met by resuming the medicine. In connection with this, it has been noticed that the administration of the Sodium Salicylate has been followed by a marked amelioration of the cough, a subsidence of the hectic, and a diminution, sometimes suppression of the night-sweating. It is not known how far these effects can be prolonged by the continued use of the drug, nor to what extent it may be beneficial to intermit it with other remedies. The most that can be said with positiveness is, that without disturbance to the digestion, it, at times, serves an excellent purpose in modifying, to the great relief of the patient, some of the more prominent and distressing symptoms that belong to the latest stage of phthisis. This fact is the only justification for intruding the results of such a limited observation. Ten grains of the drug, repeated every three or four hours, have been found adequate. Dissolved in water, it will not be found offensive if taken in iced-water.

A POINT IN HOSPITAL MANAGEMENT.

BY J. S. PROUT, M.D.

(Read before the Society at its Annual Meeting by the retiring President.)

* * * * * *

A private patient in a general hospital pays for his board, etc., but pays nothing for medical services, and the physician who attends him is paid nothing—that is, the patient is necessarily a pauper, so far as the medical man is concerned, as the latter can make no charge for services rendered. Consequently, a physician who has a hospital appointment can obtain for his patient the advantages of a private room in the hospital only by giving up all pecuniary interest in the patient, while a man without a hospital appointment, or with one in the wrong place, can do so only by the entire loss of *both* patient and fees. This should not be. It is bad for patient and medical attendant; it is worse for the hospital and the medical men on its staff. Hence, without any qualification or reservation, I lay down the following

PROPOSITION: A general hospital should have private rooms, the patients occupying which may choose their own medical attendants, whether on the hospital staff or not, paying them for their services at their usual rates of charging. The hospital shall furnish such patients with all other necessaries at the ordinary published rates for private patients.

REMARKS: As a student, I was (1854-5) an interne of the Washington City Infirmary, a general hospital, in which there were, besides the public wards, private rooms for the reception of private patients. The latter were either under the care of the attending staff or chose their own medical attendants, who were required to be members of the local regular medical society. Members of the attending staff, when they were especially retained, were allowed to charge these patients for their services.

This arrangement had long existed and worked well—there was no difficulty in carrying it out.

The Infirmary is no longer in existence, having been destroyed by fire some years ago.

In the Boston *Medical and Surgical Journal* for July 30, 1868, p. 414, there is an interesting account of the Carney Hospital, a hospital situated on high ground on the south-western slope of Dorchester Heights, in South

Boston. A peculiarity of its organization was, that the members of the Consulting Board had the privilege of attending patients in the private rooms and of charging for their attendane as if at a private house. All regular physicians who were members of the Suffolk District Society had the same privilege after obtaining a written recommendation from one of the Consulting Board, and a permit from the Sister-in-charge, with the proviso that no physician or surgeon, whether a member of the Board or an outsider, should have more than one such private patient in the hospital at a time. The Sisters reserved the right to revoke this permission if it should be found impossible to carry out the plan with entire success. How well it has worked and what modifications have been made in it, the following extracts from a letter from Dr. H. Derby, one of the two ophthalmic surgeons, to the writer, dated Boston, Nov. 8, 1879, will show :

* * The Carney Hospital * * was established in 1863, and incorporated two years later. Its founder, the late Andrew Carney, devised a piece of land and a sum of money to the Sisters of Charity for the erection of a hospital. The present building was accordingly erected, and is wholly managed by them.

There is a consulting board of four, a visiting staff of eight, four medical and four surgical, and two ophthalmic surgeons ; also a physician for diseases of women, and a pathologist. These 16 form the staff and hold regular meetings. They nominate to vacancies, though the appointment has, in all cases, to be confirmed by the Sister in charge of the hospital.

There are six private rooms above, and a varying number (ordinarily four,) below. Board and nursing varies from eight to twenty-five dollars a week. To these rooms any regular physician in good standing, *i. e.* any member of our State Society, can send patients, a note from him and their ability to defray their expenses, being the only passport required. The number of patients any one physician my send, is only limited by the number of rooms. I, for instance, have at this moment seven rooms full. On these patients I operate and call at my own convenience. They are subject to the single restriction of not receiving visitors after 8 P. M. I ought also to add that the rules of the order do not allow the admission of venereal cases.

For eleven years I have sent my private patients to this hospital and have found it an immense convenience. There has been no clashing between myself and the rest of the staff, although for nine of these years I was an outsider, my appointment as ophthalmic surgeon only dating back two years. Many cases of ovariotomy are also sent here to be operated on, the elevated position of the hospital and the superior nursing being found two important factors in the successful treatment of such cases. And, in reference to this last point, that of nursing, let me say that the strong point of the Carney Hospital is the fact of its being in the hands of Sisters of Charity. They are sixteen in number, and fill all the offices, keeping the books, doing the cooking, supervising the washing, acting as apothecary and nursing. They cost us nothing but their dress and food, are precluded by their own rules from receiving the slightest personal gift, and, as you know, are, as a rule, the most faithful, conscientious and efficient of nurses.

All religions are welcomed at the Hospital, and clergymen of their own faith are provided all who desire them.

It will be seen from the above that the restriction as to number originally imposed has been abandoned. The rooms go to the first comer. Dr. Derby sends many of his operative and serious private cases to the Carney, and says he has "found it an immense convenience" to do so. His office is in communication by telephone with the Hospital.

In the Cincinnati *Lancet and Clinic* of Oct. 4th, 1879, p. 248 in a letter from St. I ouis, Mo., I find the following: "Among the institutions of St. Louis, that are of interest to medical men, is St. Luke's Hospital, which has been carried on for a number of years, under the auspices of the Episcopal churches of this city. * * * They have wards for patients whose means are limited, and private rooms for those who are able to pay liberally. Patients taking private rooms employ any physician or surgeon whom they choose, whether on the staff or not."

Ground for a new building has been promised the trustees, provided they will raise money with which to erect it. This they hope soon to accomplish. The plan, therefore, must be considered to work well in St. Louis; it works well in Boston, and it worked well in Washington City. *It would work well here*, and has always seemed to me a great misfortune that it has not been adopted in Brooklyn. Often, for want of it, the patient loses the advantages that a hospital affords of good nursing, discipline, etc.; the physician is not able to do his patient full justice, and the hospital not only loses the money that the patient would pay, but, what may be of even greater value, it does not invite the friendly regard of the physician, who would naturally feel a personal interest in the welfare of an institution that gave him such increased facilities for carrying on his work.

The attending staff of a hospital may object to the adoption of this method on the ground that it will take patients from them. But this small concession is much more than offset by the fact that they will receive, in return, the privilege of treating their private patients in the private rooms of the hospital, with all its advantages in respect of nursing, etc., and also of charging for their services; thus assisting, in some degree, in getting rid of the abuse of misplaced and undeserved hospital charity.

As an outline of a working plan the following regulations may be suggested:

1. The attending staff shall have full medical control over the patients in the wards.

2. Patients who take private rooms shall be attended gratuitously by the attending staff on duty at the time; or they may choose their own physicians, whether on the staff or not, paying them for their services as if in a private house.

3. Any member of the Medical Board, or any regular practitioner in good standing recommended by one of the Board, may attend private patients, as provided for in the second clause of section 2.

4. The Medical Board may prescribe the hours during which private patients shall be visited by their physicians, and may at any time revoke this privilege as to any practitioner.

5. In order to prevent all misunderstanding, each receipt given to a private patient shall specify that medical attendance is to be furnished by the hospital; *or*, that the patient, having chosen his or her own physician, is to pay such physician for his or her services.

Let me detain you a moment longer to do an act of historical justice. The Washington City Infirmary, to which I have referred, was a general hospital, the attending staff of which formed, in large part, the Faculty of the National Medical College, a college that gave its instruction in the wards and under the roof of the Infirmary: "the courses of instruction being given within the hospital building." I matriculated in this college in 1852, and found this the method of instruction; a method that had been followed for years, and that continued for several years after I graduated in 1856; that is, until the Infirmary building was burned down.

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INTESTINAL OBSTRUCTION.*

BY A. R. MATHESON, M.D.

Having been invited by the President of this Society to present an article on Intestinal Obstruction, I have the honor of submitting the following observations for your consideration: To treat of this subject as fully as it deserves would require more time than the present occasion admits, therefore, I have endeavored to abreviate in every point where I can do so without destroying the practical object of this paper.

There are possibly but few disorders that come under the notice of the general practitioner, and that try to a greater extent his skill and judgment, and are so fraught with danger and suffering to the patient as intestinal obstruction. The many conditions which produce insuperable constipation have frequently been indiscriminately associated together under the terms Ileus, the Iliac passion, volvulus, the gripes, etc.

* Read before the Pathological Society. See page 409.

The following plan, depending on the several conditions producing this disorder, is in harmony with the many text books treating of this subject :

First, Compression, or, as Tanner says, " Extramural ; or those causes acting from without or affecting the serous coating ;" comprising :

Bands of adhesion.
Diverticula.
Adherent appendix coli.
Twists of the bowel, or displacement.
External tumors and enlarged glands.
Internal hernia.
Diaphragmatic.
Mesocolic.
Omental.
Obturator.
Pelvic.

Second, Intermural ; or, those cases in which the cause of the obstruction is in the changed coats of the intestine.

Intussusception.
Polypoid growths.
Cancerous diseases.
Cicatrices
Contraction following inflammation or injury.
Peritonitis and enteritis.
Prolapsus ani.
Inflamed hœmorrhoids.

Third, Intramural ; or, obstructions produced by the contents of the bowel :

Concretions.
Foreign bodies. Gall stones.
Impacted fæces.

I can only give some of these separate causes a passing reference, and refer you to the text books for a more elaborate description. The lower portion of the ileum is the part most frequently strangulated by loops, bands, or adhesions. The colon is sometimes constricted by old inflammatory bands.

Rokitansky gives three forms of twisting of the intestine :

First, Upon its axis.
Second, Upon the mesentery.
Third, Upon other coils of the intestine.

The sigmoid flexure, especially in the aged, may bend upon itself and fall over into the pelvis, and cause insuperable obstruction. It is more

frequently diseased than any other portion of the intestine, and the disease is usually of a cancerous character. Leichtenstern defines: "internal hernias, as those which lie entirely within the abdominal or thoracic cavities (hernia bursu, omentatis diaphragmatica, intermesenterica interpeploica), or which, as sub, or retro peritoneal, lie parallel to the abdominal wall, and project into the abdominal cavity, without ever making their way outwards, even when their size increases.

In contra-distinction to these external hernias are those which the action of the diaphragm forces outwards, and which, as they increase in size, can be detected on the outside."

The second division includes those cases in which there is a change in the coats of the intestine itself.

Intussusception has been described as that condition where one part of the intestine is drawn into another portion, just as the finger of a glove can be made to glide within itself. It is not confined to any age, although it occurs most frequently during the first year of life. Leichtenstern's statistics of four hundred and seventy-nine cases of invagination of all kinds, gives fifty-two per cent. as occurring during the first ten years of life. Brinton, Rogers, Leichtenstern and others have described the anatomy of intussusception, and have recognized the following varieties, according to situation:

First, Invagination of the small intestine.

Second, Invagination of the small into the large intestine through the ileocæcal valve. This variety has been named ileo colic.

Third, Ileocæcal invagination. In this the cæcum is inverted and passes into the colon, carrying with it the ileum, which forms the innermost of the three layers. The relation of the ileum to the cæcum is unaltered, and the ileocæcal valve forms the presenting part, or lowest point of the intussusception.

Fourth, Colic invaginations.—Here colon passes into colon, the ascending into the transverse, the transverse into the descending, the latter into the sigmoid flexure, or the sigmoid flexure into the rectum.

Invagination of the small intestine occurs most frequently in the lower part of the ileum, *although it may occur at any point* it is very rare in infants, more frequently in adults than the ileo-cœcal variety.

Lichtenstern gives the ileo-colic variety as the rarest form of the disease, including only eight per cent. of the total number. The ileocœcal variety occurs more frequently than all the rest. In infants under a year old it occurs twelve times as frequent as intussusception of the small intestine and between two and three times as often as all the other forms combined.

Invagination frequently occurs during the death struggle of infants.

This form is not attended by any inflammatory changes, can be easily reduced and is usually located in the small intestine.

The many conditions which cause or favor intussusception may be briefly summed in the following sentence : "Paresis of a limited portion of the intestine, associated with vigorous peristaltic action, excited by any cause whatsoever, offers suitable conditions for invagination."

Cicatrices following ulceration (for example the specimen which I recently placed in the museum of this society.) Chronic peritonitis and enteritis causing narrowing of the canal when acted upon by an irritant or by spasmodic contractions, may render the already partial obstruction complete.

The third division includes obstructions due to the contents of the bowels—foreign bodies swallowed and also introduced into the rectum. Among these may be enumerated portions of string and hair, pieces of wood and metal, artificial teeth, forks, glasses, pomade pots, a pestle, coffee cup, iron pinchers, cruets, etc., etc.; causing more or less complete obstruction. Gall stones of considerable size may pass per anum without giving any annoyance, but occasionally they are so large as to cause fatal obstruction. Those capable of causing occlusion occur, according to Lichtenstern's statistics, in the proportion of thirty-two in females to nine in males.

Obstructions by gall stones usually occur late in life, after the age of fifty. The youngest person with obstruction by gall stones, is one mentioned by Peacock as twenty-seven years old.

"Fecal accumulation," says Habershon, "rarely if ever causes fatal obstruction, though death may arise from the violent remedies employed."

The intestine above the part obstructed usually attains an enormous size, and in chronic cases the muscular coat becomes hypertrophied. The coats of the intestine at the seat of the stricture become greatly congested, there is intense venous repletion, the mucous membrance becomes purplish in color, enteritis supervenes, and afterwards ulceration. The inflammatory action extends to the peritoneum, so that it is very rare to find a case of fatal obstruction without peritonitis.

In the records of Guy's Hospital, during a period of twenty-three years, there were found in 7,934 autopsies, one hundred and fourteen cases of intestinal obstruction.

Leichtenstern states that, in England, out of every 100,000 inhabitants, nine die annually of constriction or occlusion of the intestines (exclusive of external hernias and malignant neoplasms). Brinton, in his collection of 12,000 autopsies, gives one case out of every 280, due to occlusion

of the intestines. From the various statistics examined, it is safe to give one death in every 300 to 500 deaths, as due to this cause.

Leichtenstern's statistics, embracing 1,541 cases of occlusion of different kinds, and at the same time showing the relative proportion of males and females will bear reproducing in this paper :

	Males.	Females.
Strangulation by false ligaments	52	59
" by the omentum	43	15
" by diverticles	52	14
" by the appendix vermiformis	21	13
" by internal hernias	25	6
Diaphragmatic hernias	163	52
Intussusception	283	157
Obstruction by gall stones	9	32
" by foreign bodies	37	10
" by intestinal stones	15	5
Strangulations in holes and fissures in different organs and parts of organs in rings, formed by the adhesion or adhesions of abdominal or pelvic viscera, or with the walls	12	17
Compression of the intestine by the mesentery	10	8
" of the intestine by viscera, etc	15	37
Twisting of the sigmoid flexure and ileum	23	10
Knotting of two intestinal loops	20	1
Acute bending by displacement, with or without simultaneous compression by the mesentery	8	6
Ileus paralyticus, fecal obstruction	10	15
Constrictions of the intestines (whether they cause death by ileus or otherwise) chronic kinks, different kinds of stricture, constriction by chronic peritonitis, adhesions, etc	35	71
Cancer of the intestine	19	16
Cancer of the rectum	80	63
Total	M. 934	F. 607

Having alluded to the causes of intestinal obstruction, we will now consider the means of determining its existence, and, possibly, its location. The are many occlusions that we can diagnosticate without much difficulty ; for instance, those situated in the rectum, those caused by foreign bodies swallowed, and by gall stones, when occlusion occurs soon after an attack of hepatic colic accompanied by icterus, and also by compression due to tumors.

The existence of the tumor is usually known before the occlusion occurs. We are, however, in many cases, not able to do more than form a supposition regarding its anatomical cause. Even those processes of occlusion which are distinguished under favorable circumstances by definite peculiarities and objective signs, and make an absolute diagnosis possible, sometimes occur without them, and are then not to

be distinguished from other causes of impermeability. There are cases recorded when death has taken place without any marked symptoms, and the autopsy has revealed internal strangulation.

The most significant signs of closure of the bowel are constipation and stercoraceous vomiting. The contents of the intestines below the point of obstruction may be evacuated and fluid feces may escape when the small intestine is to all intents closed, but complete constipation is the rule in true obstruction.

Pain is usually present in varying intensity, from a mere feeling of weight to intolerable suffering. The location and character of the pain should be carefully observed, as it frequently coincides with the seat of the lesion. It may begin with a sudden catch in the bowels, as of some displacement, and be very violent, or so mild as to barely attract attention. Usually, as the disease advances and peritonitis and enteritis supervene, and fluids and air accumulate, the distension becomes so great as to produce terrible misery. In strangulation of the small intestine, either near the cæcum or in the jejunum, the pain will have its seat chiefly about the umbilicus.

When peritonitis is fully established the pain becomes more or less diffused.

"The absence of pain is no positive evidence that even the most unmanageable sources of obstruction are not present." [McLeod.]

Vomiting: When irritating and drastic purgatives have not been administered, the character of the vomiting and the time at which it commenced are important guides. The higher up the obstruction lies the sooner will vomiting take place.

Habershon relates an instance where the obstruction arose from a band of adhesion high up in the jejunum, the vomiting was so sudden as to resemble that produced by cerebral disease.

The same author records a case of twisted cæcum when the obstruction was near the termination of the ileum, in which the vomited fluid was so fully fecal that for a time it was supposed that a communication existed between the stomach and transverse colon.

The vomiting is usually accompanied by nausea, which tends to increase the distress and exhaustion. Only food or bilious matter is ejected at first, but afterwards feculent vomiting appears, even when the occlusion is in the small intestine. Dr. McLeod, of Glasgow, says this is the only certain sign of complete occlusion.

I have seen cases of fatal obstruction when there was no feculent vomiting.

Hiccough appears earlier, and is more distressing in strangulation of the small than of the large intestine.

Drs. Barlow and Sedgwick have called special attention to the amount of urine secreted as a sign of the seat of the obstruction.

Habershon opposes this view on the ground that the vomiting, fever and local inflammation will also govern the quantity of urine secreted.

Swelling, confined to a portion of the abdomen, is an instructive sign if the patient is seen early. It arises from the accumulation of fluids above the obstruction, and later on from flatulent distension. Careful percussion will frequently indicate the seat of the obstruction.

In examining a patient with intestinal obstruction it will be well to consider the following memorandum :

Has he suffered from any abdominal trouble or inflammation, colic, gall stones, dysentery, hernia or any similar attack? Has he been using any article of food or medicine likely to produce such symptoms? Has he been making any sudden effort immediately before the attack began? Is there any lump in his abdomen, and if so, how long has it been present? Is it movable or painful, and has it altered its size, shape or position? Are there any vermicular movements, and are they arrested at any point?

If it is a child, the obstruction is probably due to intussusception or peritonitis, as the aged are more frequently the victims of malignant disease and the impaction of intestinal contents.

Hutchinson, of London, says: "Malignant stricture may be suspected when, in an old person, continued abdominal uneasiness and repeated attacks of temporary constipation have preceded the illness."

It is to be noted also that the constipation is often not complete.

The cancerous cachexia is also usually present.

Tumors usually give a prior history, and can generally be detected by palpation, or by examination by the vagina and rectum, care being taken not to be misled by scybalous masses.

If repeated attacks of dangerous obstruction have occurred with long intervals of perfect health, it may be suspected that the patient is the subject of a congenital diverticulum, or has bands of adhesion, or that some part of the intestine is pouched and liable to twist.

If in the early part of a case, the abdomen becomes distended and hard, it is almost certain that there is peritonitis.

If the intestines continue to roll about visibly, it is almost certain there is no peritonitis.

Intussusception may be recognized by the attack occurring suddenly, with or without diarrhœa. Then follows vomiting—very soon in children, and also when invagination is high up—which in a short time becomes stercoraceous. Abdominal pain, interrupted and colicky is often exactly localized in the region corresponding to the intussusception and is rarely accompanied by rigors.

Constipation in acute intussusception is complete.

Vomiting, pain and constipation are present in all forms of acute intestinal obstruction, and therefore cannot be regarded alone as evidence of intussusception.

Tenesmus—violent straining—more severe the nearer the intussusception is to the rectum—accompanied by bloody mucus discharges from the bowel, almost always present, no matter where the seat of the affection, and must be regarded as a very important symptom, "since, with the exception of twisting and knotting of the sigmoid flexure, no other cause of acute occlusion of the intestine is accompanied by bloody mucus discharges." (Lichtenstern.)

I will here observe that we must be careful to differentiate between this discharge and dysentery, by the entire absence of fecal matter and other intestinal bleedings, especially rectal polypi in children.

A very important symptom is the discovery of the usually cylindrical sausage-like tumor, the search for which should be made under an anæsthetic by manipulation through the abdominal walls, and by the anus.

In the early stages of the affection, especially in children, the parietes of the abdomen remain lax, and there is usually but little tympanites.

The detection of the tumor will be more or less difficult according to its size, its situation, and the age and obesity of the patient.

When peritonitis has occurred, the distension of the abdomen may be so great as to render palpation of little value.

Lichtenstern says that this "tumor can almost always be felt in colon and ileo-cæcal invaginations," but only seldom in ileum invaginations.

The chief distinction of intussusception from all other varieties of obstruction, is the suddenness of the invasion, the acuteness of the pain, the rapidity of the prostrating effects, and above all, the detection of the intussusception itself." (Brinton.)

A person with a small hand may obtain useful information by introducing it into the rectum while the patient is under an anæsthetic, as recommended by Simon, of Heidelberg.

The rectal sound and also enemata may afford some information.

I have endeavored to present the symptoms of intestinal obstruction as clearly as my opportunities of observation and the limits of this paper can admit, and yet I know that each individual case will present many features peculiar to itself, that will obscure the symptoms and contradict many of the statements made in this paper, and that we will frequently find ourselves by the bedside of a patient suffering from internal strangulation and wholly unable, after the most minute and careful examination, to form an opinion as to the special anatomical cause of the occlusion.

Fortunately, operative measures excepted, "our treatment would not be different," quoting Lichtenstern, "even if we were able to say whether the cause of the occlusion was a strangulating false ligament, a diverticle, or the appendix vermiformis; whether a fissure in the mesentery or omentum, torsion, knotting or acute bending; whether the lodging of a gall stone in the ileum, compression by the mesentery, or an acute invagination of the ileum. On the other hand, those causes of occlusion, diagnosis of which during life may be important in indicating the choice of a special therapeutical measure, can actually be recognized in the great number of cases. Among these are occlusions of the rectum accessible by direct treatment, fæcal obstruction of the colon, ileo-cœcal and colon invaginations, compression by tumors, cysts, etc.

I will not allude to the various methods of treatment from the days of Hippocrates, Aretæus and Galen to the present day; neither will I refer to the treatment of cases of chronic incomplete obstruction, but in as brief a manner as possible, lay down such a plan of treatment as I would wish to employ to-night in cases of acute intestinal obstruction.

TREATMENT.—Give neither food nor medicine by the mouth.

Use anæsthetics early, in order to examine the abdomen and rectum, before there is much tympanites, (of course, I assume that the physician has already satisfied himself that there is no external hernia). Empty the rectum by free enemata, and examine by means of the speculum and by the introduction of the hand,—providing, always, that you have a small hand—and also by the rectal sound, and if the patient be a female examine carefully through the vagina. Auscultation may, in some cases, give useful information.

In stricture, due to cancerous disease, to cicatrices from any cause, little benefit can be expected from any treatment save operative means.

In the various invaginations in internal hernias, in kinking and twisting of the intestines, in pressure from a movable tumor or viscus, large enemata of warm mucilaginous water is the best therapeutic agent we have, and these should be administered through the long rectal tube, slowly, carefully, with the patient's shoulders low, the buttocks high, (with the patient almost inverted, if you please) where he can have the full mechanical benefit of position, and have him fully anæsthetized. You want complete muscular relaxation.

Gentle manipulation at the same time may be employed, the bowels may be gently drawn towards the sternum. If this fails in restoring the parts, give your patient opium, hypodermically—not sparingly—and wait a few hours—for Lichtenstern tells us that "there is no cause of acute occlusion of the intestine, which cannot spontaneously disappear as well as originate,"—and then insufflation of air may be employed.

Enemata of ice-water, or with turpentine, or with carbolic acid water, excite energetic reflex peristalic action, and should not be used. [Lichtenstern.]

Purgatives must also be dismissed for the same reason.

I will not occupy your time, gentlemen, with what we should not do, but ask, what shall we do next? We have repeated our enemata several times, also our insufflation, also our manipulation; our opium has given our patient comfort, but the malady still exists. Shall we fold our arms and gently wait for spontaneous reduction, or until peritonitis is established, or for sloughing of the intussuscepted gut. Peritonitis means death, and the slender hope offered by sloughing, sustained only by cases that may be counted on your fingers, will hardly justify such a course. We must do precisely as we would in an external irreducible strangulated hernia—operate, explore the abdominal cavity, and ascertain where and what the injury is. If it is an intussusception or an internal hernia, reduce, if possible; if it is a kink, twist, or knot, restore to its normal condition; if compressed by a band, divide the band; if by a tumor, remove the tumor; if by an impermeable stricture, make an artificial anus.

Dr. Teale says, "of the immunity with which the peritoneal cavity may be opened. I need hardly remind you how constantly this is done in ovariotomy.

"It is not always the operation that proves fatal, it is the delay in performing it.

"Look at Kieth's 39 cases of ovariotomy without a death.

"Look at the confidence with which he reckons upon recovery, with a smooth peritoneum, without adhesions."

Is it necessary to give further proof of the propriety of exploring the abdominal cavity in such a grave disorder—need we refer to the statistics of operations by Spencer Wells, of England, M. Péan, of France, or the surgeons of our own country?

In my collections of the statistics of 84 cases of abdominal section, collected from the papers of Prof. H. B. Sands, Ashurst, of Philadelphia, and various other medical magazines, the analysis of which must be deferred for some future occasion, the recoveries average about 36 per cent.

The age of the youngest patient recovering after abdominal section being 6 months (Prof. H. B. Sands), and the oldest 79 years. Erichson (page 818 of Science and Art of Surgery) says: "If, however, it can be satisfactorily made out that there is an internal obstruction, and more especially, if the intumescence can be felt, it will evidently be the duty of the surgeon to give the patient his only chance."

Thomas Bryant, in the British Med. Journal, March 8th, 1879, ex-

presses himself as decidedly in favor of an early operation in intestinal obstruction. Marsh, of England, and many distinguished surgeons of this country and throughout the whole civilized world, advocate an early exploratory operation, but not so zealously as the importance and danger of the malady demands.

I trust that the gentlemen present will add their experience with this subject, for it is only by a comparison of results that we are enabled to discover the merits of any methods of treatment.

THE BROOKLYN PATHOLOGICAL SOCIETY.

Regular Meeting, Thursday, Dec. 11th, 1879.

The President, Dr. F. W. Rockwell, in the chair.

CANCER OF OMENTUM: EXPLORATORY OPERATION.

Dr. Rockwell presented a specimen of the above disease, with the following history:

The patient from whom the specimen was removed was a lady, 62 years of age, who had, up to the appearance of her present trouble, been free from disease of any kind. Her family history was as good as her personal one, so far as any specific or cancerous taint was concerned. Early last March, she was startled by the appearance of a tumor in the right iliac region, for which she consulted Dr. Carnochan, of N. Y., supposing it to be some form of hernia. The tumor was apparently of an inflammatory nature, and situated in the abdominal parietes. A doughy, somewhat elastic, swelling prevented any complete examination, and it was not until this had subsided that the Dr. was able to map out a movable globular tumor, which, from its mobility and apparent attachments, he concluded to be ovarian and of one of the solid varieties.

Several months having elapsed during which the patient was becoming emaciated, and some pain was felt in the neighborhood of the tumor, she was taken to Dr. Emil Noegerrath, who, after studying her case for several weeks, pronounced the case one of malignant disease of the kidney or liver. The patient then presented herself to me with the foregoing history, on November 2d. Upon questioning her, I found that in the preceding eight months, she had lost fourteen pounds, that she had never had jaundice, nor had there been any change in the

quantity, quality or color of the urine voided during that time. Examination of a specimen sent me for the purpose, elicited nothing further. Lying in the right iliac region, about three inches above Poupart's ligament, was a tumor of an irregularly globular shape, and about the size of an orange. It was so tender to the touch, that I was unable to satisfy myself as to its attachments. A vaginal examination showed the uterus to be perfectly movable, the region of the ovaries free from sensitiveness, and no pelvic connections with the mass above. I declined to make a positive diagnosis, though strongly suspecting omental cancer, from the fact that the inguinal glands were enlarged slightly on both sides. No cachexia, no ascites, and no œdema of the feet existed to point to any of the great glands of the abdomen as the probable seat of the growth. To clear up the diagnosis, I proposed an examination under ether at an early date. This was acceded to, and on Tuesday, Nov. 4th, ether having been administered by Dr. Bunker, I found that the mass could, with comparative ease, be pushed over into the left hypochondrium, and was freely movable *above* a line drawn from one superior spinous process to the other. *Marked resonance on percussion existed between the lower border of the ribs on the right side and the upper surface of the tumor.* Examination of the lumbar regions by manipulation and percussion threw no light on the supposed renal origin of the disease.

A sound introduced into the uterus showed its cavity to measure $2\frac{1}{2}$ inches, and that no connection whatever existed between the mass and itself. A diagnosis of omental cancer was then given to the husband of the patient, in which Dr. Bunker concurred.

Upon hearing that death was inevitable and within a few months, the husband of the patient at once proposed an operation for the removal of the disease, and although its extreme risks, and the almost certain rapidly ensuing death were plainly put before him and the patient herself, both still insisted on taking the infinitely small chance of a few weeks relief from the suffering which had been rapidly increasing during the last month. As the growth seemed solitary, and constitutional reaction was so entirely absent, and the possibility of removing the growth fair, I consented to make an exploratory incision, to be followed by an operation if deemed advisable, distinctly informing both the patient and her husband that failure was probable, and a rapid termination of the case imminent. These statements were met by an unflinching courage on the part of both, which seemed equal to any emergency. The patient having been prepared as for ovariotomy, during the next twelve days, seemed at the end of that time to be in as favorable a condition as I could expect, and accordingly on Sunday, Nov. 16th, in the presence and with the assistance of Drs. John Byrne, Bunker, Fowler and

Freeman, I made an incision in the median line just below the umbilicus about two inches in length. On passing the finger into the abdominal cavity, a large cyst was felt resting on a mass of hard carcinomatous tissue, and closely surrounded by several smaller nodules of the same character. No attachments to the stomach or intestines could be felt, and the whole mass seemed freely movable. The upper border of the cyst could not be easily examined, and it was deemed advisable by those present to extend the incision upward for about 3 inches. This was accordingly done, when it was found that the cyst was closely adherent to the lower border of the liver, the right lobe of which was thinned and expanded over its surface. Percussion over the surface of the abdomen, *even now with the tumor* in situ, gave a *resonant area* between the lower border of the ribs and the growth, a condition accounted for at the autopsy by the relations of the colon to the liver and growth. A slight wound of the thinned lobe of the liver was now found to be slowly oozing venous blood, and was touched with the actual cautery, giving no further trouble. The abdominal cavity was now carefully cleansed of the small amount of blood which had found its way into it, and the wound closed and dressed with salycilated cotton covered with carbolized lint and gutta percha sheeting—a flannel binder securing everything in position. The operation was performed under carbolized spray, and with every antiseptic precaution. The patient was put to bed with warm bottles to feet, and treated as after ovariotomy. Her pulse was 120, and she evinced signs of considerable shock, but rallied promptly and conversed calmly and distinctly within an hour after removal from the table. During the next two days, the temperature never rose above 99°.

Slight vomiting and abdominal pain was easily controlled by morphia hypodermically. Brandy and beef juice by the rectum, and small quantities of milk by the stomach kept her comfortable until early Tuesday morning, when a slight chill occurred, and the patient showed signs of sinking. The mind clear and calm until her death, which occurred at 1.25 P.M. on the same day.

Autopsy, Wednesday, November 19th, at 4 P. M., in the presence of Drs. Carnochan and Bunker. On removal of the dressings—which had remained perfectly sweet since the operation, and were slightly stained with a pinkish serum—the wound was found to be agglutinated throughout its lower two-thirds, the upper being ununited. The peritoneal cavity free from any effusion or lymph. The parietal layer of peritoneum over the right hypochondrium injected in patches, as if about to become the seat of inflammation. A patch of similar character, about two inches in diameter, in left hypochondriac region. Upon examining the wound in

the capsule of the liver, it was found free from inflammation and apparently undergoing the process of repair. A thin eschar still remained to show the action of the cautery. A large cyst, evidently the dilated gall bladder, formed the bulk of the tumor noticed during life. It was firmly adherent to the superimposed right lobe of the liver above, and the hepatic flexure of the colon below. The lobus quadratus was also involved in the mass. In the walls of the gall bladder were several nodules of scirrhous deposit, and in the transverse fissure of the liver a large mass of the same deposit, which evidently had its origin in the gastro-hepatic omentum. This mass had bound the numerous ducts and vessels in its vicinity into an irregular tumor, in which only one or two structures could be identified. A similar deposit was developed in the layers of the meso-colon. The rest of the abdominal cavity was free from disease.

The Microscopical Committee reported that the specimen was a spindle-cell sarcoma, some portions of it containing round cells.

SARCOMA OF TESTICLE AND ABDOMEN.

Dr. E. A. Lewis presented a testicle and portions of a tumor removed from a man 54 years old, a native of the United States. The family history was good. The personal history was that, twenty years ago, he had some pulmonary difficulty, for which he took cod liver oil, and that five years ago he fell from a ladder and suffered from orchitis on the left side as the result. There was no specific disease. The swelling of the testicle never fully disappeared.

On July 7th, 1879, while lifting a heavy milk can, he felt something give way with a snap in his back. The left testicle began to swell almost immediately, and after a few days he was obliged to remain in bed. The testicle became greatly swollen and very painful.

On September 20th, at a consultation, the scrotum was explored, and a number of ounces of highly albuminous fluid drawn off. The testicle was not much enlarged, but tender and hard. At another consultation, September 27th, the condition of the patient did not warrant the removal of the testicle. From this date he failed rapidly; had diarrhœa, severe sweating, anorexia, etc. He died October 18th.

At the *autopsy* the brain was not examined. With the exception of a few old adhesions of the right pleura, the thoracic organs were healthy. In the *abdomen*, the left kidney contained a cyst and the supra renal capsules were adherent. The large intestine contained many scybalous masses. About four (4) inches of the jejunum was adherent to a *tumor* in the posterior part of the abdomen. Its outlines were not well marked. It was about six inches long and four inches broad, and was close to the spinal column, so that the great vessels were removed with it. On in-

cision it was found to be soft and friable. A yellow fluid poured out in abundance. The left testicle was swollen, and showed a degeneration similar to that of the tumor. The microscope shows an abundance of small, round, nucleated cells.

SEPARATION OF LAYERS OF AMNION.

Dr. Jno. Merritt presented the following case: B. M., aborted at about the fourth month. The fœtus was inclosed in the amniotic sac. The cord extended through and beyond the sac about one inch. The placenta and chorion were separated from the amniotic sac. The case illustrates dropsy between the layers of the amnion.

SPECIAL ORDER: DR. A. R. MATHESON ON INTESTINAL OBSTRUCTION.

(See page 395.)

DISCUSSION.

In reply to Dr. Minor, Dr. M. stated that, so far as he knew, the cicatrices of typhoid ulcers did not lead to stricture.

Dr. Pilcher was surprised at the frequency of intestinal obstruction as shown by statistics. The helplessness of the physician in dealing with them was noticeable. An important point was the lack of any definite symptoms indicating the exact condition present. Fecal vomiting is often absent; fixed pain is not a reliable symptom. All this points, in acute cases, to the importance of making an abdominal opening for diagnosis. The reports of such cases encourage to this step. Abdominal incision should be more frequent. Adhesions of the peritoneal folds, forming constrictions and making fissures through which internal hernia may occur are so common that, after other means have failed, we should be culpable in not incising the abdomen.

When tumors of long standing exist, a better judgment can be formed as to the condition present; but it is in acute cases that this exploration would be more useful.

Dr. Segur spoke of Habershon's remark, that if patients did not die of obstruction, they were liable to die from the effects of treatment received.

He referred to a post-mortem examination made by him in a case of cancerous disease of the sigmoid flexure, in which the patient before death had several attacks indicating closure of the small opening remaining, which had been relieved by purgatives until the fatal attack, when peritonitis occurred. The descending and transverse colon was pouched to three or four times its natural size. The contents of this pouch were fecal matter, with much serum, showing the effect of the purgatives. Hence the danger our patients are subject to at our hands.

He thought that the operation recommended by Dr. Pilcher might be another element of danger.

Dr. Pilcher replied that it was only in acute cases, when the increasing gravity of the symptoms showed that death was inevitable unless relief was afforded by operative means, that he would recommend it.

Dr. Matheson quoted three cases operated upon in England. In one an artificial anus was made in the linea alba, and the patient recovered. The other two died.

Dr. Wunderlich agreed with Dr. Pilcher as to operation on acute cases. He quoted Allingham's views as to colotomy in cancer of the rectum. Though it did not prolong life, it relieved suffering.

LITHOPLAXY.

Dr. Ernest Palmer presented (at the Nov. meeting) specimens removed from the body of a man upon whom the operation of *lithoplaxy* had been performed by Dr. Keyes, of New York. The patient had previously been attended by Dr. C. L. Mitchell, who kindly contributes the following history:

Mr. S., first attack was June 5th 1873. There was urgent and painful desire to pass water, with much difficulty in accomplishing it; a straining effort, continued for some time, being necessary before the urine would begin to flow. These efforts were attended with severe spasmodic pain and sense of obstruction at the neck of the bladder, and pain in the uretha, near its origin. Sleep was impossible without anodynes. There was no fever. The urine strongly acid.

Up to time of attack been able to pass water freely and in a full stream. Had had occasional slight attacks of pain in the bladder, but nothing of such severity as the present attack.

Was, and had for some time been, passing through a period of great financial trouble. resulting in the loss of all his property.

Diagnosis: Irritation of over sensitive bladder by acrid urine—probably due to disturbed cerebral circulation.

Soda (bicarb.) was administered as freely as the stomach would bear; diluents given abundantly; Laudanum in drachm doses by enema; hot fomentations and poultices were applied locally; and Ergot prescribed in full doses.

June 7th. Pain and frequent micturition mostly subdued, but the difficulty in passing water continued, requiring much effort for its evacuation.

June 8th. Urine still abnormally acid. Gave ten grains of calomel, and followed it by teaspoonful doses tart. sod. and potass. repeated every two hours.

June 9th. Urine alkaline, and distressing symptoms subsiding.

June 13th. Discharged, cured.

The second attack occurred 3½ years after, December 4th, 1876. This was similar to the other, the patient being under treatment 17 days, when he was discharged, cured.

The patient did not again apply for advice till after another interval of more than a year and a half, viz., September 9th, 1878. The same symptoms were present as during former attacks—less urgent but more persistent. Urine was not detained more than two hours, and was passed mostly by catheter. The pain was always at the neck of

the bladder, and in the urethra near the bladder, at a point where obstruction to the passing of the catheter was frequently encountered. A considerable discharge of mucus accompanied each evacuation of urine.

Diagnosis: Chronic cystitis due to acrid urine and enlarged prostate. Calculus was not supposed to exist because of the long intervals between the attacks.

September 9th. Half teaspoonful doses of fluid extract of ergot were given three times a day, and the bladder frequently washed out with warm water containing a little chloride of sodium.

September 11th. Had slept all night without urinating until 5 A. M. It was the best night he had had for a month.

September 17th. Declares himself a great deal better. Directed same treatment to be continued, suspending it when the symptoms were relieved, and resuming it when needful.

November 2nd. Six weeks later, was summoned to prescribe for acute orchitis. After the use of saline cathartics constant application of solution of hydrochlorate of ammonium, the free administration of soda, with rest and support of the inflamed organ, the symptoms disappeared in three days from commencement of treatment.

November 5th.—Complains that he cannot insert the catheter; when the point reaches the sore place in the urethra it will go no further. Directed its introduction as far as it would readily pass, and then inject a little warm water to dilate the urethra. Acting on this suggestion, the patient had no further trouble in using the catheter.

December 31st.—Two months later he called at my office. The disease of the bladder was much aggravated, and I requested him to place himself under the care of a surgeon. Dr. Rushmore was accordingly called in. An examination for stone was carefully made, but with negative result. At a subsequent time another sounding was made, but with no better satisfaction than at first. Still suspicious of the existence of calculus, Dr. Rushmore desired to make another examination, but the patient refused, and Dr. Rushmore withdrew from attendance.

After the withdrawal of Dr. Rushmore I called on the patient as a friend, and found that he had become materially worse, severe cystitis and albuminuria being present. My prognosis was that, whether calculus were present or not, the result would be fatal.

The patient went under homœopathic treatment.

In October, 1879, I was summoned by the patient, and informed that Dr. Keyes had been recently called in, had examined for and detected a stone in the bladder, and proposed cutting it out. I was requested to be present at the operation and to assume the subsequent treatment.

On the 18th of October Dr. Keyes performed the operation of lithotrity. The operation was boldly, skillfully and resolutely performed, occupying about one hour and a quarter.

When the anæsthesia was passing off, the patient became restless, manifested much pain, and complained that he was not at all relieved. Forty minutes after the operation the pulse was 132, the temperature 97.7, and I administered 6 min. Magendie's solution of morphia hypodermically, followed in a few minutes with milk and whisky. The patient having been habituated to ¼ gr. rectal suppositories twice a day, or every twelve hours, I directed their administration every six hours. At 9½ P.M. the pulse had gone down to 112 and the thermometer up to 98°.

He was directed to wash out the bladder with warm water after every passage of the urine, and twice a day to syringe thorougly with Squibb's one per cent. solution of carbolic acid, weakening the solution if it caused pain.

October 19th.—Had passed a better night than usual, but had waked every hour to pass water. Urine at first bloody, but later was entirely free from blood, with whitish sediment. Color darker than before the operation. Offensive. Was comparatively comfortable during the day. Took no suppository between 2 and 10 P. M. Relished his milk and beef-tea. Pulse, while sleeping, 88.

October 20th. Passed a pretty good night. Urinated 10 times in 12 hours; "some of these were almost nothing." Took 3 goblets of milk during the night. Pulse 100; ther. 98°. In the afternoon seemed better; relished food; went two hours without passing water; more mucus than before; pulse 100; ther. 100.5°. Bowels not having been moved since 17th, an enema was given, which produced the desired effects.

October 21st. More nervous last night. Micturition hourly; nurse says he is always more restless after suppository. Catheter enters easily, but the urethra is sore. Took 3 goblets of milk, ½ cup of beef tea. Pulse stronger, 90; ther. 98.5°. Directed 1½ suppositories (or ⅜ gr. Morph.) every 4 hours. Lengthen the interval, if sleep is induced.

October 23rd. Took 1½ suppos. at 6 and 10½ o'clock last evening and 9 o'clock this morning. The desire to urinate comes every hour. Pulse 88. R.—Morph., gr. ⅜; atrop æ 1/50; Butyr. Cacao, q. s. Make suppos. and use as before.

October 24th. Had taken but one suppository, and had a bad night. Complains of much pain at the neck of the bladder. A second suppository taken at 9 a. m.; gave more relief. Pulse 96; ther. 98.4°.

October 25th. Irritation of bladder less. Had 3 constipated motions of the bowels and then three loose ones. Begs off from milk diet because it always constipates him. Discharges from bladder more viscid. Dr. Keyes advised a return to the old doses of ¼ gr. suppos. twice a day.

October 28th. Patient says he will try to do without any morphia.

October 31st. Patient had resumed the use of the ¼ gr. suppositories. At this time Dr. Palmer was put in charge of the case.

Took charge of Mr. S's. case by direction of Dr. Keyes, on Saturday, Nov. 1st. No change in the general plan of the treatment inaugurated at the time of the first operation was made until Tuesday, Nov. 4th, immediately following the second operation.

On Nov. 4th, at 3 o'clock, P. M., the second sitting was had. The patient being etherized, a searcher was passed into the bladder, and after exploring that viscus for a period of 3 or 4 minutes, the calculus or fragment was detached presumably at the orifice of the right ureter. The searcher being withdrawn and the lithrotrite introduced, the calculus was grasped and crushed—at least five minutes elapsing before the engagement of the calculus.

The balance of the operation was a repetition of the first in all its steps, and was completed in about 35 minutes. The patient rapidly came out of the anæsthetic and immediately complained of the great soreness of the urethra. This symptom was the prominent one during the remainder of the patient's life.

The instructions I received from Dr. Keyes as to the treatment to be followed were as follows: Stop the suppositories and give alcohol in-

stead; gradually increase the time between the introduction of the catheter, extending the time five minutes every day; wash out the bladder twice a day with as hot water as the patient could stand, throwing it in with as much force as possible.

A Pollitzer's air bag and a No. XII silver was used to carry out this step of the treatment.

During the night of the 4th, the urine was passed naturally upon two occasions, and the catheter was passed every 65 minutes during the 24 hours.

Wednesday, the 5th, patient very weak; pulse 130; temperature 99½; no appetite and increased thirst. During the 24 hours passed 20 ounces of urine very heavily loaded with pus.

Thursday, 6th, pulse 140; temp. 98¼; patient very weak and irritable; injection of the bladder aggravating symptoms and patient much prostrated afterwards; urine less in quantity; took more nourishment in the afternoon. During the night of Thursday he vomited twice; first the contents of the stomach, afterwards an olive green liquid entirely odorless.

Slept more during the night than at any time since the operation.

Friday forenoon pulse 120; temp. normal; complaining of the vomiting which recurred 3 or 4 times in the morning (early). I ordered chopped ice and small doses of brandy, afterwards twenty grain doses of bismuth sub. carb. and pepsin, which checked vomiting for several hours. The facial expression had changed much since last seeing him, the eyes being glazed and features pinched, noticeably the nose.

The nurse reported to me the small quantity of urine passed during the night and forenoon, which, upon measurement, amounted to about 4 ounces.

This day, after 12 o'clock, noon, no urine was passed, there being complete suppression.

Friday afternoon I called upon Dr. Keyes and reported condition of the patient, and he ordered inf. digitalis and potas. acetat., to be given every hour.

Half-ounce doses of the infusion, and 7½ grain doses of the potash were given every hour between Friday evening and Saturday night without effect. Warm stupes over the kidneys and bladder were kept up constantly.

Saturday, the 8th, slight intoxication was present; patient cheerful when awake; slept much during the day, but failing rapidly; neuralgic pain in left foot caused much annoyance.

This day, at 3 P. M., dissolution going on rapidly. Brandy given by the mouth every half hour till 9 P. M., when hypodermic method was

resorted to. From 9 P. M. till 4 A. M. small doses per rectum of brandy and opium were given until death, which occurred at 4.25 A. M. Nov. 9th.

Autopsy made by Dr. Geo. R. Westbrook. Acute Pyelitis of both kidneys. Dilated ureters on both sides. Thickened walls to bladder; capacity decreased to two-fifths normal capacity. The *right kidney* was found to be at least one-third smaller than normal and further advanced in the disease. *Left kidney* normal in size, and upon section a few grains of stone were found in the pelvis. Both organs contained pus. The *ureters* dilated to twice their original size and contained free pus. The *bladder* contained free pus, say two drachms. It was sacculated at the base on either side, and no fragments of stone found in the bladder. Rapid decomposition of the pelvic organs was going on.

The Curator would be pleased to receive correspondence in regard to the exchange of microscopical slides. Address Dr. E. S. Bunker, No. 280 Henry Street, Brooklyn.

☞ *The Secretary requests members presenting specimens, to present therewith a written account of the history and anatomical appearance. An observance of this request on the part of the members would insure a much more satisfactory report of their cases.*

BENJ. F. WESTBROOK, *Secretary.*

OFFICERS FOR 1880.

At the Annual Meeting, January 8th, 1880, the following officers were elected:

President	ARTHUR MATHEWSON.
Vice-President.	WILLIAM WALLACE.
Secretary and Editor	BENJ. F. WESTBROOK.
Treasurer	THOS. R. FRENCH.
Curator	E. S. BUNKER.
Committee on Microscopy	R. HESSE, E. S. BUNKER, LANDON C. GRAY.
Committee on Publication	HENRY N. READ.

Ἀσκληπιὸς  ὁ Σωτὴρ

Χαρμα μέγ' ανθρωποισι, κακων θελκτῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——THE SUBJOINED REPORTS of the Committee on Permanent Fund and Building and of the Librarian, presented at the Annual Meeting, were, with the recommendations, adopted by the Society.

Brooklyn, January 20th, 1880.

TO THE MEDICAL SOCIETY OF THE COUNTY OF KINGS:

The Committee on "Permanent Fund and Building" beg leave to report:

1st. That they have been unable to do anything, except to thoroughly discuss the subject during the past year, for want of authority from the Society.

2d. That they think it advisable to make an effort to raise funds for the purchase of property for the accommodation of the Society.

3d. The Committee request that they be authorized to purchase any suitable property when they shall have raised sufficient to secure it; by and with the advice and consent of the Council.

4th. The Committee recommend that the Society appropriate, at this Meeting, the moneys now held by the Treasurer, and known as the Permanent Fund, to be used for the purchase of real estate, should the Committee and Council consider it wise to purchase during the coming year.

Our Society is now one of the largest and most flourishing of medical societies in the State, and the Committee think that the time has come for us to have a building of our own. They believe that this object can be accomplished in a year, or two years, at most, if every member will do his part. Therefore,

Resolved, That the Committee on Permanent Fund and Building be authorized to collect funds, by voluntary subscription, for the purchase of a permanent location for the Society.

Resolved, That said Committee, with the advice and consent of the Council, be authorized to purchase such real estate as may be needed for the accommodation of the Society.

Resolved, That the savings of the Society known as the Permanent Fund be, and are hereby, appropriated to the purchase of real estate, whenever said Committee and Council judge it wise so to invest it.

Respectfully submitted for the Committee,

GEO. G. HOPKINS, *Chairman.*

ANNUAL REPORT OF THE LIBRARIAN FOR 1879.

There are at present 585 volumes in the library, showing an increase of 23 this year.

The library of Dr. Samuel Hart, contributed to the Society in 1878, was placed upon the shelves early last spring. The contribution consists largely of volumes published in the last decade and contains some valuable material. A closet has been erected for the accomodation of unbound back numbers of journals on file. Each set is tied up and labeled, and made quite easy of access. Here also are kept the duplicate back numbers, which are occasionally exchanged with those of other libraries to fill up incomplete sets in either library.

There seems to be little interest evinced in the building up of what should be an important part of this society.

To my mind the profession of Brooklyn would be better informed on medical subjects, if a library of considerable extent were established here, for it requires so much time and labor to visit the New York libraries that physicians are often obliged to remain uniformed on important subjects, simply on account of their inability to reach the necessary works.

The comfort of a free medical library would be great, and in benefiting our fellow-workers we would help ourselves, by keeping the strength of ready reference in our own rooms, and not be driven elsewhere for what, in such a large community, we should have near us. The journal department for the last four years is practically complete. Everything of importance in current medical literature during that time can be found on the shelves in the reading room.

The advantages to be derived from a library in conjunction with such a complete journal department must be manifest.

The greater part of the present library is of little value, as it consists largely of books that are seldom referred to. The greatest need is that of standard works of the present day, and in order to obtain these, I would respectfully suggest the following plan: That a committee of ten be appointed to wait upon the members of the Society and solicit subscriptions for the purchase of books. That in connection with the Librarian this committee be empowered to select and purchase the books for the first year. That this committee be named by the succeeding Council.

T. R. FRENCH,
Librarian of the Kings County Medical Society.

——TREATMENT OF DIARRHŒA IN TUBERCULOUS PATIENTS.—An elaborate statement of the dietetic rules for the treatment of diarrhœa in tuberculous patients is given in the *Lond. Med. Record*, Oct. 15, 1879.

——COTO BARK IN THE DIARRHŒA OF PHTHISIS. An earnest defense of the value of Coto Bark is furnished by Dr. Yeo to the *Practitioner*, Oct. 1879.

——TUBERCULOSIS IN INFANTS.—From a consideration of nine cases of tuberculosis in infants from ten weeks to ten months of age, including seven fatal cases with necropsies, Dr. Epstein concludes that the presence of the disease in infants is in most cases due to the infection with the milk of a tuberculous mother, and not to hereditary predisposition, as is usually supposed.—*British Med. Journal*, Oct. 18, 1879.

——HYPOPHOSPHITES IN PHTHISIS.—Dr. Coghill, in a critical review of the value of the hypophosphites of lime and soda, gives as the results of this treatment in 100 indiscriminate cases. "It seems evident from these statistics, that the hypophosphites have no claim whatever to the character and properties of a specific remedy in the developed stages of pulmonary consumption."—*London Med. Record*, Oct. 15, 1879.

——THE TREATMENT OF PHTHISIS.—A highly interesting and suggestive paper on this topic by Dr. Bartholow, is included in the Transactions of the Ohio State Medical Society, for 1879. It has been copied for the most part in the *Half-Yearly Compendium* for January, 1880.

——SURE CURE FOR CONSUMPTION. The latest discovery comes to us from Innsbruck. Prof. Rokitansky, junior, of that city, having reported some remarkable results from the inhalation of Benzoate of Sodium, it has been taken up with considerable *furore*, especially in Vienna, where the demand for the drug has been so extensive that the druggists have had difficulty in keeping up their supply. "It is bought up on every hand." According to the *Lancet and Clinic*, Nov. 22, it is administered by an atomizer, twice daily for seven weeks without interruption; the quantity used being governed by the body-weight—one part of the benzoate, in a five per cent. solution, being given to each one-thousand parts of the weight of the patient. The faculty of the University of Innsbruck has appointed a committee to investigate the claims of Rokitansky, some of whose colleagues dispute his credibility and motives.

——MRS. KEITH'S PRIVATE HOME FOR NERVOUS DISEASES, started six years ago in Tompkins Avenue, now occupies pleasant and commodious quarters at 883 St. Mark's Avenue, near Brooklyn Avenue. The work has been quietly and steadily carried on, the aim being to provide a real home influence to nervous invalids. Mrs. Keith has the indorsement of those physicians who are acquainted with the work she has accomplished and hopes to do, and we suggest that those who are not, should visit the home and see for themselves.

In no way is the work a purely charitable one, else Mrs. K. would soon have to cease her efforts, judging from the many applications for charity she has received. Good services are rendered for a fair equivalent, and an inspection of the home is always in order. Dr. Ordronaux has expressed himself as pleased with the Home and its objects.

——DR. VALENTINE MOTT'S REMEDY FOR CHILBLAINS.—Beef's Gall, ℥iv.; Ol. Terebinth, ℥iv.; Spts. Vini. Rect., 90 per cent. ℥i½; Tinct. Opii, ℥i. Mix.

Another formula for the same affection is, Beef Brine, Oi.; Potassæ Nitratis, ℥ii.; Aquæ. Ammoniæ, ℥iii; Mix.

——EXTRACT OF MALT.—"This invaluable preparation is rapidly gaining ground as a curative agent in all forms of chronic debility, from whatever cause. It is especially applicable in bronchial affections, in syphilis, and in the extreme debility with loss of appetite depending on chronic uterine affections. There are ten or twelve preparations of Malt Extract with other medicines. Of these I have used but three: the Simple Malt; Malt with Cod Liver Oil; and Malt with Citrate of Iron and Quinia. It is about four years since I began the use of Malt. In that time I have prescribed it frequently, and never without satisfactory results. Within the last twelve or fifteen months I have prescribed Extract of Malt with Cod Liver Oil for three confirmed consumptives, whose rapid recovery, from what was regarded as their death sickness, was looked upon as almost miraculous by all who were acquainted with the cases. I attribute their recovery to Trommer Extract of Malt with Cod Liver Oil. It is preferable to Cod Liver Oil from the fact that it is more easily assimilated. I have never known it disagree with the stomach, except after having been taken continuously for a considerable time. Cod Liver Oil is frequently unbearable. I have met with patients who could not, under any circumstances, take Cod Liver Oil pure, who could take with a relish Extract of Malt with Cod Liver Oil.

"Extract of Malt with Citrate of Iron and Quinia is one of our very finest tonics and fat-producers, and patients use it with a better relish than any of our bitter tonics.

"I regard Malt and its combinations as invaluable remedies, and as having already added many years to the lives of consumptive and scrofulous patients, and the physician who fails to arm himself with this curative agent, does great injustice to those who intrust their lives to his keeping."—*From a paper on "New Preparations," by Dr. H. D. Rodman, of New Haven, Kentucky, in Louisville Medical Herald (Jan. 1880).*

——THE SANITARY ENGINEER, with which is incorporated *The Sanitary Register*, is a new monthly record of sanitary news. Published in London, at 138 Fleet Street, at 7 shillings, prepaid. The editor is Mr. Durant Cecil.

——THE LONDON LANCET.—This patriarch among the medical weeklies begins the new year with the weekly issue of 80 pages, 40 of which are devoted to scientific matter. For the first time, it comes with cut edges—an unmistakable improvement.

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M. on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The February Meeting will be held on the 17th, at which time the following papers will be presented:

Dr. Shaw will give demonstrations of his paper on "Paralysis of the Insane."

Naso-pharyngeal Catarrh, by Dr. J. H. Sterling.

A case of Craniotomy, by Dr. J. J. Lamadrid.

——New Members.—At the January meeting the following new members were elected: Drs. G. H. Atkinson, B. J. Adams and E. Palmer. The following were proposed for membership: G. P. Oliver, 90 Kent St., E. D., J. M. Raub, 295 Clinton St., and C. de la Vergne.

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DELEGATES TO THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

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J. D. Rushmore,	J. S. Wight,	B. F. Westbrook,
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A. Otterson,	W. Wallace,	F. W. Rockwell.

Chap. XI, Art, 2, of By-laws: "Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate."

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

MEETS IN N. Y. CITY MAY 4th, 1880.

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" Armor.	" Griffiths.	" Pilcher.	" Vanderveer.
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