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CANADA
MEDICAL RECORD

MAY, 1902.

Original Communications.

SOME MEDICAL FALLACIES.

Read before the Young Men's Christian Association of Green Bay, Wisconsin, U. S., in March, 1902, by

W. E. FAIRFIELD, C.M., M.D.

The Y.M.C.A. is a semi-religious body formed for the double purpose of receiving good itself and of imparting it to others. It belongs to the broader Christianity of the present day, in that it is non-sectarian. It might be likened to the farmer in the religious field, who believes in diversified agriculture as opposed to the one who is a specialist in some particular line. It caters to man's spiritual welfare, while at the same time it is not neglectful of his material comforts and wants.

In what I say this evening, I shall pay particular attention to the latter phase of its vocation, and at the same time shall claim the prerogative of him who caters to the former, in that I ask your indulgence so far as to be allowed to wander from the subject of my discourse, imitating, in so doing, many of the popular divines, as you will bear witness.

To deliver a popular address, it is necessary that the speaker should be satisfied with his effort. He should feel that he has handled his subject in a masterly manner, and that he has correspondingly impressed his hearers. I doubt if Webster could have delivered his address with such profound effect, had he not felt that he was the master of Hayne, not only on the question at issue, but also in his own personality. Knowing his subject was no more essential than knowing his antagonist and his audience.

In the present instance, a technical knowledge of medicine is not an advantage in the strictest sense, for the speaker must be able to so handle his subject as to make it intelligible to an audience, which, however intellectual, is nevertheless not in possession of a technical knowledge of medicine.

I am, therefore, reduced to the extremity of avoiding many things which would, under some circumstances, prove not uninteresting, and to confine myself to homely and common things, to things of which both you and I have some knowledge, but as to which we may have some honest differences of opinion.

Medicine is not as yet an exact science. The most eminent medical man cannot, under any circumstances, say positively that a certain drug, or a certain combination of drugs will cure a certain condition. True, it is rapidly approaching this point, and the progress made in the past fifty years bids fair to show us the dawn of this much-desired era.

The exact nature of disease or diseased tissues is being studied as never before. The scientific physician is no longer satisfied to know that a certain drug has a beneficial effect in a certain disease, but he inquires what is this disease? What structures are involved? How are these structures affected? Why does this drug become beneficial? and above all, how can this disease be prevented? The enpyric has no place in the practice of medicine to-day. It is not enough to know that a certain thing is good, but one must know why it is good. We are thus rapidly approaching an age when we will prescribe a certain drug for a specific disease and prescribe it intelligently.

For years quinine has been used as a remedy for malaria. It was and is a specific in that it inhibits the multiplication in the system of the specific malarial germ. The germ itself is the discovery of recent months, and it has been conclusively proven that it gains access to the system, not through the air or water or food, but through the bites of infected mosquitoes. The prevention of malaria, therefore, resolves itself into the annihilation of the mosquito. Until this is accomplished, we continue to give quinine, but we give it with an understanding of its action and a comprehension of its limitations.

It is but a few years since the sore throat, which accompanies scarlet fever and that of diphtheria, were believed to be identical. The same remedies were applied to both. Now we have studied and know the bacillus of diphtheria, and that knowledge has already led to the discovery of an antitoxin, which, injected into the system, counteracts the poisonous effects of the bacillus itself, thereby saving thousands of lives every year.

These are but illustrations of the fact that the scientific practitioner looks for cause, and not only wants to remove it, but also to know the exact nature of the agent

which he uses to this end. The physician can no longer attend a meeting of scientific men and say that a certain drug will cure a certain condition; unless he can show the cause of the disease and the modus operandi of his cure, he will immediately subject himself to derision.

Man has, for so long, considered himself lord of creation, and the bright, particular star of perfection, that it is hard to bring him to a realization of the fact that he may be overestimating himself. He likes to be considered master of himself and of others, and his arguments are quite convincing if one but looks on the surface. The scientific man must look upon him, however, as a more or less beautiful machine, composed of many parts, and each part in turn composed of an elementary form of substance which we call a cell.

I would have you examine with me this elementary body to gain an understanding of many of the phenomena connected with the ever-present processes of birth, growth, development, decline and death. This cell is, to all intents and purposes, a living unit. Its size is so minute that high powers of the microscope are necessary to disclose it, but when once it is brought to view, we have revealed all the attributes of that most lordly animal, man himself, excepting a love for clothes and whiskey. Different types of structure have different types of cells; those of nerve tissues are not like those of muscular tissue, etc., but they are, notwithstanding, all constructed on the same plan. A little atom bounded by a wall like that of an egg, and containing a body or cell contents, with a living center or nucleus. To prove the fact that these cells are living and independent structures, it is only necessary to say that they possess the power to defend themselves against enemies and to propagate themselves. Resistance to disease and cure of diseased tissues is thus accounted for. This is no theoretical statement, but one that can be clearly and incontrovertibly demonstrated.

In the blood we have two sets of cells, the white and red corpuscles. The principal office of the white is to destroy poisonous germs. Now, in blood poisoning, nature immediately comes to the rescue of the individual by increasing its army of white corpuscles. Disease germs are surrounded and destroyed, surrounded by individual corpuscles, which absorb and destroy them, or being unequal to the conquest, throw themselves over the parapet, holding the invader in their grasp, and are thrown off by the system in the form of pus. A wonderful and interesting thing this process of increasing the army of defence at will; and no more wonderful than the

fact that when once the enemy is repelled, the army is again reduced to a peace footing. No imperialism in this living republic, no boasting after the battle, no stealing of reputations. No court martials or appeals for vindication in an army where every duty is so well performed. When the strength of the force of disease is less than that of the defenders, we get well, when the opposite obtains, we die. The great question of cure rests with the cells alone.

Then, what is the office of the physician? If the power to repel disease is inherent in the cells, why take medicine, why call upon the physician? Let me try to explain.

In the first place, these germs find their way into the system from the outside; through a wound; through the digestive tract, through the respiratory surfaces, etc. Once in the system, he can do little to combat them, but he can do much to prevent further absorptions. The intestinal antiseptic is no less sure in preventing absorption of the typhoid bacillus than is the knife in preventing the absorption of pus from an abcess cavity. When once the source of the invasion is known, much can be done to prevent inroads and to sustain the powers of life, looking to the cells themselves to make the great fight. The great physician is simply the man who best understands these little cells, and understanding them, conserves their powers.

A knowledge of the cellular structure and of the germ theory of disease makes scientific reasoning possible in medicine. True, we have men who do not believe in the germ origin of disease; we also have men who believe in witches and signs and wonders. These we will always have with us. Reason finds no place in the space which should be occupied by brains in some cases. The good Lord put such people among us, methinks, to make us thankful for the faculty of reason. A little knowledge is a dangerous thing with such people, as it is with all people. They no sooner see a means which is effective in one case, than they make it applicable to all cases. A narrow man is to be avoided on general principles. He is the one you will invariably find clinging to one of the isms of medicine. He will believe in massage as a cure for everything; or in the waters of some particular spring, or in some patent medicine, or some diabolical mixture supposed to have been originated by an Indian medicine man, or in some form of bath; or in suggestion or hypnotism, or mental therapeutics or Christian Science. He will agree with the homoeopath that the part of a thing is greater than the whole; that a drop of alcohol put into a

barrel of water and well shaken is more powerful than a whole barrel of alcohol; that like cures like, and so he would cut off the second leg to remove the inconvenience occasioned by the loss of the first. He will carry a potato in his pocket to cure rheumatism, and blame God Almighty for the loss of his child from smallpox, when he neglected vaccination.

Be careful of the man who is too narrow to accept the good from whatever source it may come; whether he be allopath, homoepath, eclectic, Indian or just common fool.

There is no such thing as hydropathic, allopathic, homoepathic and eclectic schools to the scientific man. He acknowledges no man's right to adopt a remedy and say "It is mine; it belongs to my school." He is eager and ready to accept it as soon as its worth is proven, and it is to such a man that you and I must look for advancements along the line of scientific medicine. A man may accidentally discover a gold mine, but it takes application and knowledge and reasoning and labour to perfect the incandescent light, or harness the powers of Niagara. The unreasoning quack or empyric may light upon a remedy of merit, but it takes work and thought to evolve a rational treatment for disease.

I am always amused when I am shown a prescription containing a multiplicity of remedies. When I see ten to twenty drugs in a prescription, I know that it was written by a man whose knowledge of the case under observation was limited. His is the shot gun theory, namely, in many missiles one of them may hit the mark. When I see thirty remedies in a mixture I can discover at least twenty-five reasons for not giving it.

I want to let you into another professional secret. Those of this audience who, before they reformed, attended the theatre, know that when a doctor has a part in a play, he is invariably accused of giving bread pills. If I should ever fail to hear this superannuated joke, I would feel lonesome and robbed of my rights. Now, physicians call this form of treatment the administration of a "placebo." It is Christian Science treatment under another name, and is equally honest and efficacious. If a man can be cured by believing that there is no such thing as pain, he can be cured by believing that a bread pill is the remedy he needs, and he will have the added advantage of not appearing inconsistent when he puts his thumb in his mouth after he hits it with the hammer.

Now, the "placebo" is going out of fashion—in fact I may say that it is entirely so. Instead of it we have re-

course to suggestive therapeutics, which, in other and plainer language, means simply that the illness being imaginary and the patient not possessed of sufficient reasoning power to see it, he is simply told that he will be better to-morrow and to-morrow, and the impression thus made, removes the imaginary difficulty. Some have elaborated this suggestion so nicely that they are able to impart its blessings through the medium of scraps of paper and cheap handkerchiefs sent through the mail. I think this could be further elaborated by saying into a phonograph, "Please put $5.00 in the slot. Now pull down the lever. There! Now listen carefully and attentively. You are a wonderful creature, and a combination of circumstances have conspired to keep you from occupying that position your merit deserves. You are not appreciated by your companions, and I only can read your soul. You will be better to-morrow, better to-morrow, when you must come again, and be sure to bring a new $5.00 gold piece; the one you brought to-day is plugged." A suggestive sanitarium with phonographic annex should be a squealing success.

Just a word in leaving the subject of "isms"—because a certain treatment will cure a cold, don't conclude also that it is good for burns. While it reduces fever, it may not necessarily be good for chills. While it may cure bald heads, it may not be applicable to the removal of superfluous hair.

The matter of diet is one that is fraught with great importance in its relation to health. Here, I want to warn you against fads. If you are well, you require a well regulated, generous diet, both animal and vegetable. If your digestion is at fault, correct the fault so that you can enjoy a mixed diet. The narrow individual of whom I spoke sometime ago, will cling to one thing, usually to a so-called health food, or at least to a vegetable diet with a glass of hot water as a dissipation. There is need in this country of the establishment of a "Keely Cure" for the hot water habit. Because some individual in a community was benefited by taking a glass of hot water before breakfast, it follows that the whole community must use it. The glass of hot water before breakfast is followed by a glass before lunch and dinner. Then a glass before bedtime, and one of my patients went so far as to set an alarm clock to waken him at regular intervals, so that he might partake of this form of hydro-therapy, arguing the while, that because there were hot springs in Arkansas, the Lord had intended that water should be taken hot. I can always tell the hot water fiend. He reminds me so much of a boiled lobster.

In leaving this subject I want to say a few words on the use of drugs. Let me warn you against taking a medicine on the theory that "it won't do any harm if it does no good." You are living in too intellectual an age to submit to that form of medication. First, be sure that you need a remedy, and then be sure that you are taking the one that will benefit you. Be satisfied when, after an examination by your physician, he simply tells you to correct your habits of life. Don't think that because he didn't give you seven prescriptions, he don't understand his business. Conclude rather that he is not financially interested in a drug store. Again, when a physician prescribes a four ounce mixture for you, do not have it repeated and repeated indefinitely. If he had intended that you should take a barrel of the stuff he would have prescribed it in that quantity in the first place, and you could have saved money by dealing with a wholesale store. Again, don't think that a medicine must necessarily taste like shoe dressing to be efficacious. Modern pharmacy has made it possible to take at least some preparations without facial contortions or acrobatic accompaniment.

A word about domestic remedies. Many of them are good. The hot foot bath, the poultice, the hot application, the alcoholic bath and many other of the simpler remedies have their fields of usefulness. I honour the good old mother who does her best to assuage the pain of suffering humanity. She knows nothing of psycological therapeutics or suggestion, but her tender touch and kindly smile should bear a higher sounding name. She is a close observer of symptoms, and is a natural help to the most skilled physician. She is the mother whose kiss brought back the merry laugh of childhood. She is the mother of thoughtfulness, tenderness and love—our own mother. I speak of her with reverence, and I think of her with gratitude. While worshipping at the shrine of Aesculapius, I do not forget her kindly voice and angelic touch.

It will not be out of place to touch briefly upon another subject, upon which many persons have a false conception of the duties of the physician. It has always seemed strange to me that enlightened and even highly educated people should believe that in some special cases the physician is not only justified in taking life, but that it is his duty to do so. Men have recently advocated a return to the old Greek custom of destroying all imperfect infants, but no one takes them seriously. True, the paramount idea in many minds seems to be that a beefy football team is more of a credit to a university than is a development of brains, and if we did not possess a

faith in the good sense of mankind in general, we might fear that the propagation of the human species would be reduced to the stockfarm basis. This perfection of system of course would make it easy for the ladies, for all of their gowns could be fitted to the Venus de Milo, but like all great schemes it would have its drawbacks—Byron with his deformed foot, Milton with his sightless eyes, Robert Louis Stevenson with his tubercular lungs, and a host of others would have been promptly dispatched under such a system, and aside from the mere question of brains, the world would be a heavy loser by the removal of such men as the German Emperor, who, though he has a palsied arm, has originated a style in moustaches that has created a greater sensation than did Kipling's Recessional.

The office of the physician is to conserve life, not to destroy it. The most hideous monstrosity is protected by the commandment, "Thou shalt not kill," and the patient, who, suffering from an incurable or painful malady, would wish to end it all, must adopt the method of Hamlet and shoulder his own responsibilities.

Expert witnesses have in many cases been subject to the ridicule of communities, and often with a show of reason. I presume that you are all more or less conversant with cases that have been tried in Courts, in which one set of medical witnesses has been heard to give testimony directly opposed to that of another set.

Before concluding that some one was lying, or at least, before concluding that such testimony is valueless, I ask you to visit a so-called Court of justice, and watch the revolutions of its ponderous wheels. Watch the antics of lawyers whose object it is, not to get the whole truth, but only such part of it as may be favourable to their cause. Listen well to the rulings of the Court, for it will be a revelation to you. If you are a conscientious man you will go home each night and pray earnestly not to be allowed to fall into the sin of misjudging others—for if you do not do this you will be sure to conclude that the Court is more concerned in having his judgment stand on appeal, than he is in meeting out justice to the litigants.

The medical man appears in a murder trial to establish the cause of death. The victim was shot through the heart. He swears that the wound was the cause of death. The murdered man was fifty years of age. His father died of cerebral apoplexy. The lawyer for the defence asks: "Did you examine the brain of the deceased?" Answer: "No." "Can you swear positively that he didn't die of apoplexy?" Answer: "No." "The man is a fool," say you. "Not at all." If he said "Yes," he would be made out a perjurer.

This is an extreme case, but I only give it to illustrate the difficulties of the situation. If the medical witness were allowed to go on, and in his own way give an opinion, with the reasons for such opinion, things would be greatly simplified. It is safe to say that the great bulk of medical expert testimony is honestly given, and is helpful to the adjudication of controversies. When it is not so, the trouble is with the expert, and not with the system. I have little sympathy with the so-called expert who gets into hot water on cross examination. Let me tell you how to judge of the value of an expert's testimony. The advocate whose cause he is hurting, will treat him with respect during the cross examination; but when he comes to the closing argument, he will try to convince the jury that the expert was mistaken, unless the case should happen to be tried in Brown County, in which case he will simply call him a liar and a thief.

If I were in search of a strictly commercial enterprise, I should adopt the manufacture and sale of a so-called "health food." The field has been worked to a considerable extent, but not enough to prevent a successful exploitation.

Now, you know that all the health food people argue from nature, that is, they pretend to follow along lines indicated by observation of the habits of animals. Food should be eaten raw, and should be such as exists naturally. Butter should be superceded by vegetable oils. Whole wheat flour should take the place of the patented article, because, forsooth, the whole wheat kernel was intended for nutriment.

Now, I should follow out a line of argument that would receive support from all the health food cranks in the country. I should not only use the whole wheat, but I should also include the straw, and the roots, and even the thistles, for do they not grow together? I should add the chicken, feathers and all, for the feathers would not be there if they were not intended to be eaten. I would add a sprinkling of gravel, for the ostrich with his perfect digestion demands it. Then a few tin cans, and pieces of leather, because the goats from the eighth ward thrive upon them. A sprinkling of grasshoppers and a high-sounding name, suggestive of a connection with a church and my fortune would be made.

Is this overdrawn? Not a bit of it. The appetite is no longer a guide to what we should eat. The feelings of the person are no loner consulted; reason itself has been dethroned in this mad rush for the elixir of eternal youth. The end of the health foods will come, but the ingenuity

of the clever Charlaton will last, and when he has exhausted this field he will invade another where suckers will be equally plentiful. Before leaving the subject of foods, let me say that the appetite was given us to guide in the right direction. When it leads us astray it is because we, by previous abuses, have led it astray. Some foods are best eaten raw and some cooked. Some require little boiling or baking, and some a great deal. The food should be masticated, not bolted. Articles, which, by giving flavour, add to your enjoyment of a meal, are not necessarily injurious. A little pepper, mustard, vinegar, catsup, pickel, etc., each is good in its place. They stimulate the flow of the digestive fluids and thereby assist to proper digestion.

Some people are continually crying out against the giving of drugs, especially those of the mineral group. They do not object to the vegetable preparations, for the Good Lord intended them for use as medicines, else he would not have created them. Minerals are for use in the arts, etc. I suppose I should bow down and worship these good people who have such a thorough knowledge of the Lord's intentions. I should feel that they must be very worthy, else they would not be so entrusted with the welfare of mankind, but having taken a few gallons of decoctions and vegetable pills in my youth, on the ground that they could do no harm because they were "vegetable," and having suffered the cramps and nausea that followed their administration, I fear I have failed in the development of my bump of veneration. As a matter of fact minerals are needed in the animal economy, and we could not live without them. Our bodies are largely mineral and our appetites lead us to supply ourselves with the things that contain them. All animals crave salt, which is sodium chloride, a mineral. The blood contains iron magnesium, bone, lime and soda, nerve tissue, phosphorus, etc. These are only a few of the elements I might name. Comparatively few mineral substances exist which are not found in the animal, man, and science is adding to their number each year. You know that the establishment of the Keeley cures, with their so-called chloride of gold treatment, has introduced the precious metal into the bodies of many of our aristocrats, and we may expect to hear in a short time that they are no longer buried or cremated when they die, but instead, are sent to the mint to be assayed.

Vegetables, on the other hand, contain the most dangerous and poisonous alkaloids. Opium, with its active principles; morphine and codia; belladonna,

atropia, nux vomica, from which strychnia is obtained, and hydrocyanic acid, which exists in the almond, are examples of what may be secured from the pharmacoepia of safety. All of these preparations are useful in the treatment of disease, but they should be handled by persons, who, being aware of their dangerous properties, will efficiently safeguard their administration.

Upon the subject of criticism of one physician by another, I wish to say a few words. You know that there was a time when it became the duty of the physician so soon as he superceded another in any case, to denounce the first one as a fool, and to direct that all the medicines left in the house should be promptly thrown out of the window. Of course, such things do not occur now, or at least very rarely. Knowing what I do, and were I a layman, if any man should attempt any such action, I should show him the door. Such actions should be an insult to your intelligence. All physicians are bound by their self-interest to do the very best they can for their patients. They all possess more or less common sense, and they certainly possess some technical knowledge, else they would not be licensed. What would you think of a man in any other walk of life who should act as though he only needed a calf binding and plenty of shelf room to be an improvement on the Encyclopaedia Brittanica? They puff themselves out, tell you about the wonderful things they do, incidentally mentioning the fact that their competitors are unfortunately inferior, and if you are at all credulous, you thank the Almighty that the earth was made round, for if it were flat, and a couple of these heavy weights chanced to get away from the center, it would tip up and we would all be thrown into space.

It is said that the world takes one at his own estimate. This is not true. Our asylums are full of people who think that they should guide the destiny of nations.

Don't appear to be entertained by one of these "know-alls." Don't allow them to think that yours is not a higher order of intelligence. Fortunately, you will meet with few of these in the present day. The intelligent physician understands that he is only lowering himself by such streetcorner methods, and if he has no manhood in him he refrains from unjust criticism simply because it doesn't pay. He knows that a man rarely attains eminence by pulling others down, and he realizes that the intelligence of the public is not the same in the 20th century as it was in the 16th.

It is desirable that the relations of the physician and the patient be very close; that they should trust each

other, have faith in each other, and be friends in the best sense of the word. When you no longer trust your physician you do him an injury by employing him, and when you change to another, don't imagine that he will go over the hill to the poorhouse. This is one of the common mistakes people make. Just remember that so soon as you discharge him, your enemy will become his friend. If you have two enemies, the doctor is the gainer.

Does the doctor have a deep interest in the welfare of all his patients? Does he not feel terribly hurt when one of them conclude that the man who has taken care of his body for years is no longer fit to do so? Well, that depends upon circumstances. There are many men, and a few women whose loss from a fairly developed clientele does not leave an aching void. I have often looked upon such a change with a feeling of profound thankfulness and satisfaction, and when I have seen the other physician dismissed, and myself substituted, and when I have heard the man who has served them well and faithfully vilified and his ability questioned, I have immediately commenced plans to get rid of this very latest acquisition, the easiest way to do so being to intimate that you don't feel equal to assuming such a grave responsibility. Money is not everything. Self-respect is something, and a self-respecting medical man cannot undertake the case of all people. Some of them belong to the veterinary surgeon by rights, and some to Dowie.

I will not apologize for anything I have said to-night. I am not entitled to any thanks for having unburdened my mind to you. I have carried many of these ideas for years, and in giving them to you, I am simply freeing my mind. By giving me this opportunity, it is I that am indebted to you.

One of the most universal of beliefs is that the physician should do all the charitable work of the community, not only freely but cheerfully. The sick should be attended without a murmur of complaint. The employer who pays such wages as to make the saving of a dollar an impossibility, has no hesitation, when his servant falls ill, to ask the physician to attend him without charge, and he feels very much hurt if the physician at the same time asks him to furnish the sick man's family with necessary sustenance during the period of his illness. The city poor are given over to the tender mercies, not of the most competent, but the cheapest physician. The grocer gets full pay for the flour and potatoes he furnishes the poor, the coal dealer gets full price for his coal; every one else is fully paid for his services in their behalf; only the phy-

sician is underpaid. I make no complaint on this score, for I am not a candidate for this office, but it seems to me that the poor and the unfortunate have a right to complain against a system which is obviously vicious. As proof of this assertion I have only to state that the salaries of the County physician and City physician combined, would not be sufficient to buy the drugs necessary to the proper care of the insane of this County alone. When we consider that the salaries include the furnishing of all medicines and surgical appliances, you will not fail to see the justice of recognizing the self-sacrificing devotion of these gentlemen, for, of course, we assume that nothing but the best drugs are used in this branch of the public service.

In closing, I wish to impress upon you the fact that physicians have some rights as men, even as gentlemen, in the community in which they live. You and I have no inherent right to pass judgment upon their motives, their manners, or their abilities, without something more than a speaking acquaintance with them. The school teacher, clergyman and the physician are, by common consent, the objects of criticism at all pink teas. The servant girl question is always to the front at the assemblages of the 400, but among those of the higher order of intellect, who contribute to the elevation of mankind by the formation of a club to which they give the high sounding name of the "Colonial Queens" or something equally euphonious; to these people with their pink teas distinctively belongs the duty of villifying the frail little lady who industriously and conscientiously trys to train the young entrusted to her care, to these belong the privilege of lampooning the preacher who daily, on bended knees, implores a blessing on them from on high, and to these is given the task of destroying the reputation of a physician who is probably labouring honestly and faithfully, if not successfully, to overcome and defeat suffering and death.

Fortunately, there is a bright side to the shield. In every community there are thoughtful, kind and considerate Christian men and women. Some of them may not be regular church goers, but all possess that which the French term "Noblesse oblige," and which, for want of a better term, we will call manhood and womanhood. They are the bright stars which shine upon the pathway of man, whether he be physician, clergyman, teacher, merchant or labourer. In the darkest hours, their memory is the sweetest. I have felt the hearty pressure of their hands when my life seemed a mistake and a failure. They are to me the oases in the desert of conflict with disease. The

influence of one such individual is irresistable. In their presence one feels safe and secure. Their afflictions are my afflictions, and my burdens are shared by them. So long as they exist, the practice of medicine will not be drudgery, and men will continue to exert their best efforts to the end that suffering humanity shall find a measure of relief.

Selected Articles.

PROPHYLAXIS AND TREATMENT OF SCARLET FEVER.

By Newton M. Otis, M. D., Fairbury, Ill.

Scarlet fever is, with the possible exception of small-pox, the most contagious of the acute infectious diseases, and the physician's duty in regard to prophylaxis is an imperative one. The whole subject is one of quarantine of the patient and his attendants, and the disinfection of the patient, the room he occupies and everything that was brought in contact with him. This must be insisted upon in the mildest as well as in the most severe cases.

The patient should occupy a room from which everything not absolutely essential to comfort has been removed. This includes all curtains, rugs, pictures, hangings, clothing, etc. It should be well lighted and heated, and as far removed and completely isolated from the other living rooms of the dwelling as possible. Into it only the physician and nurses should enter. Whenever possible an adjoining room should also be set aside for the use of the nurse and immediate attendants.

I do not believe that the hanging of a sheet moistened with carbolized or other germicidal solution, over the door or in the room, has any other value than to impart a false sense of security. It should be remembered that the area of contagion in scarlet fever is small, probably but a few feet from the patient, and the infection is carried from the sick-room, either by the attendants, or by the beding, clothing or excreta of the patient, or by some object brought in close contact with him. *Everything in a room occupied by a scarlet fever patient must be looked upon as a possible source of infection.*

The physician himself too often ignores the very precautions he insists others should observe, and, as an example, and for the protection of his patients, before entering the sick-room should don a garment which completely

covers his clothing, and before visiting other patients should wash his hands, face and beard with a germicidal solution. The nurse is more liable than the physician to convey the disease, and upon leaving the apartments of the sick should make a complete change of clothing and use a germicidal solution, paying especial attention to her hair.

Quarantine should be maintained for a period of six to eight weeks from the date of invasion. It must be longer if at the expiration of this time desquamation is not complete, or the case is complicated by suppurating glands of the neck or a purulent discharge from the ear, nose or throat. In very mild cases four weeks is probably a long enough time for quarantine.

For the disinfection of the clothing, bedding, towels, etc., a standard solution of copper sulphate 1 lb. and bichloride of mercury, drachms 4, to the gallon of water, and used in the proportion of two ounces to the gallon, is efficient and cheap. Into a boiler or tub containing this solution, all bedding and clothing is placed, followed by the usual process of the laundry. The excreta should stand for some hours in a strong carbolic or chlorinated lime solution before they are disposed of. Dishes, trays, napkins, etc., should first be rinsed in a disinfecting solution before leaving the sick-room.

When desquamation begins the patient should receive a daily soap and water bath, and twice daily should be annointed with a five per cent. carbolized vaseline or olive oil.

The room occupied by the patient should be disinfected, preferably with formaldehyde gas, but if an apparatus is not at hand, fumigation with sulphur, if properly done, is efficient. At least 4 lbs. of sulphur must be used for each 1,000 c. feet of space. All doors and windows must be closed and their crevices stopped. The walls should be moistened, or wet paper hung in the room, as moisture is essential to success. Leave the room closed for twenty-four hours, after which scrub the walls and wood work with a bichlorid solution. All books, pictures and playthings, which have been in the hands of the patient, should be burned.

Formaldehyde gas is, of course, superior to sulphur as a disinfectant. At least one pint of fluid must be used for each 1000 cubic feet of space, and it is to be remembered that its action is stronger in a warm, dry atmosphere. It has been shown that sheets sprinkled with formaldehyde and hung in a room which has been tightly closed and previously warmed, forms an easy way of using

this agent. An ordinary sheet will absorb about 150 to 200 cubic c. of formalin, and this is sufficient to disinfect 500 cubic feet of space. Recent experiments of Yehrman, of the Chicago Board of Health, have demonstrated the effectiveness of the sheet method of using formalin. Its simplicity, together with the fact that unlike sulphur, it will not fade or injure the contents of the room, will undoubtedly make this the common method of disinfection. It is recommended that after the sheets are hung in the room the formalin be sprinkled on them by means of an atomizer.

The efforts of a physician to prevent the spread of a contagious disease is usually a thankless task, and not always can we carry out in detail the methods advocated in this paper, but the nearer we can approach it, the more certain will be our success.

Treatment.—In no disease of childhood is it more important to treat the patient and not the disease than in scarlet fever. In a disease which presents itself in such varied types, and which has so many complications that every case must be a law unto itself. Since Sydenham, in the seventeenth century, gave us the first clear description of scarlet fever, until the present time, many drugs have been offered as specifics, but all have proved valueless, and a clearer conception of the disease has taught us that it has a self-limited course which cannot be modified by any known treatment. Our efforts are to modify its symptoms, shorten its course and prevent its complications.

I shall endeavour not to trespass on the subject which is to follow, but a discussion of scarlet fever would be incomplete without considering those complications of the throat, ear and kidneys, which occur with such frequency as to become a part of the clinical history of most cases.

Acknowledging that our treatment is purely symptomatic, I shall not consider the disease in its various stages, but discuss the therapeutic measures applicable to the symptoms.

Fever.—For the reduction of the temperature, the use of cold water supersedes all other measures in efficiency. Mild cases with a temperature below 102.5, require no treatment, but sponging with water at a temperature of 86 will do much to allay restlessness and produce a feeling of comfort. A temperature of 104 or over is always an indication of active measures and either the cool bath, or cold pack will be found useful. I prefer the cold pack, as it is less troublesome to apply and more certain in its effect. The patient is wrapped in a sheet which has been dipped in water at a temperature of 75 or 80 degrees

and placed in bed with light woolen blankets. The nurse should place a hot water bottle at the patient's feet, as the extremities are apt to become chilled. An ice bag or cold cloths are applied to the head. The patient should remain in the pack from fifteen to twenty minutes, cold water being sprinkled on the enveloping sheet at frequent intervals, with gentle rubbing of the body as long as the pack is continued. The pack not only reduces temperature, but in cases characterized by the tardy appearance of the eruption, it will be found the quickest means of developing the full rash. There is one other measure for using cold water for the reduction of temperature which is not as commonly used as its merits would warrant. I refer to the high colon injection of ice water. In malignant cases with very high temperature this procedure will be found very efficient. The water must be as cold as would be used for drinking purposes, and must be injected high into the colon by means of a long rubber tube. This is one of the quickest and surest ways of reducing temperature.

I do not believe the cold tar derivatives should be used for their antipyretic effect, but small repeated doses of phenacetine will be found useful for their sedative action. Where there is great restlessness, sodii bromide, either alone or in combination with phenacetine, has proved useful. Plenty of cold water should be allowed, and older children may hold pieces of cracked ice in the mouth.

Vomiting, so common in the beginning of scarlet fever, seldom persists after the first few hours, and, like convulsions, has a very different interpretation during the period of invasion than when it occurs at a later date. Bismuth, or small repeated doses of calomel, about one-tenth grain, given every hour until the bowels move freely, is usually all that is required. The diet should be curtailed in amount, or discontinued altogether, as long as this symptom lasts. Convulsions occurring at a late period of the disease are usually uremic. At the beginning they are usually due to the high temperature and toxic action of the scarlatina infection. They are best controlled by the use of bromides, which must be given in comparatively large doses, or by chloral hydrate which is best given per os, dissolved in milk, and by those measures already described for reducing the temperature. It is well in the beginning of every case of scarlet fever to secure a free evacuation of the bowels at once, and by so doing we remove a possible source of irritation, which frequently acts as a causative factor in producing convulsions.

That the heart is especially affected by the scarlatina infection is shown by the fact that the pulse is always rapid in proportion to the temperature, and in all severe cases measures to sustain it are called for. This is especially true in cases complicated with suppuration of the glands of the neck, otitis media and gangrenous processes of the throat.

An irregular, rapid pulse with feeble first sound is always an indicator for stimulation, no matter what the period of the disease. Alcoholic stimulants, digitalis, stropthanthus, ether, camphor and ammonia are most useful. The quantity to be given is governed only by their effect. Alcohol is best given in the form of brandy or whiskey, diluted with hot or cold water. Digitalis I prefer to give as the fluid extract, in 1 m. doses to a child of five years, repeated every three or four hours. Strychnine is best given hypodermically $\frac{1}{250}$ to $\frac{1}{150}$ of a grain and camphor, which is one of the best cardiac tonics, is also given hypodermically in doses of 1-4 to 1-2 gr. to a child of five years.

The throat in mild cases will require little or no treatment. Ice held in the mouth will relieve the heat and dryness, while the external application of camphorated oil, and warm compresses are useful. In those cases characterized by an intense angina, pseudo or true diphtheria, with marked cervical adenitis, we have one of the serious complications to deal with. Topical applications to the throat are useful if they can be used without a great resistance on the part of the patient, but when every application means a struggle, their frequent repetition should not be practiced. To give a list of drugs for local treatment of the throat would include nearly every astringent and local sedative in the pharmacopoeia. Every physician has his favourite remedies, and as cleansing of the throat of its secretions is our object, there is little choice. Personally I have found hydrogen peroxide, carbolic acid and boracic acid useful. The first I use as a swab for the throat, and spray in the nose. Carbolic acid is used as a spray in combination with tannic acid, glycerine and water, and boracic acid as a gargle or swab.

The adenitis is best controlled by the use of the ice bag or cold pack. Suppuration is less likely to occur than when heat is used, while pain and tenderness is relieved equally as well.

When suppuration seems imminent, warm antiseptic compresses should be used and free incisions made, with irrigation as soon as pus becomes localized. Enlarged glands which show little tendency to change may often be

resolved by the use of an ointment containing ichthyol, mercury and belladonna.

The diphtheritic processes in the throat of the scarlet fever patient calls for an accurate differential diagnosis before the line of treatment to be followed is decided upon. The exudate occurring during the height of the scarlet fever process is usually of streptococcic origin, while at a later period it is more often true diphtheria due to Klebs-Loefler bacillus. In the former instance those measures already described for the treatment of the angina will be found useful, while in the latter antitoxin is our main reliance. Without the aid of the microscope the differential diagnosis is often difficult, sometimes impossible, and the old adage, "When in doubt, play trumps," is most applicable.

When the diphtheritic membrane involves the larynx the use of the calomel fumigation is often of marked benefit. Ten to fifteen grains of calomel should be burned under an improvised tent or canopy, and repeated every two, three or four hours, as the condition may warrant, Intubation is of course indicated.

When stenosis is not relieved by these measures, after a careful differential diagnosis, and the use of antitoxin early in the case of true diphtheria, or the other measures, if the membrane is a pseudo-diphtheria, are usually all that will be required.

Complications of the ear are troublesome and should receive prompt attention. We seldom have a simple catarrhal inflammation, but an inflection of the tympanic cavity due to streptococcus. As soon as an otitis is suspected or complained of, a careful examination should be made. The ear speculum with strong reflected light should be used, and if there is no bulging of the drum, we may try palliative measures. A blister or leech may be applied in front of the tragus, or hot water instilled into the external meatus and hot dry external applications used. Warm oils, melted vaseline or irritants, such as chloroform or carbolic acid, should not be poured into the ear.

If these measures are not successful in controlling pain and checking the inflammation, there is but one rational treatment; that is, paracentesis of the tympanum with drainage. This is a very simple operation. The point of incision should be that portion of the drum which is most bulging, and the opening must be an incision, not a mere puncture. Carry the incision well downward to the floor of the meatus. A free flow of pus follows with

immediate relief of symptoms. Cleansing with a boracic acid or bichlorid solution is all the after-treatment required in simple cases.

Until recently I had a dread of this simple procedure, but after performing it and noting its excellent results, I should not hesitate to do it in every case not relieved by more simple measures.

Treatment of the post-scarlatina nephritis is that of an acute nephritis occurring independently of this disease, and to enter into a detailed treatment is to involve us in a discussion of acute nephritis in general.

During the height of the scarlet process, the urine in perhaps the majority of all but the mildest cases, will show traces of albumen, blood corpuscles and a few casts, but this involvement of the kindneys is not productive of special symptoms, and other than warning us of the presence of renal irritation, may be ignored.

The serious kidney lesions occur after the substance of the active fever process. It may follow the mildest as well as the more severe cases, and may prove a more serious condition than was the primary disease.

The prophylaxis of this complication should receive careful attention. Every convalescent case should be warned against exposure in cold and damp, and the diet should be light and largely non-nitrogenous. Water should be used freely, the bowels kept loose with frequent warm baths to promote activity of the skin. These measures, no matter how carefully adhered to, are often of no avail, and the frequency with which nephritis occurs in spite of a most careful regime has lead many observers to place but little confidence in preventive measures.

With the first symptoms of kidney involvement the patient should be confined to bed, an absolute milk diet instituted, with free evacuation of the bowels induced preferably by a concentrated saline.

The urine may be increased and rendered less irritating by the use of the alkaline, or small doses of acetate or citrate of potash may be given. In mild cases this is all the treatment required.

Cases characterized with marked dropsy, scanty urine and uremic symptoms require more active measures. Counter irritation over the kidneys maintained by the use of mustard or dry cups followed by poultices, depletion by the production of copious water stools best induced by the Rochelle or Epsom salt, diaphoreses from the use of hot wet pack, and the administration of the milder diuretics such as acetate and citrate of potash, infusion of digitalis and especially diuretin, will be indicated.

Pilocarpin is recommended for its diaphoretic action, but it is a marked depressant and should not be used as a routine treatment. Recently its use as an inunction into the skin (5 cent. grain pilocarpine to 100 grain ol. olivea) has been favourably commended.

Uræmic convulsions will be best controlled by the hypodermic use of morphia and the rectal administration of chloral and bromides and in cases with full bounding pulse venesection should be tried. From two to six ounces of blood may be taken, according to the urgency of the symptoms (Holt). The rectal injection of normal salt solution is also useful in inducing a free flow of urine and aiding the elimination of toxic substances.

Convalescence requires iron, bitters and above all a gradual return to the customary habits and diet of the patient.—*Medical Fortnightly.*

ETIOLOGY AND INCUBATION OF SCARLET FEVER.

By Chas. L. Hamilton, M. D., Dwight, Ill.

Read before the Livingston County Medical Society.

According to Osler, "we owe the recognition of scarlet fever to Sydenham, before whose time it was confounded with measles. It is a wide-spread affection, occurring in nearly all parts of the globe and attacking all races."

Its causes are, of course, both predisposing and exciting. Very few in our profession to-day deny that the exciting or true cause of scarlet fever is a germ, and whatever the contagious principle, so pronounced is its character, that even a moment in the presence of a scarlet fever case, may be sufficient to reproduce the disease in a susceptible individual. Several claims have been put forth regarding the isolation of the scarlet fever germ. In 1882 Echlund claimed to have found its specific germ in the urine of scarlet fever patients, and also in certain soil and surface waters. Later, Klein claimed the cause was a streptococcus, which produces an eruption in swine similar to the scarlet fever eruption in the human being. Still later, Edington and Jamison isolated a germ which they found in the blood of scarlet fever patients on the first, second or third days only, and which re-appeared again in the epidermis on the twenty-first day of the disease. W. J. Class, of Chicago, has discovered a micro-organism in scarlet fever cases, and claims it to be the specific scarlet fever germ. This he obtained from cultures from the epidermic scales and the throats of 300 patients affected with the disease. He claims its chief

cultural characteristics to be its glutinous character, and that it is well marked in primary cultures of germs taken from the throat, growing a class of organism closely resembling the gonococcus, but larger. As described by him, it is a diplococcus, having almost the appearance of a tetrad, owing to a pale streak running transversely through each half of the organism. It takes the aniline dyes well and is decolourized by Gram's method, but not completely. The culture medium is ordinary glycerine agar, with 5 per cent. sterilized garden earth. Growth occurs at 35 degrees C. in from two to seven days, in the form of small whitish gray, semi-transparent colonies.

He gives the following reasons for believing this diplococcus scarlatinae to be the causative factor in scarlet fever:

1. "Because the germ is invariably present in the throat secretions, blood and scales of a patient having scarlatina, and because it is a separate and distinct organism, not heretofore described.

2 "Because it has been proved to be a pathogenic micro-organism, killing mice, when injected in minute quantities in a space of time varying from less than one to twenty-four hours, according to its virulence.

3. "Because it produces in swine, a disease whose macroscopical lesions closely resemble those seen in scarlet fever as it occurs in the human patient.

4. "Because the presence of blood from a patient who has just recovered from an attack of scarlet fever inhibits its growth.

5. "Because the subcutaneous injection of a virulent culture into guinea-pigs will, under certain conditions, produce a nephritis.

6. "Because personal experiment apparently shows that the blood serum of a person who has passed through scarlet fever protects an animal from invasion of the germ."

Gradwahl in the *Philadelphia Medical Journal* (March 24, 1900) confirms the finding of Class' diplococci in scarlet fever cases. He discovered it in each of seven cases at periods in the disease varying from the first week until convalescence. Cultures from blood revealed the diplococcus in four cases, and in one case pure cultures were obtained from the urine. He reproduced the disease by inoculation into the vein of the ear in swine (two cases), a rash appearing eight or ten days after inoculation. One animal recovered, was killed and autopsy revealed acute nephritis. The diplococcus scarlatinae was found in both blood and kidneys.

Baginsky and Sommerfeld have also announced the discovery of a micro-organism, which they claim is always present in throat secretions and the blood of scarlet fever patients.

Class in the *Journal of the American Medical Association* (September 29, 1900) discusses their claims and concludes that their micro-organism is identical with the one previously discovered by himself.

SOURCE OF THE CONTAGION.

The chief source of infection is the patient himself, although it seems probable that the area of contagion is limited to a radius of a few feet. Secretions from the nose and throat, the epidermic scales, the excretions (urine, faeces and perspiration), the serum of vesicles, as well as the purulent discharges from nose, throat, ear and suppurating glands may be the source of infection to others. From whatever source the micro-organism comes, it may be disseminated by the clothing of the patient, doctor or nurse, the bedding, books, letters, merchandise, papers, foods, dust and domestic animals. Many cases of the disease have been traced to cats or dogs that have been fondled by affected children, and then allowed to go from the sick room and mingle with other children, who have not had the disease, and who have not been otherwise exposed to the infective principle.

Letters have carried death into distant families, and Sajous' *Annual* mentions the case of a little boy 2 1-2 years of age, living in a district which had been free from scarlet fever for many years, in which investigation showed the cause of inoculation to be a letter received a few days before the little patient was taken sick, from his grandparents, stating that a child living with them was just convalescing from an attack of scarlet fever and was "shedding her skin," a few pieces of which were enclosed. The letter and contents were used as playthings by the little boy, and in one day he was taken sick. Infection has been traced to bedding which was aired in an open window on the side next to another house in very close proximity. Simply washing infected clothing, the handling of toys and books, dust on window ledges or facings, or in cracks in the walls or retained on the wall paper, all these in rooms infected, and where no adequate disinfection has been practiced, have caused new cases, occurring weeks or months after all thoughts of the disease had disappeared from the minds of the family occupying the house. Foods often disseminate contagion, and milk has been thought to be a good medium.

Power and Klein, in London in 1885, traced an epidemic to milk obtained from one dairy, the original cause of the milk infection not being definitely determined.

The scarlet fever micro-organism is much more tenacious of life than that of any other disease, with the possible exception of small-pox, and hence the above-mentioned carriers of infection may continue the disease and cause its development after long periods of time, and cases are on record where playthings have caused an outbreak of this disease after seven years from the time of known exposure.

MODE OF ENTRY INTO THE SYSTEM.

The most common way seems through the respiratory mucous membrane proven by the early involvement of the pharynx, and also by the fact that tonsillar troubles markedly predispose to infection.

That the alimentary tract may be the route of infection is also proven, by cases resulting from ingestion of infected food, to be referred to hereafter.

PERIOD OF INCUBATION.

Much difference of opinion exists as to the incubative period of this disease. The Indiana State Board of Health and the Chicago City Health Board give it as from one to seven days; Ginon, four to five days, and in the United States Army Report some years ago, Surg. Gen. Hamilton gave it as from one to three or four days. Williams, in a collected report from the London Clinical Society in 1892, collated several hundred cases, and gave the average time as two or three days, minimum time, twenty-four hours, and the maximum, seven days. Clement Dukes, after twenty-eight years of experience in Rugby School (*London Lancet*, April 29, 1899) gives the shortest period as twenty-four hours, and the longest nine days, stating that in 59 per cent. it was between two and four days. In almost 90 per cent. of all cases the incubation period is between two and six days (Osler). Many writers heretofore claimed to have treated cases where the incubation period varied from fifteen days to three weeks, but in most of these cases, doubtless, careful investigation would have shown that there had been several exposures, some of which were much more recent than those which were thought to have produced the disease. I am inclined to think that seven days is the longest period during which the disease can be developed from previous exposure.

TIME OF GREATEST DANGER OF INFECTION.

Much difference of opinion exists as to the time of greatest infectiveness in this disease. It is probable that during the incubative period, it is not infectious, but from the moment that fever develops or throat manifestations are found, the disease is certainly communicable to others, and the period of greatest intensity so far as infectiveness is concerned, is probably when the disease is at its height. No one doubts that from the development of the first symptom by which it can be recognized, contagium is present, and the disease, therefore, communicable to others.

The stage of exfoliation certainly shows marked power to infect others, as does the discharge in the ear troubles occurring as sequelae to scarlet fever.

DURATION OF CONTAGIOUS PERIOD.

Holt places the average period at six weeks or until desquamation is complete. Others discharge mild cases in three weeks, but as early infection comes chiefly from nose, throat and possibly breath, and late infection from

1. Purulent otitis;
2. Rhinitis;
3. Chronic pharyngitis;
4. Suppurating glands;
5. Eczema;
6. Empyema and
7. Possibly urine in nephritis;

no definite time will answer in all cases. We must not err in this matter, and as long as any possibility of infection from any of the above causes exists, we must insist on the isolation of the patient, and carelessness, on the part of the physician, in such cases is criminal.

IMMUNITY.

One attack confers immunity usually for life, yet some have had this disease two and even three times, if we are to believe some of our best diagnosticians. The second attack usually proves very mild in character and is found only in very susceptible persons, and this susceptibility seems to run in families.

PREDISPOSING CAUSES.

Scarlet fever is a disease of childhood, and while this is true, no age, strictly speaking, is exempt, but a large

majority of all cases, occur before the age of eleven years, and susceptibility decreases rapidly from that age. The period at which the highest susceptibility is shown is stated to be five years. It is very mild the first year, but this may be due to the fact that infants are seldom exposed to the disease occurring in other families. The susceptibility then increases rapidly from the first to the fifth years, when it reaches the greatest degree, and a marked decline increasing to the age of twenty-five years is noted.

SEX.

Sex seems to exert very little influence, although some claim the female is slightly more liable to the disease than the male. It does seem, however, that the disease is certainly more prone to fatality in the latter than in the former.

PREVIOUS CONDITION OF HEALTH.

As in all disease, poor health means lessened resistance, consequently, children with a low degree of vitality are more susceptible to the contagium of scarlet fever. Beyond this, previous condition of health has very little to do with susceptibility.

Poor sanitary conditions which often obtain in residences, such as damp cellars, bad ventilation, studied exclusion of sunlight (Nature's germ destroyer) with defective house drainage act strongly as predisposing causes. So many houses have faulty plumbing, that it is worse than no plumbing at all, and much of modern medical literature tells of the impairment of the general health, particularly in children, due to inhalation of sewer air. Diarrhoea, sore throats, loss of appetite and anaemia are all frequent, while Notter says: "There is undoubtedly a poisonous agency at work when sewer gas is inhaled, which, though it may not directly act, yet so prepares the soil that the system is unable to resist the invading organism when it comes."

The time of year has much to do with the spread of this disease, the period of its greatest prevalence being autumn and winter, largely on account of chilling of surface of the body, and resultant lesions of the respiratory membranes, and the collection of children indoors, particularly in our public schools during these seasons of the year. Hershy says 70 per cent. of the cases of scarlet fever come from infection at school.—*Medical Fortnightly.*

"THE SYMPTOMS OF SCARLATINA."

By Henry Garnsey Ohls, M.D., Odell, Illinois.

The symptoms of scarlet fever vary with the severity of the infection and also with the age and general condition of the system of the patient. Thus some epidemics are severe, the mortality being as high as 40 per cent., while the average is only from 12 to 14 per cent. In two recent epidemics in the New York Infant Asylum 29 patients under 1 year old had a mortality of 55 per cent.; 37 between 1 and 2 years, 22 per cent.; 28 between 2 and 3 years, 7 per cent.; and 23 over 3 years, no deaths. It may be safely assumed that the mortality varied in direct proportion to the severity of the symptoms and the complications.

Invasion.—The attack is usually ushered in by vomiting, chills, a rapid rise of temperature and sore throat. The vomiting is in some cases repeated several times, it is often projectile and without nausea. The temperature in severe cases rises to 104° or 105° F.; in mild cases it may not rise above 101°. The pulse is very rapid, even out of proportion to the fever. The face is flushed and the eyes brilliant. The child may not complain of sore throat, but upon examination the fauces are generally found congested and the hard palate is often covered with small red points. A membranous deposit is often seen covering the tonsils and fauces more or less, but it is not usually seen before the 3rd or 4th day of the fever. The tongue, except at the edges, is nearly covered with a thick white or yellowish coat through which the enlarged papillae project, red and prominent. After a few days the coating is cast off and the whole tongue becomes very red and the papillae remain prominent for 6 or 8 days. In severe cases the tongue is very dry and brown. Diarrhoea is not uncommon, especially in summer. The nervous system is more or less disturbed; in young children and infants convulsions may be the first sign of the infection. Later the nervous symptoms, such as delirium and general prostration, depend upon the height of the fever and complications, such as nephritis. Blood count shows marked leucocytosis during the height of the eruption.

Eruption.—The eruption generally appears in from 12 to 36 hours after the first symptoms of the invasion; exceptionally as late as the 3rd or 4th day. In 75 per cent. the rash lasts from 3 to 7 days; in 5 per cent., 2 days or less; in 15 per cent. from 8 to 11 days. In a very small number it lasts over 11 days and in exceptional cases the rash disappears and recurs. The typical rash begins in

the form of minute red points on the upper part of the breast and neck, rapidly spreading until the surface involved is a bright, even red colour. The body, face and limbs may be entirely covered within a few hours, or the rash may extend slowly, only covering the surface after 2 or 3 days, or it may be limited to certain areas throughout its course. Variations in the rash are frequent and puzzling. It may be so faint as to escape observation in mild cases; or the rapid disappearance of a bright eruption may be due to heart failure. It is usually modified by intercurrent intestinal disturbances. In malignant cases with severe throat symptoms the rash may be poorly developed. The eruption may be in large discrete patches or macular, as in measles. In severe cases it may be a dark purple colour. It is rarely haemorrhagic. On the neck or chest there is occasionally a fine vesicular eruption. Accompanying a well marked eruption there is usually burning and intense itching of the surface, and, in severe cases, swelling, especially of the face and hands. The constitutional symptoms increase with the development of the rash, and usually diminish gradually as the rash fades.

Desquamation.—Soon after the rash fades desquamation of the epidermis begins at the spot where the rash first appeared. From the face and body the superficial layers of epidermis come off in fine scales or in small patches. Where the skin is thick, as on the palmar surface of the hands and feet, the epidermis often separates in large patches which in exceptional cases may even assume the form of casts of the fingers and toes.

The fingers begin to peel at the tips on which the new epidermis is pink and contrasts strongly with the opaque gray colour and loosened edges of the remaining old layers. The process is complete as to the trunk in from 1 to 3 weeks, but exfoliation from the hands and feet may continue from 3 to 6 weeks or even 8 weeks, if not hastened by treatment.

Mild Cases.—The symptoms of mild cases have perhaps been sufficiently indicated above, but to recapitulate: The symptoms may be so mild as to be overlooked until desquamation occurs. Usually there is an abrupt invasion with vomiting and a temperature from 101° to 103°. The rash may be slight, appearing within 24 hours and fading within 3 or 4 days. The whole surface is usually covered, but the face may be pallid, especially around the mouth. The highest temperature coincides with the full eruption and is seen during the first 36 hours of the dis-

ease. It subsides by lysis with evening remissions and morning exacerbations, reaching normal between the 4th and 7th days. Desquamation may be overlooked on the face and trunk, but can be found on the palms and soles at the end of the week. Otitis and nephritis rarely occur in mild cases, but their possible occurrence should not be overlooked. The throat and constitutional symptoms are mild in this form of the disease.

Severe Cases.—Severe cases are characterized by a rapid invasion, by a rash that covers the whole surface within a few hours, by a temperature of 104° or over. In cases that recover the fever may reach the high point several days in succession; then it abates about 1° daily until near normal, after which there may be a moderate oscillation for a week or so longer. The course of the fever is greatly modified by the complications. The mucuous membrane of the mouth and fauces is intensely congested, and on the 3rd or 4th day false membranes form on the tonsils and may involve the soft palate, the nasopharynx, the nose and even the Eustachian tubes and middle ears.

In the absence of diphtheria the false membrane rarely involves the larynx. The membranes contain streptococci and a diplococcus called by W. J. Class, d. scarlatinae. Gradwohl and others confirm his statement that it is found in all cases of scarlatina. There may be superficial ulcers in the mouth or fauces. The tongue is thickly coated and sordes collect on the teeth. The cervical glands swell, sometimes to great size, and the tonsils often become permanently hypertrophied. The catarrhal discharge from the nose and mouth is excessive and more or less offensive. The pulse, at first full and bounding, later becomes weak and irregular. There is delirium during the height of the fever or coma develops later. Sometimes the apathetic condition resembles typhoid. Desquamation after severe cases is occasionally accompanied or followed by loss of the hair and nails. As the complications are the subject of another paper, I will only mention the common occurrence of albuminaria, dropsy, and the signs of sepsis associated with exceptionally severe throat symptoms, such as gangrenous sloughing of the mucous membrane and connective tissue. Another form of sepsis is the so-called malignant or cerebral case. In this the onset is sudden and violent with intense headache, the rash irregular or absent, the fever rising to 104° or over within a few hours, and higher daily till death, which may occur at any time after the second day. Scar-

latina is liable to be very severe or fatal in children who undergo surgical operations, however slight, shortly before infection or during the period of invasion. The surgical wound is prone to become gangrenous under these circumstances.

Diagnosis.—When cases are seen in the midst of an ordinary epidemic, the diagnosis usually offers no difficulty. Before the eruption appears, the attack cannot always be distinguished from tonsillitis, though the strawberry tongue points to scarlatina.

This fact was brought forcibly to my mind in one of my earliest cases. The patient was a young daughter of Ham, with a complexion like good stove polish. The condition of the skin certainly did not throw any light on the diagnosis. But the temperature, and especially the bright red papillae of the tongue projecting through the coating, was to my mind the very picture of scarlatina, which was proven to be authentic by subsequent developments. Cases that are very mild throughout are not easy to diagnose, but desquamation or the development of other typical cases by infection, may throw a sinister light on an apparently trivial illness. Rapidly fatal cases without eruption may seem like special dispensations of Providence till perchance other cases with the usual eruption clear up the diagnosis. Diphtheria cannot always be distinguished from scarlatina at the outset. But the temperature is lower in diphtheria, and the membrane is tougher and more adherent, leaving a bleeding surface when detached. The bacteriologic examination of the false membrane and secretions from the fauces will assist in the diagnosis of doubtful cases, and should always be used when available. Erythema and roseola occurring in numerous small circular spots on the trunk or extremities may be caused by dental of gastro-intestinal irritation. Such spots and erythematous syphilides also bear some resemblance to the scarlatinal rash, but the history of the case and the absence of fever, or the comparatively low temperature will not permit an error in diagnosis. A red rash like that of scarlatina may precede the papular eruption of variola. It may be noticed on the pubic, the inguinal and lateral thoracic regions. The intense headache of variola and the "shotty" feel of the papular eruption ought to clear up the diagnosis within twenty-four hours. An erythematous rash may precede the characteristic rose spots of typhoid fever, and it has been observed in influenza also.

A similar rash in blotches everywhere except on the face has been noted after tracheotomy performed for

laryngeal diphtheria. But it runs a rapid course and is not followed by desquamation, a statement that applies as well to all the rashes that stimulate scarlatina, except possibly that of erysipelas. The latter can be distinguished by its limited extent, by the connective tissue edema and the fact that desquamation is limited to the surface involved. Belladona, quinine and other drugs sometimes cause a scarlatinoid rash, but they should offer no difficulty in diagnosis.—*Medical Fortnightly.*

A FEW REMARKS ON HEROIN HYDROCHLORATE.

By E. Y. Johnson, M.D.

Every physician has daily need of an analgesic, and many have been the combinations made up for the purpose with morphia or its salts as a last resort. The train of evils following the use of the latter drug are only too familiar to all of us. I speak of the vicious habit which once formed is rarely broken, and which has wrecked thousands of lives. Aside from this, the *immediate* bad results from the use of morphia, such as constipation, diminished kidney action and sick stomach, are very serious objections and preclude its use in many instances. Codeia, vaunted as its substitute, is of little value as an analgesic. Having a special action upon the respiratory tract and pelvic organs, it has a field of usefulness, but as a pain reliever it is not what was hoped and looked for. Lately the new drug "heroin" has attracted attention, and I have tried it in many conditions where there was pain of the most intense type, and this paper is the result of my experiences. I shall not give you clinical reports, but will give you in a general way the applications therapeutically of the remedy. Heroin is a chemical produced from morphine, but greatly different in effects. It has all or even more of the pain-relieving qualities of morphine, but none of its bad effects. Except in rare cases of idiosyncrasy it does not constipate, does not diminish the urinary secretion, does not cause sick stomach, and last and most important of all, does not cause a habit of using it. It was first introduced as a remedy for cough, especially the harassing cough of advanced phthisis, and gave excellent results. From that its use has gradually spread, until now it is used largely as a pain-reliever.

Heroin comes in two forms, the alkaloid and the hydrochlorate. The alkaloid is insoluble in water, and, therefore, not as rapid in its effects as the salt. This fact accounts for the failure of many physicians to get

good results from the drug. My experience has been confined to the hydrochlorate, so in speaking of it the hydrochlorate is meant. It is a white crystalline powder, very freely soluble in water—simple elixir, tinctures, etc. It has a bitter taste. By reason of its solubility it may be prescribed in combination with almost any liquid drug. In coughs it will control the paroxysms better than any agent I know of. In bronchitis I have found it to give great relief when combined with expectorants, as it not only lessens the violence of the cough, but seems to have a specially soothing, quieting influence on the inflamed mucous membrane. In the cough of phthisis nothing I ever used has given so much relief. For this I give in it powders 1-8 gr. each, combined with grs. v of sacch. alba., one to be taken at bed-time, to be repeated in two hours if necessary, and I rarely find it necessary to repeat it. It always checks the cough and allows the patient the sleep he so much needs. In the dyspnoea of asthma it soon relieves the paroxysm, allays the nervousness, and promotes sleep. For this purpose it may be given hypodermatically or combined in solution with the various asthmatic remedies, such as nitro-glycerine, atropia and grindelia.

As a pain-reliever I have found it of the greatest value in acute articular rheumatism, migraine, neuralgias, sciatica and nervous headache. For this purpose I employ it hypodermatically, giving from one-eighth to one-sixth grain at each dose. I have given it continuously in one case of chronic Bright's disease for over six months to relieve the headache, and with great success. The patient, a female about thirty years old, could not take medicine internally. I began on one-sixth grain hypodermatically, and now only use one-twelfth grain. The headaches only come now at long intervals, and there is no desire for the drug. Six months ago the urine contained quite a large amount of albumen and casts. To-day there is barely a trace of albumen, not constant, and no casts. I can not say the heroin has cured the case, but I do know the patient has vastly improved and is very grateful. I have used heroin in cholera morbus and intestinal colic with quick results. In every case relief is quick. In these cases I use it hypodermatically. The relief from pain following its use by hypodermic is astonishingly quick—in some instances within a minute. In more than one instance relief was had so quickly that patients expressed alarm.

Given to a morphine habitue in place of the usual drug, it satisfies the craving and seems to destroy it finally without any longing for the new drug; and in this field

alone it should prove very useful. I do not hesitate to use it for any pain demanding immediate relief. One patient describing its effects compared to morphine, said: "Morphine seems like a great big man seizing hold of you and forcibly dragging you off, while heroin takes you by the hand and gently leads you."

Sleep is produced by heroin usually in from eight to fifteen minutes if given hypodermatically, and usually lasts from eight to twelve hours. The patient awakens refreshed. There is no special thirst afterward; no dryness of skin or fauces; no itching. The first effect is to stimulate the heart with accelerated pulse, followed by a slower pulse, but full and regular. The respirations are reduced in number. I have used it in both strong and weak with good and bad hearts, with uniformly good results. The hypodermic tablets are not as effective as when the powder is dissolved and used hypodermatically, so that now I carry one-twelfth grain powders in my case, using one or two as occasion demands. I have not tried it on children under ten years of age, but would feel perfectly safe in doing so. The dose for an adult is from one-twenty-fourth to one-sixth grain, according to the effect desired. It can be repeated every hour or two.—*American Practitioner and News*, Dec., 1901.

Progress of Medical Science.

MEDICINE AND NEUROLOGY

IN CHARGE OF

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RESULTS IN ONE THOUSAND CASES OF NITROUS OXIDE AND ETHER NARCOSES.

Nitrous oxide is the safest general anaesthetic. Its only danger is from asphyxia, and this can be avoided by mixing the gas with atmospheric air and with oxygen. The first sign of impending suffocation should be a warning for the admission of more air, and it is surprising how easily some patients can be anaesthetized, even when it is very much diluted. The main advantages of nitrous oxide as a preliminary to ether are its safety and its rapid and pleasant action. The principal disadvantages with ether

are its disagreeable, pungent odour and its irritating effect upon the respiratory mucous membrane, as well as the slowness with which anaesthesia supervenes. In using the two in combination or succession, the pleasant and rapid action of the nitrous oxide replaces the unpleasant sensation of the first stage of ether inhalation. Full surgical narcosis is reached with small quantities of the two agents, and the saturation of the blood and tissues is avoided.

Chloroform is admittedly more dangerous than ether, but it has been administered in cases where there are renal and pulmonary complications, as it is believed to be less irritating to these structures. It is, however, largely a question of quantity. If the ether can be kept somewhere near the amount of chloroform necessary for such anaesthesia, it is less irritating than the latter, and this can be accomplished by the simultaneous administration of nitrous oxide. The number of patients who cannot take nitrous oxide gas and ether is very small. Even those addicted to alcoholics and narcotics, who are difficult to anaesthetize, are readily brought under the influence of the mixture. In some cases where chloroform is indicated, it may be well to begin the anaesthesia with a mixture of nitrous oxide and ether, and then maintain the anaesthetic with chloroform. In such a method the initial stimulating effect of the ether enables the chloroform narcosis to proceed with greater safety.—H. W. Carter, in *Med. Rec.*

INFLUENCE OF THE COLORADO CLIMATE UPON PULMONARY HEMORRHAGE.

S. G. Bonney (*Med. News*, vol. 79, No. 15, *Memphis Medical Monthly*), arrives at these conclusions:

1. That hemorrhage by itself, save with few exceptions, furnishes no criterion upon which to base a choice of climate, the indications for high altitude in uncomplicated and in not too-far-advanced cases being highly imperative, independent of this single manifestation.

2. That an exceedingly small proportion of recurrences may be expected in Colorado, although not necessarily reflecting accurately the degree of ultimate improvement secured.

3. That recurrences are more likely to result, and that quickly, in those cases with hemorrhage immediately preceding arrival, and hence the wisdom of a short delay following the hemorrhage before leaving home and unusual precautions as regards rest upon arrival.

4. That primary hemorrhages are comparatively rare in Colorado and usually take place incident to a rapid progressive destructive change in cases already with hopeless prognosis, or as a natural result of some external assignable cause, which, under proper regime, could be avoided.

5. That hemorrhage, while less likely to occur in Colorado than at sea level, is, nevertheless, as a general rule, more severe and associated with greater shock.

6. That the avoidance of hemorrhage, particularly in the early months of Colorado life, demands a most rigid compliance with detailed instructions.

PROPHYLAXIS OF TUBERCULOSIS DURING CHILDHOOD.

S. A. Knopf *(Johns Hopkins Hospital Bulletin,* September, 1901, *Memphis Medical Monthly)* discusses direct transmission from parent to child—from the father to child at the time of conception, from mother at any time during fetal life, and concludes that either one is so extremely rare that it may wholly be left out of our plans for the prophylaxis of tuberculosis. Tuberculosis infection during infancy comes from without and not from within.

As to the frequency of tuberculosis in childhood, Bollinger in 500 autopsies of children of all ages found lesions of tuberculosis in 218 cases.

As to age, tuberculosis develops most frequently in children at about one year. The maximum death rate is reached between second and fourth years. As to method of infection, undoubtedly many children are made tuberculous by an infected milk supply. But a large percentage contract the disease by inhalation, as autopsies show that the bronchial glands harbour the oldest foci. Tuberculosis of the intestinal tract in children is often secondary to the pulmonary disease, as children, when quite young, do not expectorate.

Sputum from a tuberculous mother, father, relative or friend is a very frequent source of infection of little infants, by the act of kissing. A midwife in the village of Newberg infected ten children, in a short time, by sucking the mucus from the mouth of the new-born, and blowing into the mouths of the asphyxiated. Inoculation of the infant is rare except through the rite of circumcision.

After a child is old enough to creep it is still more exposed to all three methods of infection. It may inhale the bacilli laden dust of the air near the floor. It is continually putting things in its mouth, and may ingest the bacilli in this manner. It may inoculate itself by scratching, after gathering bacilli on its finger nails. This may

happen especially to children with eczema or other skin trouble. Lupus is started by the child putting its fingers in its nose or picking its nose.

How may we counteract or avoid these dangers to which children are exposed from the ever-present tubercle bacilli? Boards of health should issue pamphlets containing in plain language directions regarding the prophylaxis of tuberculosis. These instructions should be placed in the hands of every mother, nurse, kindergartner and teacher in the country.

The tuberculous mother should not nurse her child, nor should she sleep with it. All tuberculous people around children should be rigidly careful of the disposal of sputa, and of the "drop ejecta" during coughing and sneezing.

A child should never be kissed on the mouth. Consumptives should not kiss at all.

The orthodox rite of circumcision should be done only by one shown by careful examination to be free from contagious diseases.

The sale of tuberculous milk should be made impossible by necessary sanitary laws.

The floor of the rooms in which a child lives, and on which it plays should not be carpeted. It should be kept scrupulously clean. The ordinary broom should never be used in cleaning the children's rooms; if wiping the floor is not practicable it should be swept with moist sawdust.

The visits of children to menageries, and especially to the cages of monkeys and apes, is a source of danger. Monkeys and apes are especially liable to tuberculosis. All animals should be frequently examined and tuberculous animals destroyed. No man with tuberculosis should be allowed to remain as keeper.

Thorough hygiene should be enforced in kindergartens and schools, and carefully taught in every school. Lady teachers and grown-up girl pupils should not, under penalty of dismissal, be allowed to wear trailing skirts.

The proper use of cuspidors, spit-flasks and handkerchiefs should be enforced in every school room.

Obligatory periodical disinfection of every school room should be instituted.

Under a second head he discusses prophylaxis of predisposition.

What is predisposition? As clinicians we answer, a physiological poverty whereby the system is minus phagocytic and bactericidal powers. As bacteriologists we would say, a predisposition is that peculiar condition whereby the various organs offer a favourable soil for the development of bacilli.

Inherited predisposition is avoided as far as possible by careful hygienic, dietetic, athletic, hydro-therapeutic, aero-therapeutic and medicinal measures directed to the upbuilding of the tuberculous or predisposed parents. Especially should the pregnant mother be careful as to dress, food and general hygiene.

Tuberculous people should avoid having children.

All measures calculated to strengthen and upbuild should be instituted for the predisposed children. Hygienic clothing, good food, pure air and plenty of sunshine. Plenty of parks and playgrounds in the cities are of importance. The use of alcohol predisposes to tuberculosis. The mouth should not be neglected. Teeth should be kept clean and cavities promptly filled. Enlarged tonsils should be removed.

BASHAM'S MIXTURE.

An old time-tried tonic in urinary affections, particularly in degenerative conditions of the kidneys, is "Basham's Mixture." The virtues of this preparation were extolled in lecture rooms quite half a century ago, and the same is said to-day. In its particular field of usefulness it has well stood the test of time. Its composition is:

℞ Tr. ferri chlor.....f. ʒiij
Acid. acet. dil.....f. ʒiss
Syr. sim.....f. ʒss
Liq. ammon. acetat., q. s. ad.....f. ℥iv

M. Sig. One dessertspoonful every two hours.—*Clinical Review.*

A PASTE THAT WILL ADHERE TO ANYTHING.

Prof. Alex. Winchell is credited with the invention of a cement that will stick to anything. Take two ounces of clear gum arabic, one and one-half ounces of fine starch, and one-half ounce of white sugar. Pulverize the gum arabic, dissolve it in as much water as the laundress would use for the quantity of starch indicated. Dissolve the starch and sugar in the gum solution. Then cook the mixture in a vessel suspended in boiling water until the starch becomes clear. The cement should be as thick as tar, and kept so. It can be kept from spoiling by dropping in a lump of gum camphor, or a little oil of cloves or sassafras. This cement is very strong indeed, and will stick perfectly to glazed surfaces, and is good to repair broken rocks, minerals, or fossils. The addition of a small amount of sulphate of aluminum will increase the effectiveness of the paste, besides helping to prevent decomposition.—*Amer. Jour. of Surgery and Gynaecology.*

SURGERY.

IN CHARGE OF

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ADRENALIN.

Dr. Winfield Ayres, of Bellevue Hospital, New York, has found a mild solution of adrenalin extremely useful in certain kinds of genito-urinary work. In examining the urethra an irritable stricture is frequently discovered, the first evidence of the fact being generally a severe hæmorrhage, which there is sometimes diffiulty in stopping. It occurred to Dr. Ayres to use adrenalin, and he finds it answers the purpose well, a solution of 1 to 100,000 being sufficient for the purpose.

ACROSTIC ON FRACTURES AND DISLOCATIONS.

S. C. Mish gives the following as an aid to the memory:

FRACTURES.

False points of movements.
Rotary displacement.
Angular deviation from normal angle.
Crepitus.
Tenderness on point of pressure.
Unnatural mobility.
Retraction of limb by muscular contraction.
Ecchymosis.
Shortening, swelling, pain.

DISLOCATION.

Disturbance in function of joint.
Immobility.
Swelling.
Loss of natural contour.
Only forced mobility.
Crepitations, no crepitus.
Angular deformity.
Tenderness and pain.
Interference with function.
Old landmarks of joint destroyed.
No shortening in shaft of bone.—*Cal. Med. Jour.*

INDICATIONS FOR OPERATION IN GASTRIC ULCER.

The latest surgical thought as regards the operative treatment of gastric ulcer is well expressed in the article in question. It has been the custom to so postpone surgical procedure on stomach ulcers that when finally the surgeon was called in the patient's condition was desperate and operation availed but little. Since, however, the inefficiency of drugs is now so evident and surgical technique so improved, the surgeon can operate on gastric ulcers confident that, if called in time, he can alleviate if not cure the disorder.

There are several operations which are in use in different phases of this disease, viz.:

1. Gastronomy, including the excision of ulcers.

2. Gastroplication, or turning in of the stomach wall, to close an ulcer that has perforated, or to strengthen the wall at a point where perforation is threatened.

3. Pylorectomy for the removal of an ulcerating pylorus.

4. Pyloroplasty for the widening of a pylorus contracted by ulceration.

5. Gastro-enterostomy to provide a short cut into the intestine from a stomach whose motility is interfered with by ulceration.

Gastro-enterostomy is decidedly useful in relieving pyloric spasm, decreasing the production of hydrochloric acid, checking gastric hemorrhage and promoting the healing of ulcers.

When such cases come under the surgeon's care he must know the indications for operation and the relative value of the various procedures. Immediate operation is demanded where symptoms of perforation appear. In these cases operation in the first twelve hours gives twice as many recoveries as those performed twenty-four or forty-eight hours after perforation. Hemorrhage, alarming or persistent, also demands operation. After perforation recovery without operation is impossible, while some hemorrhages will yield to medical treatment. So the surgeon must balance the probabilities of recovery in these cases. Roughly speaking, hemorrhages in gastric ulcers may be divided into two classes, viz.: those that occur in the first thirty years of life and those occuring after that time. A study of various hospital reports, notably Guy's Hospital and the Massachusetts General, shows that in the first period the hemorrhages are due to the small round ulcer,

and seldom fatal. In later life hemorrhages are generally the result of chronic ulcers, which open the large vessels under the serous coat, or may even perforate adjacent organs, adhesions being present. These, therefore, are more dangerous, and slight recurring hemorrhages from a patient over thirty should be accounted serious, and operation should be considered. Gastro-enterostomy usually, but not always, relieves the hemorrhage, perhaps by giving rest and free drainage to the stomach. It stops the anaemia consequent upon continued bleeding, and so favours the healing of the ulcer.

Surgery, apart from its application to hemorrhage and perforation (the complications of gastric ulcer), is also applicable to the treatment of the ulcer itself. It is well to compare the mortality of gastric ulcer with the mortality of the operations for its relief. As in all statistical reports, it is hard to make a fair average of the mortality rate on account of the difficulty of tracing patients to the end. However, it would seem that the average mortality for all operative interference in this disease is about 16.1 per cent., whereas the mortality of the disease itself is from 25 to 30 per cent. This is not absolutely conclusive, for recurrence may take place after the operation, though how frequently is unknown. Gastro-enterosotomy to-day has a mortality of 10 per cent., and Mr. Mayo Robson has practically reduced his mortality to 5 per cent. Balancing these facts, it would appear that after a chronic ulcer has long resisted medical treatment, and the patient is daily losing strength and hope, then it is proper to have recourse to surgery. To resume, it would seem that these are the chief indications for surgical treatment in relation to gastric ulcer, viz.:

1. Acute hemorrhage should rarely be treated by operation. The results of interference have not been good, while the results of medical treatment have been satisfactory. When, however, a hemorrhage frequently repeats itself, even though not severe in amount, it will demand operative treatment as soon as its recurrent character is plain.

2. Small frequent hemorrhages, threatening anemia, give a clear indication for operation.

3. Perforation of the stomach, either acute with general peritonitis, or chronic with surrounding adhesions and perigastritis, demands instant operation.

4. When an ulcer runs a chronic course with a strong tendency to recurrence, and gradually diminishes the

patient's capacity for work and the enjoyment of life, an operation is indicated, especially when the patient is so situated as to be dependent on his daily work for support, and unable to closely regulate his diet.—A. P. Chabot, M.D. Transactions, Mass. Med. Soc.

QUICK CONTROL OF NOSEBLEED.

J. H. Herring (*St. Louis Med. Review*) says that by placing the index finger upon the lateral cartilage immediately below its juncture with the nasal bone, and making steady, firm pressure upward, inward and backward, ninety per cent. of all cases of epistaxis may be effectually controlled in three minutes. The blood vessel from which the bleeding takes place, in the vast majority of cases, is located in the anterior nasal chamber in the mucous membrane lining the nasal septum.

SUPRAPUBIC OPERATION FOR VARICOCELE.

A. E. Bradley, in the *Journal of the Association of Military Surgeons* for August, 1901, says that so far as he is aware incision of the scrotal wall has been the only method of operating upon the scrotal contents. The suprapubic method, while new, possesses unquestioned advantages over incision of the scrotum. The operation begins with the usual method of sterilizing the skin, which is then incised for a distance of two and one-half inches parallel with Poupart's ligament. The underlying fascia is grasped by forceps, and with a blunt dissector torn through until the external abdominal ring is exposed. When the cord is exposed the fascia is divided longitudinally, thus bringing the spermatic vein into view. Slight traction upon the veins serves to pull them upward, emptying the scrotum of the enlarged and tortuous vessels. A ligature is then placed on the upper and lower portions of the vein, the portion included between the two being removed. The uncut ends of the ligatures are now tied, thus drawing together the severed ends of the veins for the support of the testicle. The wound is then closed in the usual manner. A scrotal supporter is used for some time after the operation.

It is claimed for this high operation that it secures perfect asepsis, owing to the locality of the wound, and a support for the testicle is assured that would otherwise be wanting, and without which atrophy might result. The operation is practically devoid of mortality, and is one of the most succesful of surgical procedures.

THE
CANADA MEDICAL RECORD

PUBLISHED MONTHLY.

Subscription Price, $1.00 *per annum in advance. Single Copies,* 10 *cents.*

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Editorial.

TYPHUS FEVER.

Since the year 1847, when Montreal was visited by a severe epidemic of typhus fever, but few cases of the disease have been seen in this city. As this outbreak occurred among emigrants arriving from Ireland it was known as ship fever. Emigrants in those days came out in small sailing vessels to Quebec, the voyage occupying from six to seven weeks, and there was much overcrowding. Moreover, in that year there was an almost total failure of the potato crop in Ireland, so that those leaving that island were in a condition to favour the development of the disease. Forty years ago typhus was always present in a more or less degree in all the large cities of Great Britain, but particularly in Ireland. It has since then been gradually disappearing, and this disappearance is one of the great triumphs of modern medicine. So far as we can learn and know from personal observation, not over fifteen cases have appeared in Montreal since the great epidemic of 1847. One occurred in 1868 in the practice of the writer, clearly traceable to the opening of a typhus coffin of a victim of

the '47 scourge, proving the truth of the observation by Osler that the poison "retains its activity for a remarkably long time." In 1877 a local outbreak occurred in the House of Refuge in this city, when eleven inmates were attacked. No positive source of infection could be traced, but at night the overcrowding was so great that there was only about 88 cubic feet of space to each person. Five or six years ago two cases were discovered and removed to the Civic Hospital, and recovered. Early in April of this year two cases were admitted into the Montreal General Hospital where they were completely isolated, and both recovered. We were asked to see these cases, and there was no question as to the disease being typhus. So far as we can ascertain the source of infection in all these cases could only be traced in the case which occurred in the practice of the writer. The others, we believe, were due largely, if not entirely, to filth and overcrowding. Typhus has not yet been embraced in the microbic theory, so that its cause remains to-day what it was fifty years ago. Then it developed wherever unsanitary conditions prevailed. Its practical disappearance in Great Britain has been entirely due to improved sanitation, and on this line lies the safeguard against its appearance in the cities of Canada.

Book Reviews.

The Practical Medicine Series of Year-Books comprising ten volumes on the year's progress in Medicine and Surgery issued monthly, under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, volume III., the Eye, Ear, Nose and Throat, edited by Casey A. Wood, C.M., M.D., Albert H. Andrews, M.D., T. Melville Hardie, A.M., M.D., December, 1901. Chicago. The Year Book publishers, 40 Dearborn street.

The idea of publishing a medical year-book in parts is a very good one, for we thus get a series of volumes of convenient size instead of one huge book which it is a labour to handle.

Then, too, we receive our information in moderate doses and at stated intervals which permits of better assimilation.

The volume under consideration gives a succinct account of all that has been published in the past year that is of special interest to those engaged in the practice of ophthalmology, otology, laryngology and rhinology, and is a welcome addition to the library of the general practitioner as well

G. W. M.

Manual of Childbed Nursing with Notes on Infant Feeding, by Charles Jewett, A.M., M.D., Sc.D., Professor of Obstetrics and Diseases of Women in the Long Island College Hospital. Fifth Edition. E. B. Treat & Co., 241 and 243 West 23rd street, New York, 1902.

This short and up-to-date Manual, as the preface to the 5th edition states, was originally prepared for the Training School for nurses at the Long Island College Hospital. In spite of the modesty of the writer, the number of editions show it proved of such value that it has now been revised and enlarged, and, we have no doubt, will prove of the very greatest service to both nurses and the well educated woman of the day who is about to become a mother. It is short, about 80 pages; every word is explained, either at once or in the glossary at the end. The nurse and patient who follow the rules and regulations, not only for themselves, but also as regards the child, cannot fail to benefit proportionately, and we can heartily advise every nurse and prospective mother to possess a copy. H. L. R.

The Practical Medical Series of Year Books, comprising ten volumes on the year's progress in Medicine and Surgery, issued monthly under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago; Post Graduate Medical School. Volume IV. Gynaecology, edited by Emilius C. Dudley, A.M., M.D., Professor of Gynaecology, Northwestern University Medical School, Gynaecologist to the St. Luke's and Wesley Hospitals, Chicago, with the collaboration of William Healy, Chicago. The Year Book publishers, 40 Dearborn street.

The object or this book is to give a summary of the most noteworthy contributions to gynaecology made during the past year and a half. This has accomplished as far as a two hundred page book will permit, and it is remarkable how many articles have been included. The editor says that recent literature shows definite progress in the following subjects :—1st. The application of scientific gynaecology to sociologic problems. 2nd. The differentiation of pelvic injections with reference to etiology, symptomatology, diagnosis, prognosis and treatment. 3rd. The critical study of statistics especially as they relate to infections, neoplasms and

displacements. 4th. Careful balancing of the relative indications for gynaecologic operations. He also finds that much less attention is being paid to plastic work, which formerly held the first place in gyneacology, and a very great deal more to abdominal surgery. Of this the reader can judge for himself. His text is made still more interesting by the introduction of a large number of illustrations. There is also an exceedingly well arranged index, enabling us to find the opinions of leading writers on the various subjects.

A.L.S.

Essai de Semiologie Urinaire. Méthode d'interprétation de l'analyse urologique. L'urine dans les divers états morbides, par Camille Vieillard, Pharmacien-Chimiste, Lauréat du Concours Brassac, Membre de la Société Chimique de Paris, Elève de l'Institut Pasteur (1898). Préface par Albert Robin, de l'Académie de Médecine. Paris, Société d'Editions Scientifiques, 4 Rue Antoine Dubois, 1902.

The author points out that a thorough knowledge of the urine is becoming every year more important, and at the same time so easily obtained that the practitioner is no longer satisfied with knowing the density, quantity of urea, uric acid, chlorides, phosphoric acid and the presence of albumen and sugar. The difficulty now is to master the interpretation of the analysis. So far the books have been chemical rather than clinical. What we want to know is the significance of a few more grains or less of urea; that the amount of it represents the quantity of albumenoids which have accomplished the complete cycle of vital changes and their maximum of utilization; that the relation of sulphur incompletely oxidized to the total amount of sulphuric acid, is an indication of the activity of the liver. It increases or diminishes with hepatic efficiency or deficiency. The symptoms derivable from the urine are so important that the diagnosis in many cases can only be made after the urine has been scientifically anyalyzed. Those who can read French will derive a vast amount of information which we have not hitherto seen in any text book.

A.L.S.

Dr. T. Buret, Secretaire General de la Societe de Medecine de Paris. Traitement des maladies contagieuses de l'appareil générateur, Guide Pratique. Bases fondamentales du traitement, examen critique des formules les plus usuelles; injection massive de sels hydrogéniques insolubles, simplifiés et rendue pratique; manuel opératoire très détaillé de ces injections; grands lavages au permanganate de potasse; nombreuses observations et anecdotes médicales. Paris, Société d'Editions Scientifiques, 4 Rue Antoine Dubois, 1902.

Paris being probably the centre of the universe, as far as the treatment of syphilis is concerned, this work, which is fully up-to-date, contains many valuable points in the management of venereal and syphilitic diseases. The chapter on gonorrhoea and syphilis

in women is very well written, and is especially interesting. We may safely say that this work is a very complete treatise on syphilis and venereal diseases as we understand them to-day, and being written in elegant French, furnishes enjoyable reading to those who even partly understand the language, A.L.S.

Studies in Psycology of Sex. Sexual inversion, by Havelock Ellis. Philadelphia, F. A. Davis Company, 1901.

This work was originally issued in England about four years ago. It was, I believe, favourably received by the Medical Press, and its circulation was confined to the scientific and medical world. The London police, however, instituted a prosecution against a bookseller, who sold the book, and the Recorder of London, sitting as Judge, decided that it was not a scientific work, and ordered it to be destroyed. It is now republished in the United States and its author has decided that the various volumes required to complete the series, shall be issued from this side of the Atlantic. I have read the major part of the work, and believe that the entire subject has been treated from a thoroughly scientific stand point. There is, I know, some who, never having met with a case of sexual inversion, will not admit its existence. It exists, nevertheless, and possibly more frequently than is imagined. I have, during an experience of nearly forty years, met with several cases. One does not, as a rule, publish them and those recorded previous to the issue of this volume, were in connection with asylum or prison reports. In the preface to the first edition of this book, the author says: "very few indeed, would not be surprised if it was possible to publish a list of the names of sexual inverted men and women, who at the present time are honourably known in church, state, society, art or letters. This is a startling statement, but I believe it is true. I have known of sexual inversion more than once in persons occupying prominent positions. The outcome of such a book would, of course, be shorn of much of its value, did not all the startling facts it contains form a basis upon which to found a rational method of treatment. The author has made this effort, and although it is as yet in the purely theoretical stage, nevertheless it suggests much food for thought in this direction.

F. W. C.

Transactions of the College of Physicians of Philadelphia. Third series. Volume twenty-third, Philadelpia. Printed for the College, 1891. Edited by William Zentmayer.

Although the title page bears the imprint 1891, it has only just been published. This will be understood when I mention the fact that it contains all the contributions read before the Society, from January to December, 1891 inclusive. The initial paper is written by the late Dr. DaCosta, and is a short but pleasant *resumé* of the life of Sir William Paget. Then follows a memoir

of Dr. William Pepper, from the pen of Dr. Tyson. Dr. Pepper had many friends in the larger cities of Canada. To them, if they can get this volume, it will recall one who was their friend and who during his life did much for the profession of medicine. An analysis of the character of Dr. Physick, by Dr. George McClellan, is the next paper. Dr. Physick, after studying at the University of Philadelphia, from which, it is stated, he did not wish to graduate, went to London and took, in 1791, the diploma of the R.C.P. and S. He visited Edinburgh the following year and received the degree of M.D. from its University. While in London he became associated with John Hunter, and in the Hunterian Museum, are to-day, some valuable preparations, the handwork of Dr. Physick, made under the direction of Hunter. During this tour he was an interne at the St. George's Hospital. He returned to Philadelphia in 1793 and from that till 1796 did not earn enough money from his profession "to pay for the soles of his shoes." Subsequently he became identified with surgery in the University of Pennsylvania, and afterward with Anatomy, from which he retired in 1827 from failing health. The date of his death is not given. This sketch is accompanied with a portrait in steel of Dr. Physick and contains much of interest regarding the early teaching of medicine in Philadelphia. The rest of the volume consists of professional papers, all valuable and interesting.

F. W. C.

The International Medical Annual. A year book of treatment and Practitioner's Index, 1902. Twentieth year. E. B. Treat & Co., 2141-2143 West 23rd Street, New York. Price $3.00.

Within the pages of this Annual are contained and easily found, a very excellent *resumé* of the Medical and Surgical literature of the past year. The bulk of the contributions are from the pen of well-known British physicians and surgeons. Those from American authors are equally as valuable as those contributed by their English confreres. The bulk of the volume is increasing—in fact is nearly double in pages—to that in the first years of its publication. This is due to the increased demand of its subscribers for more detailed information, especially in the surgical department. It is published in a convenient size, and any physician or surgeon who purchases it, will soon find that its value is far beyond its cost.

F. W. C.

Genito-Urinary Diseases and Syphilis, for Students and Practitioners. By Henry H. Morton, M.D., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital; Genito-Urinary Surgeon to the Long Island College and Kings County Hospitals and the Polhemus Memorial Clinic, etc. Illustrated with half-tones and full page

colour plates. Pages xii-372. Size 9½ x 7 inches. Price, extra cloth $3.00 net, delivered. Philadelphia, F. A. Davis Company, publishers, 1914–16 Cherry Street.

In reviewing this work, it is at once apparent that the author is very much at home with the practical clinical aspect of the subject, for the text abounds with most apt and useful descriptions of clinical methods and technique, which in so many works is unfortunately omitted to give room for some transient theory, or obsolete method. The illustrations are good and the arrangement and division of each subject is excellent. In reviewing the treatment, it is refreshing to note the concise yet minute directions for the adoption and execution of any line of treatment and the various reasons for selecting the same. Some very novel and instructive diagrams are introduced to explain the treatment of chronic urethritis by the use of the endoscope. They cannot fail to aid the beginner in this puzzling work.

We are pleased to recommend this work as a most useful one to practitioners and students alike. It is clear, up-to-date and not too exhaustive.

G. F.

Syphilis, A Symposium.—A small volume, published by E. B. Treat & Co., New York, is made up with contributions by seventeen recognized authorities. Price, $1.00.

Many of these contributions are well worthy of careful perusal. While syphilis is undoubtedly a subject which has always received most exhaustive attention in literature, yet it is a disease of such varying characteristics that the more unusual forms as noted by specialists are always interesting and instructive. The chapter on "Unrecognized Syphilis in General Practice," by L. Duncan Buckley, is worthy of all attention. There is illustrated most clearly the great danger to the innocent occasioned by persons who are suffering from unrecognized syphilis, and one, therefore, ignorant of the necessary precautions to prevent contagion. That syphilis is not necessarily a venereal disease is to-day most generally accepted and this fact has contributed largely towards the efforts to prevent its spread.

In the last few pages are given the answers to numerous pertinent questions on syphilis by the various syphilographers. They are well worthy of careful consideration.

G. F