and through this accelerates the access of alkalin blood to the inflamed districts.

Our views of disease at present are in a stage of transition, the inherited slab bones are found to not fit anymore and if several diseases are discovered to present one identical pathologic phenomenon, they are thrown together heterogeneously as they might be. Loewitt observed what he calls leukopenia in rabbits with rapid sinking of temperature as soon as they were exposed to shock; another repeats the same experiment on turkeys, with the same results, finds leukopenia in neurasthenia (a totally arbitrary classification of morbid symptoms, which accompany many entirely different diseases) and says that leukopenia is the cause of neurasthenia, because we notice the same morbid fears there. Since excessive formation of uric acid has been discovered in many other diseases besides gout, Haig and others subject almost every chronic ailment to the uric diathesis, it has seemed to me therefore necessary to show that uric acid has no toxin effect and that its presence has directly nothing to do with the apparent disease. We have to go back to the generation of uric acid, to the poisonous noxes, which create uric acid, and there we find that gout is a disease *per se*, it has nothing to do with rheumatism or other diseases, we are able to distinguish it clearly from that whole mass of confused conception and substitute for its treatment a really physiologic basis.

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THE USE OF THE CURETTE IN THE TREATMENT OF ENDOMETRITIS.

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Endometritis, for the purpose of discussing the use of the curette in its treatment, is best divided into three varieties—catarrhal, septic and gonorrheal.

Catarrhal endometritis is the form of pelvic disease most frequently induced by improper habits of life, consequently the one most amenable to constitutional or medical treatment.

A large percentage of cases occur in unmarried women. In the society girl it is produced by the nightly exposure of the arms and a large portion of the chest, whereby the blood is driven into the interior of the body, congesting the uterus along with other organs; the tight corset, displacing the abdominal organs and interfering with the action of the heart and lungs; the numerous meals at irregular hours of stimulating and indigestible food, the position assumed in dancing and the exposure and lack of rest during menstruation.

In her less fortunate sisters, the school teacher and the shop girl, the constant standing serves as an efficient exciting cause.

Another cause, I deem of importance, is unsatisfied sexual desire. Genito-urinary surgeons tell us this is an important factor in the production of hypertrophy of the prostate, which is a condition in the male somewhat analogous to fibroid tumors of the uterus in the female. We all recognize the fact that this latter affection is a penalty frequently paid for celibacy. If it produce this graver result of persistent uterine hyperemia it is fair to suppose that it will also produce catarrhal endometritis.

The cause of the disease having been recognized, the proper treatment suggests itself. The faulty habits must be, as far as possible, corrected. If the patient is anemic, iron, quinin and strychnin between, hydrastis and hyoscyamus or cannibis indica during the menstrual periods. An occasional mercurial purge is always indicated. While the symptoms are acute and exercise gives rise to pain, rest in bed should be enforced; later the patient's mind should be diverted from herself and her disease and healthful exercise in the open air, horseback riding, bicycling, etc., are of the greatest value. A change of climate, particularly a residence for some time at mineral springs, is beneficial. These measures faithfully used will cure many cases, and they should always be employed before resorting to any local treatment in the unmarried. I wish to protest against the growing tendency to curette every girl that has a little leucorrhea and menstruates a day too long or with some pain.

If these measures fail the curette is indicated. It is much to be preferred to prolonged office treatment.

In married women the objection to local treatment does not exist, and in the majority of well-marked cases curettement is the appropriate measure.

It is true that a large number of this class of cases can be cured by office treatment. Drainage of the uterus secured by gauze, application of carbolic acid and iodin to the endometrium, bleeding the cervix, correction of mal-positions, etc., will in time effect cure, and there are cases where it is advisable to proceed in this way. Where existing disease of the heart or kidneys makes it unsafe to use an anesthetic, or where the patient will not readily submit to an operation, the gynecologist may prefer this method of treatment. To the general practitioner who desires to treat his own cases it will usually commend itself, for lack of operative experience makes an aseptic technique well nigh impossible for him to attain, and without there is some danger in the operation.

The severer forms of the disease can not be cured without curettement. Nor will curettement alone cure all of them, but curettement combined with such other local and constitutional measures as are indicated will.

It may be necessary to repair a lacerated cervix, or perform an anterior or posterior colporraphy, or both. Or an Alexander operation or suspension of the uterus may have to be done, for unless the circulation in the uterus can be restored to its normal condition, no relief of the symptoms will be permanent.

Septic endometritis usually follows abortion or labor at term, and this phase of the subject will be discussed by my friend, Dr. Mitchell; but it may follow the introduction of an unclean sound or operation upon the cervix; it may also develop during menstruation by infection from germs existing in the vagina. The curette with antiseptic irrigation should be used as soon as the diagnosis is made. Where there are stitches in the cervix they should be removed. If this treatment is instituted sufficiently early, it will generally give relief and obviate the necessity of later resorting to more dangerous surgery, that, even if successful, leaves the patient mutilated.

Gonorrheal endometritis when seen in its incipiency can usually be cured by intrauterine irrigation and gauze packing, provided the disease be vigorously attacked at the same time, wherever else it may have found a lodging place, in the vagina, the urethra, the glands of Bartholin.

But if it has been in progress some time when it

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comes under the physician's care, or if after a faithful trial of these measures it fails to yield, curetting is indicated, no matter whether the symptoms are acute and alarming or chronic, the only contraindication being a palpable accumulation of pus in or around the appendages. When this condition exists the pus should if possible be evacuated through Douglas' cul-de-sac; if this can not be done an abdominal section should be made for its removal, either operation being immediately followed by curetting.

Technique.—We are to have a special paper on this branch of the subject, so I touch very briefly on but one or two points. Before curetting, the uterus should always be thoroughly dilated. For this purpose I prefer the Goodell-Erlinger dilator and always work it with the hand, never with the screw, and make the pressure intermittently, as does Dame Nature when she dilates the cervix in parturition. Believing that in this way the cervix is less apt to tear, and if it should do so the force can be released before the tear progresses far. The sharp curette is the only instrument of any value in these cases. The sizes needed are the smaller to enter the horns of the uterus, the larger to more rapidly and with greater certainty go over the walls in their entirety. The curetting should be continued till at every point the operator can feel firm tissue and hear it grate under the instrument. The uterus should now be mopped out with a strong antiseptic, dried with absorbent cotton and packed with iodoform gauze tight enough to prevent any oozing of blood. In catarrhal endometritis this packing may be allowed to remain for from seven to ten days if there be no elevation of temperature. In septic or gonorrheal cases it is wiser to remove it in forty-eight to sixty hours, irrigate the uterus and loosely repack it. If the tight packing cause painful uterine contractions they can be relieved with codeia and hyoscyamus. Patients who have been curetted for endometritis should be examined a few weeks later, and if there is still some discharge issuing from the uterus, the endometrium should be treated with iodized-phenol twice a week. If this does not give entire relief, the curetting should be repeated. In some cases even the third operation is required. The accidents incident to the operation are laceration of the cervix, perforation of the uterus and rupture of an abscess adjacent to the uterus.

Laceration of the cervix can usually be avoided by following the method of dilatation indicated above. If a laceration of any extent take place it should be sutured at once.

Perforation of the uterus is an accident that has happened one or more times to almost every operator of experience. A soft cervix from which the vulsellum is inclined to tear, would put the operator on his guard. In two cases in which I have met with this accident I noticed afterward that the cervix was unusually friable. One of the cases had never been pregnant, the other had borne two children, the youngest of which was 16 months old. Both recovered without untoward symptoms. When the uterus has been perforated it will not be irrigated or swabbed out with strong antiseptics. It may be wiped dry with sterile absorbent cotton, and packed loosely with iodoform gauze. If the uterus was pretty thoroughly cleaned out before the perforation was made and the operator recognizes what he has done recovery is to be expected.

If one has good reason to suspect he has ruptured a pelvic abscess into the peritoneal cavity, the proper procedure is an explorative abdominal section, and if his suspicions prove true he will flush and drain.

DISCUSSION.

Dr. Palmer—I do not know that I ought to speak upon this question, since I have designed two of the instruments referred to tonight, the dilator and the curette, and it might be too personal for me to speak upon the matter just now. I will, however, make a few remarks upon the propriety of using the curette.

There can be no doubt about the curette being an exceedingly valuable instrument. It is valuable in many cases of abortion, those cases, for instance, which we technically call "incomplete" abortions, in which some portion of the ovular tissue is retained, and these remnants give rise to trouble, sepsis and hemorrhage. Now, when the curette is used under such circustances the instrument should be as large as can be put inside of the uterine cavity. The cervix is generally soft and relaxed and a larger sized instrument will usually go in than one would think. For an abortion which occurs at the most common time, some time along about the third month, the curette should be somewhat scoop-like in shape, smooth, blunt and not sharp. What we want to do is to remove any of the ovum that is retained, all the retained forming placenta and the decidual structures, but none of the genuine mucous membrane. In other words, we do not want to use any force but gently pass this kind of a curette from the fundus down, taking perhaps more care in going over the posterior wall and the horns of the uterus. But we never ought to use it with any degree of severity and never when it is sharp, as we ordinarily do employ the curette for certain gynecologic affections.

About twelve years ago the subject of the employment of the curette came up before this society at a meeting held at my house. I think I was the only one then who advocated the use of the sharp curette in gynecologic practice, and for this I was criticised pretty sharply. Now almost everybody employs the sharp curette. The dull curette, as a rule, is employed in obstetric and the sharp curette in gynecologic work. It is my practice ordinarily to dilate the uterus when the curette is employed for gynecologic purposes, but, as I have said, this is not necessary when the curette is employed for obstetric purposes. I am in the habit, usually, of washing out the uterus with the reflux tube before curetting. Before I stuff the uterus with some antiseptic gauze I generally again wash the cavity out with some hot antiseptic fluid.

Dr. Stark—In the first paper presented this evening a statement was made, that the further advanced in pregnancy the less is there a necessity for the use of the curette, and the essayist attributed the cause for this to the fact that the muscular structure of the uterus had become hypertrophied and its expulsive power had become thereby increased. I am inclined to take exception to this view. I believe the greater necessity for the curette early in pregnancy than late may be attributed to two reasons. During the first two months of pregnancy the ovum is covered over its entire surface with chorionic villi, and the attachment to the uterus is so extreme as to prevent the separation of the chorion in the expulsion of the ovum. I have seen ova expelled, and have no doubt others have, whose outer covering consisted only of the amnion. Another reason is that you do not have the same changes at this period which takes place later, namely, fatty degeneration of the sub-decidual stratum. In many instances also, the decidua vera is thrown off in large pieces, after seemingly the whole ovum has been cast off. That is, where the ovum is surrounded with the chorionic villi, you subsequently have clots expelled containing large pieces of the decidua vera, and this is due to its primary non-separation. And I believe, also, that we are able to cure many cases of true septic endometritis by the use of the curette. The reason for this is that we

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remove the source of the lymphatic inflammation, in the same manner as we are able to cure a lymphangitis of the arm by disinfection and drainage of an infected hangnail or felon. In regard to the treatment of gonorrheal endometritis by the use of the curette, I am thoroughly opposed to it. I do not believe it is scientific. I think the very fewest of such cases are cured. We all know that men who have had gonorrhea come to us years afterward and complained of a slight gleety discharge in the morning, and if we examine the discharge it is free of gonococci; but, if we pass a sound and repeat the examination in a few days the discharge is very often purulent and full of gonococci. I remember when I was studying in Breslau I saw a case in which a woman gave birth to three children, each born with ophthalmia neonatorum. The lochial secretions examined were full of the gonococci. After the lochia had subsided, there were no gonococci. It has furthermore been shown that the discharges from the uterus just prior to and shortly after menstruation contain gonococci, while in the interim the secretion is free from the gonococcus. The mucous follicles of the uterus extend between the muscular bundles, and down there you will also find white corpuscle infiltrations which contain the gonococci, and make it impossible for the curette to remove the infection. All you can do with this procedure is to stimulate the germs and further their growth. And that has been my experience in practice, too. I would never think of curetting a case of acute gonorrhea, and the chronic cases which I have curetted were worse afterward, and in one I know I induced a purulent salpingitis.

DR. PALMER—In those cases, in which you did not think you got good results, was there any perimetritis?

DR. STARK—Not evident, but perhaps there was some latent perimetritis. I believe there was some latent trouble there beforehand. But I am referring to cases of pure and simple gonorrheal infection. After the curettage and other associated treatment the discharge is more profuse and the gonococcus is developed into activity and multiplies.

DR. E. W. MITCHELL—Dr. Stark is correct in saying that the changes which take place in the decidua and in the development of the placenta are the chief factors in the more thorough separation of ovum and secundines as pregnancy advances. In speaking of the greater development of the *musculature* I had in mind the more prompt and thorough evacuation of the contents. I purposely said little about the technique, as Dr. Jones was to consider that subject especially.

I must confess that I have not been able to clear out the uterus with the fingers with the facility some of the gentlemen claim, although I have tried it many times.

SPECIFIC MEDICATION IN TUBERCULOSIS OF MAN AND BEAST.

Written for the Mississippi Valley Medical Association at St. Paul, Minn.

BY PAUL PAQUIN, M.D.
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Specific medication in specific maladies is now recognized as the objective point of medical research. Whatever the means employed, the course of events and the processes to that end, the object sought is the all-important question. The men who have, or do now, play a rôle in the endeavors of medical science, no matter how divergent their opinions may be, no matter how inharmonious their relations, results and manner of work, are only instruments for the accomplishment of a great task, and their personality and differences, as in all processes of evolution, are insignificant and inconsiderable as compared with the achievements sought for the benefit of mankind. Conflicts of intellects are as essential factors of medical evolution as are conflicts of intellects in other spheres of civilization. As long as carried on in the broad, manly spirit that characterizes the man of truth, evidence and knowledge of cause and worth they will always receive attention from thinkers and honest delvers, and in the end must command respect, whatever may be the temporary influence of selfishness, greed, malice, commercialism and speculation, in the ranks of the original investigators or their followers and imitators, unfortunate conditions which of late are not wholly absent factors in the dissentions and retarding circumstances in medical science.

The study of the effect of antitoxin on the tuberculous phenomena in human beings, leads us back to the active principle underlying immunization, to-wit: the special agent which is itself curative to a degree, by virtue of its power to provoke the formation of a defensive force in the system. When Koch declared, publicly, for the first time, that the toxins produced in the culture of the bacilli of tuberculosis had a certain specific effect on the lesions of lupus, he did not explain what existed in tuberculin that could cause the modification. In fact, it seems that it was not then understood. We know now that it was because the tuberculin (or bacilli culture toxin) used by hypodermic injection in the patient suffering from lupus, provoked the formation of the antagonistic agent in the blood and tissues of the individual, which is now known as antitoxin, a name which is the general designation of nature's own remedy in the cure of microbian maladies. Tuberculin then is, to a degree, capable of modifying certain forms of tuberculosis, because it forces the affected organism to produce a certain amount of tubercle antitoxin. The inconvenience of it, from a practical standpoint, consists chiefly in the more or less severe reaction which follows the injection in the already seriously ill patients, and in the fact that in certain stages of certain forms of tuberculosis, particularly of the lungs, it seems to hasten the breaking down of tissue. It is claimed now that tuberculin, under other names, brought forth through the efforts of the Klebs school, may be so modified as to be free from the poisonous principle or principles. This theory seems supported by numerous animal experiments of Klebs, particularly in guinea pigs. Series of these have been published, and if we are to credit them as the reputation and scientific standing of the learned German in this country suggests, tuberculin, under its new name, deserves careful consideration. But if devoid of toxic principles, modified tuberculin (whether named tuberculocidin or antiphthisin) as curative or immunizing agent is not free from grounds of criticism involving the very structure upon which the modifiers of Koch's original discovery have sought to erect a school of therapeutics in the treatment of tuberculosis. In the first place, the only thing that science can possibly suggest as curative in tuberculin is its very power of provoking the formation of antitoxin in the affected and thereby a degree of immunity. Now what is the agent that forces nature to produce this defensive power? It is precisely the principle that *causes poisoning*, the principle that causes the fever and destruction, without which deleterious effects there would *occur no* demand on the injected body for the production of a defensive force. So it is that, notwithstanding the numerous animal experiments of Klebs (denied or not very well supported by other experimentalists) which seek to establish positively and definitely the therapeutic value of modified tuber-

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