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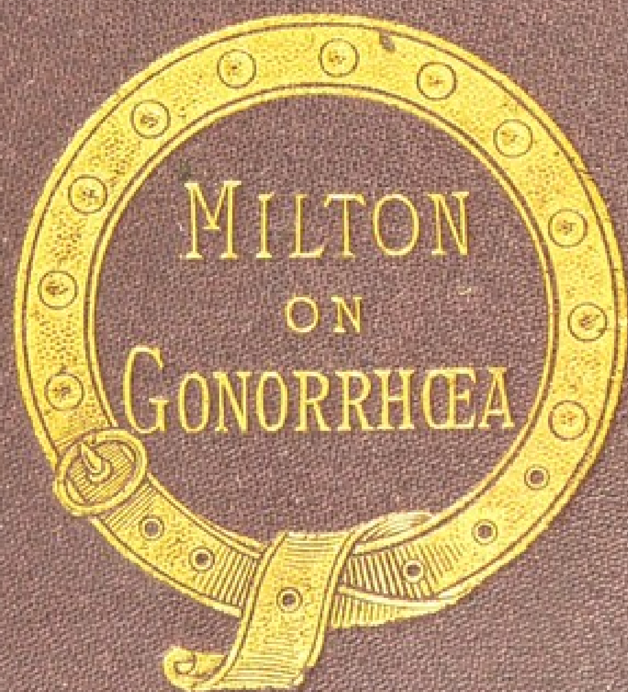
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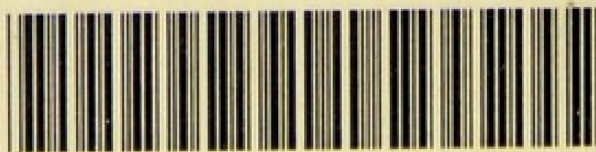

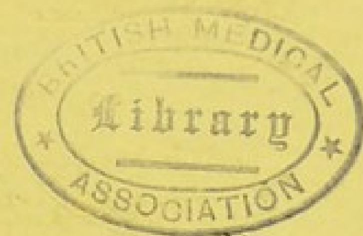
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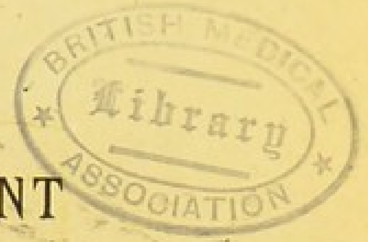


ON THE

PATHOLOGY AND TREATMENT

OF

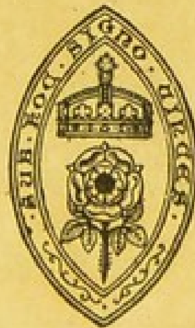
GONORRHŒA

BY

J. L. MILTON,

SURGEON TO ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN.

FOURTH EDITION.



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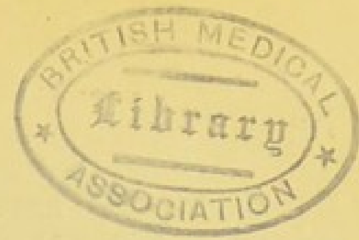

PREFACE.

THE following work contains, in an abridged form, the substance of the earlier Editions; the papers on Scalding, Chordee, and Gonorrhœa printed in the *Medical Times;* those on the treatment of Gonorrhœa published in the *Medical Circular*, and several papers read before the Medical Society of London and the North London and Western Medical Societies.

The sections on the Treatment of Gleet, on Gonorrhœa in the Female, on Orchitis, and on Gonorrhœal Rheumatism, have been revized and amplified.

With the view of reducing the bulk of the work, many of the cases given in the first edition have been omitted, and those which are retained have been selected chiefly as examples absolutely necessary to show the power of certain remedies, or because they illustrate peculiar forms of the disorder which have been rather overlooked. It was indispensable to retain these in a work intended, not for a class-book, but as one of reference for the busy practitioner. The same reasons, which induced me to leave out superfluous cases, made it incumbent to dispense with all description of symptoms.

It is not to be expected that the adverse judgement passed upon many remedies, which have been at one time or other so strongly advocated, will prove acceptable to those who recommended them to public favour. But for this there is no help. Experience compels me to say that they have not fulfilled the expectations which the first accounts of them were calculated to raise.

Whether the attempt now made to prove that Gonorrhœa may, when admitting of removal, be cured without the use of the so-called specifics, is based on sufficient grounds or not, it would ill become me to say. This much however I can vouch for;

the doctrines I have ventured to lay down have been pretty severely tested. Nothing has been recommended by myself in this work but what has stood the brunt, not merely of experience, for that I rate rather low, but of special observation. My aim was, as far as possible, *to separate clearly what might be looked on as established from what was doubtful, and not merely to prove every assertion, but to place it on such a basis that it could not be disproved.* How far I have succeeded I leave to the decision of my readers. For the remedies advized, or the views upheld, by other authors, I do not hold myself answerable. I considered my task was to select what seemed most likely to improve treatment, and only hope I have executed it in a satisfactory way.

SION HOUSE,
KING'S ROAD, S.W.
October, 1876.

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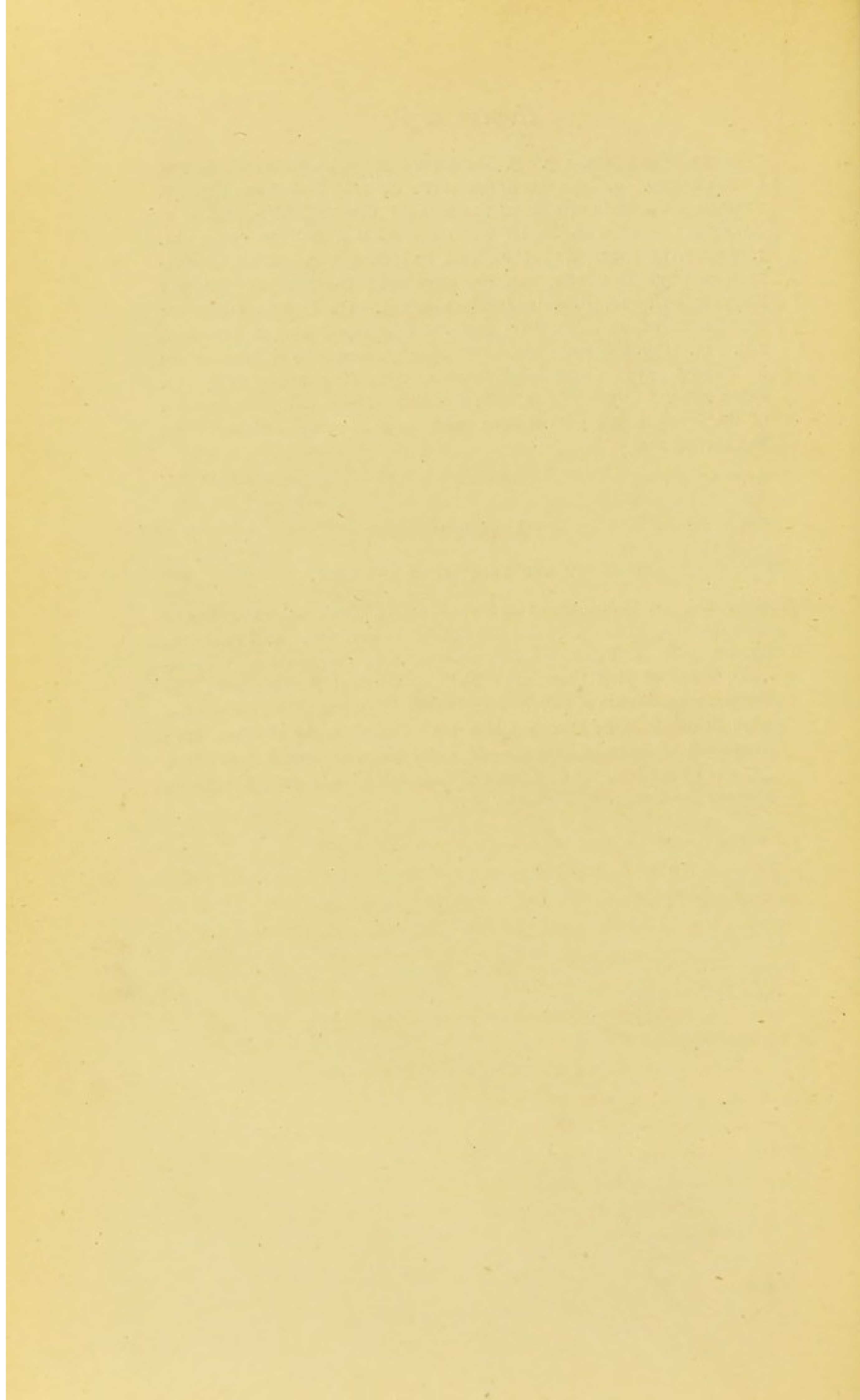


ON GONORRHŒA.

CHAPTER I.

PATHOLOGY OF GONORRHŒA.

UNDER the term gonorrhœa I propose to include all purulent discharges due to connexion, or to the contact of infecting matter originally secreted by the mucous surfaces of the genital and urinary organs, and reproducing the same disease in another person, who can again give it to a third.

As I have seen reason to doubt some of the conclusions arrived at by certain eminent specialists in respect to the pathology of this disorder, I take the liberty of stating the grounds for dissent. To do so effectually, however, it will be necessary to go somewhat into detail. This is unavoidable where accuracy is aimed at. General statements may serve very well as the staple mode by which opinions are communicated, but they are easily met by denials of the same nature. Minuteness will not allow of this. By narrowing the subject under examination, it reduces it more to a form which admits of demonstration, and thus really shortens a discussion which, under a looser system, might become endless.

Genesis of Gonorrhœa. A. *In the Male.*—As regards gonorrhœa in the male sex, the most practical division of the affections lumped together under this name, or that of blennorrhagia, seems to be the separation of them into:—1. Cases resulting from connexion with a female suffering under gonorrhœa, or gleet. 2. Those which ensue from intercourse with a woman labouring

under any form of discharge not due to connexion, such as leucorrhœa,[1] menstruation,[2] an unhealthy, irritable state of the vagina, malignant disease of the os or cervix uteri, simple excoriation or ulceration of these parts, uterine catarrh, or even a person in whom these organs are in a perfectly healthy state.[3] 3. Those arising from errors of diet, from drinking beer, the use of asparagus, and certain other articles of food, blows,[4] violent exercise, such as galloping on a bare-backed horse, excessive work, hard travelling,[5] erotic excitement, over-indulgence in sexual pleasures, protracted attempts at connexion under the influence of wine,[6] late hours,[7] direct application of irritants,[8] the presence of calculus, and finally the suppression of cutaneous eruptions.

Strictly speaking, the cases in the third class hardly belong to the subject in hand, as, with one or two exceptions, they are not due to connexion at all, and these exceptions are not counted as instances in which contagion is communicated. But as they are often called by the same name, and as every such disorder seems to be considered by some authors a very probable cause of discharge in the other sex, they cannot well be omitted.

1. The question as to the power of the first class of agents to bring on gonorrhœa in the male sex may, I suppose, be regarded as so completely settled, that it would be wasting the reader's time to dwell on the topic. Those in the second class deserve more attention.

2. The first step is to clear them from an overlying stratum of somewhat loose assertion. It is constantly assumed as incontrovertible, that a female, having any one of the affections in this category, may communicate gonorrhœa to a man who has con-

[1] *The Practice of Medicine.* By Thomas Hawkes Tanner; 1869, vol. i, p. 306.

[2] *On Urethritis and Syphilis.* By Wm. Henry Judd; 1836, p. 25.

[3] *Swediaur; Practical Observations on Venereal Complaints,* 1788, p. 41; *Ricord; Lettres sur la Syphilis,* 1863, pp. 50 and 51.

[4] *Diseases of the Genito-Urinary Organs.* By Henry James Johnson; 1851, p. 36.

[5] Judd; *Op. citat.*, p. 33.

[6] *Lancet,* 1851, vol. i, p. 211.

[7] *Nouveau Traité des Maladies Veneriennes.* Par le Docteur Melchior Robert; 1861, p. 61.

[8] *Swediaur; Op. citat.*, p. 38.

nexion with her, a doctrine more than once of late years proclaimed as a discovery, particularly by the late Mr. Skey. With all deference to those who hold this view, I am inclined to say that the fact has in some cases been admitted on insufficient grounds; that it has been accepted without such a foregoing knowledge of the patient's history, and searching examination of the persons concerned, as could alone justify our looking upon it as irrefragably established, and that many histories of gonorrhœa thus set up are open to grave suspicion. One strong argument in support of such doubts is, that only too often an old gleet, or a disposition to it, is overlooked; irrespective of this, we frequently find that a patient who comes with very plausible reasons for having acquired a discharge in this way, afterwards changes his mind of his own accord. Still, after allowing for this source of error, cases remain which merit inquiry, and these I propose to examine.

Simple inflammation of the vulva, accompanied by purulent discharge (acute or subacute vulvitis), not of course due to connexion, seems at first sight one of the most likely causes, but I have not met with a single instance of gonorrhœa thus communicated. What is more, I have seen vulvitis set up by connexion take on a pretty severe form, and yet a patient, quite liable to gonorrhœa, cohabiting with a girl thus situated, has escaped. Among other cases I may give the following :—

I was consulted in the summer of 1874, by Mr. F——, for what he called gleet. He was thin, nervous, delicate, and afflicted with a strong tendency to dyspepsia. He had suffered from gonorrhœa, followed by gleet; there was, however, now no discharge from the urethra, neither had there been any for some time. A few small shreds passed occasionally in the urine, and the canal was tender. I recommended passing a bougie once a week, and if that did not set matters right, a weak nitrate of silver injection. Some time after this he contracted an illicit connexion with a girl who, for all I could make out, seemed never to have had any disease. The entrance to the vagina was narrow, and connexion was difficult. It was followed by soreness of the vulva, accompanied by muco-purulent discharge; yet, though connexion went on till she could bear it no longer, on account of the pain it

occasioned, this gentleman had, according to his own repeated statement, no symptoms of infection; certainly when he called upon me he was free from anything of the kind. Now if these discharges really possess an infecting power equal to that of gonorrhœa, which is the only construction we can put upon the opinions expressed by many authors, how comes it that men escape under such circumstances?

About the probability of *leucorrhœa*, by which name I understand catarrhal inflammation of the vagina, being a frequent cause of gonorrhœa in the male, I confess myself somewhat incredulous. In a man who has married, as many do marry, without being thoroughly cured of a gleet, or even tenderness in parts of the urethra, leucorrhœa, especially if it take on the more serious form of inflammatory vaginitis, may light up the slumbering embers of disease. But I am disposed to think it is the connexion and excitement that do this, and to rate the infecting power of leucorrhœa low even here, and still more so in the case of a healthy man, and I have seen reason to believe that men liable enough to gonorrhœa expose themselves with impunity to the contagion of leucorrhœa. I had under my care a patient who was particularly susceptible of the former complaint, yet he had connexion over and over again with a girl who was scarcely ever quite free from leucorrhœa, without ever displaying a sign of contamination. I have, too, seen pretty good evidence that a man may have intercourse with a woman in the early stage of the more inflammatory form of vaginitis, a period when gonorrhœa is sometimes, if not always, highly infectious, and yet contract no disease.

Mrs. E., a healthy-looking woman, about 36 years old, consulted me, June 4th, 1872, about a discharge which she said she had caught from her husband. She was suffering from rather plentiful greenish-yellow secretion, and some vulvo-vaginitis, accompanied by great heat and soreness of the parts, pain on walking or long standing, &c. She had only been married a fortnight, and was greatly distressed. On learning, however, from her, by cross-questioning, that she had no ground for suspecting her husband beyond the symptoms just mentioned, and that his conduct did not seem to be in any way incorrect, or to have been so prior to marriage, I thought it might be wiser to

defer giving any positive opinion; as possibly the affection was due merely to intercourse, which had called a morbid disposition of the parts into play, for, though healthy in appearance, she was not strong. Meanwhile, I prescribed a lead lotion and saline mixture, which soon stopped the discharge.

On the 30th of March, 1873, she again consulted me. She had remained free from discharge till quite recently, but her health, which had improved during the summer, had begun to fail as far back as October, since which time she had suffered from dyspepsia and some degree of bronchitis, accompanied by severe cough. Latterly, the discharge had re-appeared. I inquired very carefully into the husband's case, and found that on this, as on the previous occasion, cohabitation had been kept up till her symptoms had set in. Notwithstanding this, she had observed no signs of infection in him, though she had been inquisitive enough on the point, neither had she found any farther reason to believe that he was infected at the time of marriage.

In this case, then, which is only a specimen of what I suppose most practitioners have repeatedly seen, there is good ground for thinking that the husband remained free from disease, whereas, had his wife been suffering from an affection equally as contagious as gonorrhœa, he could hardly, when taking no precautions, have exposed himself so many times to danger and have got off safe. We hear, indeed, of men who visit women of the town constantly without using any means of prevention, and still manage to steer clear of disease. Perhaps we hear a little more than the truth, or at any rate what is calculated to mislead us, seeing that, if I am to judge from what I have heard of *later experiences* of such a nature, scarcely one man escapes in the long run; if any do, they are exceptions on which no law can be based. Many husbands must, when their wives are beginning to suffer from leucorrhœa, continually run this risk, and yet most of those so placed never have anything like true gonorrhœa.

Nor do I stand alone in my incredulity. Dr. Durkee, who has had large experience in these diseases, is as hard of belief as I am. "Were this disease" (leucorrhœa), he says,[1] "capable of

[1] *A Treatise on Gonorrhœa and Syphilis.* By Silas Durkee, M.D. Philadelphia; 1864, p. 17.

giving rise to a veritable gonorrhœa, few married men in the wide universe would escape being poisoned with it;" and again,[1] "My faith in the power of leucorrhœal secretion as a source of blennorrhagia in the male is scarcely equal to a grain of mustard-seed." "My own (opinion) coincides with that of Sigmund—that gonorrhœa alone produces gonorrhœa." It is but right to say that Dr. Durkee's view has been sharply opposed in an american medical journal.

Dr. Bumstead quotes[2] from Dr. Fordyce Barker a brief description of a disease affecting the interior of the womb, which, while quite innocently acquired, is capable of producing purulent discharge in the male. Dr. Barker considers it to be a peculiar inflammation of the lining membrane of the uterus, under the influence of which the secretion loses its natural alkaline reaction and becomes acid and acrid, as a consequence of which it irritates and excoriates the mucous membrane of the vulva. He has repeatedly known this state induce urethritis in the male.

One case would have been enough if it had been shown that the disease, thus originated, was not simple urethritis, but real gonorrhœa accompanied by chordee, swelled testicle, irritable bladder, sympathetic pains, and so on; and especially that it was capable of giving rise to identically the same affection in another person. But unless the evidence be to this effect, it is beside the question so far as identity is concerned. We want to know, not whether such a state of the uterine system will set up discharge in the male, for that might be granted, but what the nature of that discharge is. The belief in the specific nature of gonorrhœa will receive a rude, if not a fatal, shock, when it is shown that an acid state of the uterine mucus produces the same results as the laudable pus of gonorrhœa, and the curdled albuminous discharge of leucorrhœa, formed by the mingling of the free alkaline secretion from the glands lining the cervix uteri with the complex acid of the vaginal fluid.

Admitting that urethral discharges do appear in men as the result of connexion with women labouring under leucorrhœa, in

[1] *Op. citat.*, p. 18.

[2] *The Pathology and Treatment of Venereal Diseases.* By Freeman J. Bumstead, M.D. Philadelphia; 1866, p. 63.

whom there is no reason for suspecting a present or previous blennorrhagia, it must, I think, be equally admitted that the facts supposed to establish this are, when we come to sift the matter closely, generally vague and few; and in no instance that I have read of, is there anything to show that the surgeon had satisfied himself as to the previous state of the organs in both persons, yet without such evidence belief must remain mere conviction; it cannot be raised to the stability of a truth. Whether it be the first infection, or one of many, and in whatever kind of constitution it may occur, a discharge thus set up is, I must repeat, usually much milder than gonorrhœa in its symptoms, and rarely inveterate in its nature. But the infecting power of the latter disease is a matter of every-day experience; it can be demonstrated by experiment; severity, at the first infection at any rate, is the rule rather than the exception, and out of many cases some are sure to be obstinate; infection is almost a certain result when no precautions are taken to guard against it; and, lastly, this infection may be, and is, reproduced to almost any extent, even under much the same circumstances which seem to interfere very materially with the diffusion of it from the first-named class of causes. Moreover, those who support the prevailing view, seem not to notice one point which involves something like a contradiction or an inconsistency. It is at once conceded that a man who gets gonorrhœa from a prostitute, has derived it from the same disease in her; but only too often, in narratives of infection due to other kinds of illicit connexion, a *deus ex machinâ* must be evoked to clear up the mystery.

Numerous histories of cases are to be found, showing, in the opinion of those who relate them, that gonorrhœa can be thus generated. I believe these accounts are put forward in all good faith; but while I unreservedly admit the veracity of the authors of them, I demur to their conclusions. I do not say that gonorrhœa never arises in this way, but that they have not proved that it does so. Possibly enough they may be quite right and I may be as far wrong; my contention is that their evidence does not go so far as they assume. Their cases are, no doubt, numerous; but unless the issues can be narrowed to points bearing vitally on the question—unless the cases are individually so convincing

as to count for positive testimony—they carry no more weight collectively than singly. When it can be shown, in even a very few instances, that both persons could be proved to have been free from all previous disease at the time when the gonorrhœa was thus engendered, then, I apprehend, the believers in its specific nature must give up the cause for lost. Till then, I think we are justified in assuming that, so far as the evidence on behalf of leucorrhœa is concerned, the matter by which gonorrhœa is communicated may be of as specific a nature as the lymph of the cow-pox vesicle,[1] and that the supply of the infecting material is kept up in the same way in both cases—namely, by propagation from individual to individual. Of course, this does not mean asserting that it is never generated spontaneously in the female; possibly such may be the case at times. The disease must have begun with some individual, and accordingly there is nothing so very improbable in its beginning again in the same way. Neither is it impossible that a simple leucorrhœa or vaginitis may, by some peculiar state of the health, be intensified into a contagious form. We are, after all, dealing to a great extent with probabilities, and I am as ready to accept the new doctrine when it can be proved to be the more probable of the two, as I am at present to abide by my own.

During a four years' apprenticeship to a surgeon, who, though living in a very small town, had one of the largest practices in Cumberland, I saw but very few cases of gonorrhœa, certainly not a dozen, though every instance of such a disease must have come to my knowledge. Of these, I know that some were caught from sources foreign to the place, being either contracted in a large town, or from intercourse with some strolling player-girl, or some young woman who had recently been in a large town; and this might easily have been the case with the others, as girls, known to be of loose character, though not avowed prostitutes, of whom there were only two or three in the place, were every now and then

[1] "The common cause [of gonorrhœa] is the application of gonorrhœal matter during sexual intercourse. Although the existence of this animal poison has only been inferred from the effects, yet there can be little doubt that there is such a poison of a special nature, and that it does not arise simply from indiscriminate sexual intercourse."—Tanner, *Op. citat.*, vol. i, p. 306.

returning home from such parts. I had ample means of knowing that this paucity of gonorrhœa cases occurred also in the practice of other medical men. Yet the town ought to have furnished its quota of gonorrhœa, for certainly the morals of the lower classes, and indeed of all the young men as a rule, were as lax in respect to connexion as they could be, and I never heard of any person taking precautions against infection; every one, lay and medical alike, believing that the disease was always imported. In a paper by Dr. Rocchi,[1] comment is made upon the fact that this is noticed also in Italy, gonorrhœa, except when imported from some populous part, being quite unheard of in the country places, where yet the conditions mentioned by Ricord, and those who support him, as requisite for its generation are present, especially during the heat of summer, and among a class of people not remarkable for cleanliness.

The microscope, from which we might fairly expect help, leaves us completely in the lurch. According to Dr. Tyler Smith,[2] it shows the products of gonorrhœa in the female, and of leucorrhœa springing up spontaneously, but capable of giving urethritis to the male, to be almost identical. But then, on the same showing, there may yet be a very marked difference; for there is no positive distinction between the discharge of leucorrhœa "accompanied by sterility," and that "attended by the usual aptitude for impregnation," conditions evidently thought by Dr. Tyler Smith himself to be widely distinct.

This gentleman, whose painstaking researches and cautious inductions entitle all he says to our respect and confidence, gives[3] an account which is calculated to make us pause before accepting the modern doctrine. Although he defers to M. Ricord's authority, although he starts with an expressed wish to find evidence that gonorrhœa may be generated by leucorrhœa, his strong love of truth compels him to leave the question undecided. He had great opportunities of observation; he was ably assisted; he tells us that it was his habit to interrogate the husband strictly about his early days; he did not forbid connexion when the wife was

[1] *Giornale italiano;* 1871, vol. ii, p. 196.

[2] *Pathology and Treatment of Leucorrhœa;* 1854, p. 133.

[3] *Op. citat.*, p. 126.

suffering from leucorrhœa unless the symptoms were very severe;[1] yet all his experience only furnished one case of infection, and that one very incomplete. He tells us that a lady, in whom epithelial leucorrhœa arose spontaneously, gave her husband urethritis, and afterwards blennorrhagia, but there is not a single word to show what the course and symptoms were in either attack.

In order to follow up this part of the argument, I will give two instances showing, it seems to me, the contagious nature of true gonorrhœa, one in its rise, the other in its decline; and I think, taking all the facts together, that they fairly represent somewhat common occurrences.

A young girl, of respectable family, formed an illicit cônnexion with a gentleman who, after a time, gave her gonorrhœa. This was her first wrong step. Before she became aware that there was anything amiss with her, she had connexion with a relative, a man holding a good post in a public office, and who was very much attached to her. She had gonorrhœa in a severe and obstinate form, and her relative had the same disease, accompanied by gonorrhœal rheumatism; in the end, he too got quite well. All intercourse with the first paramour was at once broken off, but I did not feel so sure that the connexion with the second ceased entirely. Some months after this she had connexion, once, with a man whom she met at a ball, at least this was her version of the story, and very shortly after with her relation. Three or four days after, she came to me in great alarm at finding herself again infected. She had, in the interim, met her ballroom friend, and violently upbraided him. He did not deny the fact of previous infection, but justified himself by saying that he quite believed there was nothing left of his complaint to do any mischief. Within two hours after her visit I was consulted by her relative for what was evidently the beginning of a discharge. He had gonorrhœa, again complicated by gonorrhœal rheumatism, and the girl had a pretty sharp attack of gonorrhœa.

A gentleman had connexion with a young person whom he had long known, and whom he had excellent reasons for believing above suspicion. It was followed by a discharge, which a noted

[1] *Op. citat.*, p. 213.

specialist considered to be gonorrhœa. The surgeon examined the girl, and stated that there was nothing beyond slight leucorrhœal gleet, scarcely more than the natural mucus; in fact, he more than hinted that she could not have given the disease. Three times did this patient renew his intercourse with the girl, each time getting previously cured of his old discharge, and each time getting a new one. The surgeon still persisted in asserting that the girl had nothing but a little redness of the upper part of the vagina with some glairy mucus; however, with the view of making all safe, he cauterised her thoroughly. Soon after this she married, and within a few days her husband began to show unequivocal signs of gonorrhœa, from which he suffered long and severely. His wife had, as before, little the matter with her. I now learned that, three years previous to all this, she had been infected with gonorrhœa, but that she had, as she believed, got thoroughly well and remained so. I had reason to believe that neither of these two men had ever had gonorrhœa.

Judging, then, from this and similar cases, I am disposed to believe that *even a slight amount of gonorrhœa is more likely to excite the same disease in another person, than a pretty high degree of leucorrhœa is to bring on even simple urethritis.*

Ulceration of the neck or mouth of the womb, even accompanied by the formation of a stringy plug of mucus, occurring in a woman who has never been infected, I should be inclined to set down as incapable of exciting gonorrhœa; the case assumes a very different aspect when she has been exposed to the risk of disease, and I have never myself seen this state in the female under other conditions. In the careful examinations made at the Lock Hospital, it is found that women, having no outward discharge, and yet infecting men, are seldom without this morbid secretion from the os uteri or ulceration of the os or cervix.[1] If it could be shown once that such an affection had sprung up in a woman prior to her having any sexual congress, and then given a discharge to another person, the non-specific character of gonorrhœa would receive most strong support; but I suppose most persons familiar with hospital practice of this class agree in the belief that this affection, which I look upon as pathologically distinct from

[1] *Medical Times and Gazette.* 1868, vol. i, p. 9.

the secretion of mucus that in the normal state plugs the canal of the cervix uteri during pregnancy and the intervals between menstruation,[1] is in nearly every case the sequel of gonorrhœal vaginitis; which means in other words, that women of this kind, without any visible discharge, give gonorrhœa, not because some natural secretion is in them in a morbid state, but because they have had gonorrhœa. Dr. Tyler Smith gives an admirable description of the secretion sometimes seen in leucorrhœa, which might easily be confounded with the foregoing, but which yet seems to be quite distinct. It has been stated that the plug has been found in some instances to contain "neither pus corpuscula nor granule cells," but I apprehend that it is then incapable of conveying infection. We could scarcely, however, expect to find pus corpuscules in cases of leucorrhœa when the secretion consists of mucus, and where the white colour is due, not to the presence of inflammation, but to the action of the vaginal acid on the mucus. Under the head of ulceration are included here cases of congestion with detachment of the epithelium.

Purulent discharge from the interior of the womb, or, to speak more correctly, from the interior of the canal of the cervix, innocently acquired, sometimes wears such a serious look, especially if accompanied by vaginal discharge, that we might suspect it to be an agent of disease, and I have been consulted in one or two cases where a slight puriform running had, judging from the evidence, been set up in this way; but I have not yet met with an instance of anything, thus generated, which could be set down as gonorrhœa, and indeed I have seen but little of the affection. Where there has been previous disease, a certain amount of infecting power may remain and become a source of mischief. I I have not noticed any very full observations on this affection individually. Mr. Berkeley Hill says,[2] that a purulent discharge from the uterus is an almost universal condition among prostitutes, but I apprehend that he refers rather to the complaint described in the foregoing paragraph.

There is reason to believe that connexion during or directly

[1] *Pathology and Treatment of Leucorrhœa.* By W. Tyler Smith; 1854, p. 36.

[2] *Syphilis and Local Contagious Diseases*; 1868, p. 376.

after *menstruation* produces purulent discharge in the male sometimes of rather a severe character. I have met with a few cases where, though disposed to be sceptical, I could not shut my eyes to the fact that such might have been the case. There is, however, always this difficulty in the back-ground when the female is of loose character; a person in such a position may have an uncured gleet hanging about her, and a woman, who would not be sufficiently particular on the one point, is just the most likely person to be negligent on the other. Women with a strong sense of self-respect do not usually allow such approaches. Any one might, of course, be surprised into such a mistake once, especially when young and newly married; and it is possible, from the fact of menstruation being often succeeded by leucorrhœa for a longer or shorter time, that the close of the monthly discharge leaves the organs in a state closely akin to that of the first stage of gonorrhœa. In some forms of dysmenorrhœa an attack of vaginitis complicates every catamenial period. But I am led to rate the infecting power low. I have been applied to four or five times by men who had been alarmed by finding that they had had connexion with their wives at too early a period after menstruation, so as to cause a return of the discharge, and even when it had come on again during congress; but beyond the feeling of uneasiness and irritation, I never knew any ill results follow. In one of these there was ample reason for knowing that the patient was liable enough to infection in the other way, seeing that I had attended him for a most severe gonorrhœa, ending in obstinate gleet, which had lasted between six and seven years when he came under my hands.

In none of the few cases where I have had to treat discharge from the male urethra, stated by the patient to have arisen from intercourse at the menstrual period, was it complicated with orchitis or irritable bladder, and in only one was chordee present, and then in a very mild form. Neither have I met with an instance where, either through accident or imprudence, the contagious nature of the discharge thus called forth was established by the fact of its being conveyed to a third person. Mr. de Meric, however, in his answers to some questions on this head, following upon a paper read by him before the Harveian Society, distinctly

as I understood him, stated that the conveyance of infection under these circumstances had been noticed.

We now come to the most singular cause of all, that of a perfectly healthy state of the organs in the female. I wish to avoid tiring my readers with more references than I can help, and therefore confine myself mainly to the statements of M. Ricord, who asserts the fact in the most unequivocal manner. What is equally extraordinary, he tells us[1] that a man acclimatized to his wife has connexion with her and escapes, while the lover who follows, not being acclimatized, pays the penalty of his indiscretion. Mr. Henry Lee reproduces[2] this view, but rather as emanating from M. Ricord than as according with his own experience. Some other eminent writers seem to have adopted it unreservedly.

That gonorrhœa may arise without any outward signs of disease in the female we have just seen, but I understand M. Ricord to go far beyond the cases I have spoken of. His theory is, that a woman, who has been examined with the speculum and found to be perfectly free from disease, either of the outward parts or of the womb, will yet give gonorrhœa, although she has never had it, to a man who has got neither gleet nor a disposition to it. Either he means this, or he means nothing beyond what is generally known. I must leave it to others to affirm or controvert a tenet which is in flat contradiction with my experience, while I pass on to the discussion of one which seems equally in contradiction with general experience, and that is the escape of the husband. How comes it that he gets off? He was not always acclimatized, and ought, on M. Ricord's own showing, to have one time or other shared the lover's fate. I am therefore afraid that the theory of acclimatization, as M. Ricord calls it, and which may remind some of my readers of the old belief that husband and wife often grow to be like each other in features, will hardly help us here. Even those who so unreservedly accept M. Ricord's version, must admit that it is hardly suited to England, where thousands of virtuous girls marry every year, with their organs in the state described by him, and yet do not communicate gonorrhœa.

[1] *Lettres sur la Syphilis;* p. 48.

[2] *Holmes's System of Surgery;* Second edition; vol. v, p. 187.

M. Diday does not go quite so far as his illustrious teacher; he tells us[1] that any woman may give gonorrhœa, and that he makes no exceptions. Let her be ever so healthy at the time of her first liaison, she may be potentially fit to do any amount of mischief in this way, and carry within her a predisposition to communicate the infectious property to any discharge she may acquire, however innocently. The list of affections which may thus become tainted is appalling, but still the vehicle is visible, and we understand that such a thing, however improbable, might happen. M. Ricord's account is simply incomprehensible. But this is all the merit that can be conceded to M. Diday's statement. It is put forth in a form which robs it of half its value. True, the picture is graphically drawn, indeed, he yields here in no way to M. Ricord, or perhaps any one else; the terms are trenchant and incisive enough, and the facts arrayed in a way which does credit to his skill as a writer; but after all, it simply expresses a conviction which may be very well founded, but which may equally, as regards the evidence offered, be a truism or an error. Had he told us that out of every hundred women who marry so many have a morbid discharge, and that out of every hundred women who become liable to such discharges so many communicate gonorrhœa, we should know what to say. As it is, his account is more alarming than valuable. Let me, however, render one tribute of justice to both these charming writers. If they do not untie the knot they promote the interests of morality, for it is over the head of the erring lover, not the husband, that they hang the impending sword.

3. The third class of causes need not detain us long. Those who have seen true gonorrhœa brought on by eating asparagus or over-fatigue have been more favoured than myself. I have noticed yellow purulent discharge from the urethra in an elderly man who, I had very good reason to think, was strictly continent; and I have seen a thin, yellowish, dirty, and rather profuse discharge come on in a young patient suffering from bad influenza. Such discnarges too come occasionally, but rarely, before us, reported by the patient to be the effect of a sprain. Again, I suppose most practitioners have now and then been consulted

[1] *Exposition critique;* 1858, p. 515.

about a thick, white secretion and scalding, occurring in gouty persons, especially if the urine should happen to be loaded with urates and uric acid. Respecting all the other agencies I have no experience, except two or three, and these in a negative sense. These are passing a bougie, masturbation, scrofula,[1] dentition, piles and ascarides. The influence of the first I should be inclined to deny, unless the patient were suffering from gleet or a tendency to urethral discharge set up by stricture. I have passed the bougie hundreds of times for spermatorrhœa, and never saw anything of the kind; on similar evidence I question the power of masturbation, though I have recorded a case where free purulent discharge used to come on in a young man suffering from spermatorrhœa. Of piles and scrofula I have seen a pretty round number of cases; in not one of them was there ever a discharge innocently acquired. Of ascarides I have not had so many, except in children; in adults I have not found anything like urethritis from such a cause, and the question of dentition I consider to have no bearing on the point.

But granting that urethritis is now and then evoked by such factors, it is, under these circumstances, as remote from true gonorrhœa as ordinary conjunctivitis is from purulent ophthalmia. It is usually of so mild and transient a nature, that in no instance where I have met with it, has it required a remedy of any kind. Dr. Francis Cruize long ago pointed out[2] a clear practical distinction between discharges produced by gonorrhœal matter, and those induced by non-specific causes. While the former tend to run into obstinate gleet, the latter pass away spontaneously. I believe this rule holds good as to the agencies included in the third class of causes; with regard to some of those in the second, especially menstruation, it is possible that there may now and then be an exception to the rule.

Mr. T. W. Nunn calls attention to another distinctive mark. In a communication to Dr. Tyler Smith, published by the latter in his work on leucorrhœa, detailing a case in which this disease caused repeated attacks of balanitis, he says he is inclined to believe that when urethritis is produced in this manner, it makes

[1] Johnson; *Op. citat.*, p. 39.
[2] *Dublin Quarterly Journal;* vol. xxxix, p. 342.

its appearance immediately after connexion, that is to say, within twelve or fourteen hours; whereas the urethritis produced by a specific animal poison has a period of incubation of from four to fourteen days.

As to the suppression of any skin disease being ever the cause of gonorrhœa, I must go still farther and say, not only that I have never seen it, but that I can scarcely conceive it possible. I have made hundreds, I might safely say thousands, of attempts to check cutaneous eruptions, especially eczema, and never yet saw any disturbance of the health follow. Between the 16th of May, 1863, and the 18th of the same month, 1873, I treated at St. John's Hospital alone 2,148 cases of eczema on this principle, with results which justify me in asserting, what I believe I was the first english author to assert, namely, that we cannot suppress eczematous or any cutaneous discharge, at will; that, if we succeed in time, arrest never produces any injurious results; and finally, that we only succeed by the use of means which improve the health, and I cannot conceive that the use of such means can bring on gonorrhœa. However, as the possibility of gonorrhœa arising from this cause is admitted in a pathological work of high standing,[1] a work where every line seems to have been weighed, and which might be fitly spoken of as "finished with illustrious toil," I assume that such an occurrence has been noticed.

B. *In the Female.*—1. Judging solely from what I have been able to observe, I should say that true gonorrhœa, capable, as a rule, of infecting the male, is always, in the other sex, even when only assuming the form of vaginitis or vulvitis, the result of the contact of matter derived from a person suffering under gonorrhœa, generally, of course, communicated by sexual intercourse. In newly-married women a good deal of purulent inflammation, pain and swelling of the vulva, redness and heat of the vagina, ardor urinæ, and uneasiness in sitting or riding on horseback, may make their appearance, and in some cases excite suspicion that gonorrhœa has been communicated. But the course of the disorder soon reveals the difference, for though in a few rare cases the symptoms rise to such a height as to require medical attendance, yet for the most part they pass off spontaneously, or at the

[1] *Jones and Sieveking's Pathological Anatomy*: 1875, p. 712.

worst yield to any mild simple treatment; whereas true gonorrhœa is a more severe and infinitely more obstinate affection, generally demanding, in the long run, a decided and sometimes prolonged course of treatment. At the same time I feel bound to admit that this view is in direct opposition to that held by some writers. Dr. Bumstead, for instance, says he has had reason to believe that the frequent repetition of the sexual act has produced gonorrhœa in women free from any previous disease. Again, an affection due solely to repeated and unwonted intercourse rarely extends to the urethra, bladder, womb, and ovaries, as sometimes happens with genuine gonorrhœa. I know cases are cited in which such symptoms were found, and where the husband most strenuously denied having had any infection at the time of marriage. Were the denial always well founded, the believers in the non-specific nature of the disease would have a strong case here; but it is as certain as any fact can be that many men marry without being perfectly cured—some from natural laziness and neglect, some because they really believe they are cured, and a third class because they must fulfil the engagement at a stated time, &c.; and I have seen cases which justify me in thinking that this uncured state is sometimes the cause of gonorrhœa put down to a more innocent origin.

When, in a female, the signs of infection are seated *in the urethra*, the specific nature of the affection is admitted by those who oppose it when the affection shows itself in other parts, and notably by M. Ricord himself.[1] It is therefore just as well to bear in mind that, as one form of gonorrhœa is always due to a specific cause, other forms may also be due to the operation of the same law. We know that they often are so.

2. The next question is, can a man who has contracted a discharge from a woman labouring under leuccorrhœa, or simple vulvitis, or who is not quite free from the catamenial flow, give another woman true gonorrhœa? My reply must be that I have never been able to satisfy myself, in my own practice and observations, of such a fact, and the reader will see farther on the reasons I have to offer for exercising caution before a decision is formed.

[1] *Lettres sur la Syphilis*, p. 61.

3. Lastly, we have to consider the possibility of transmitting to the female a discharge set up in the male urethra by any of the mechanical or other irritants spoken of in the third class enumerated previously. It will, perhaps, conduce both to clearness and brevity if we take the two last sets of causes together.

In the first place it is to be remembered that we must often deal with a very suspicious class of facts. Trustworthy men, the men on whose evidence we could best rely, are the most likely, when they find themselves suffering under a discharge of this kind, to abstain from connexion, and very properly too. Consequently the proof most wanted is the most difficult to get.

Secondly, we have to separate facts which have been confounded together. For instance, it seems to be assumed by some authors, that when symptoms run high, infecting power must be present. But the two questions are quite distinct. Severity is not evidence of contagious power. Take the case of Swediaur. He gave himself as bad urethritis as a man could well have, by injecting ammonia into the canal, but as evidence of such a disorder being able to infect the female, his experiment is worthless. Yet who can doubt that some of those who speak of his case have not kept the line of demarcation so clearly in view as they might have done?

Some of the causes assigned may at once be rejected; they are far too improbable for any rational being. Thus, *e.g.*, Dr. Tanner was present when a surgeon suggested that making water in the night air might bring on gonorrhœa; and Mr. Johnson relates[1] that a patient wanted the students at St. George's Hospital to believe that in his case gonorrhœa had been brought on by the exertion of lopping a tree; he having nothing the matter with him when he began his task, and finding the discharge fully developed when he came down!

A medical man, credulous enough to fancy that night air could exert any such influence, would not be likely to investigate facts with proper care; and a patient who had the effrontery to tell such a bare-faced falsehood, would be just the person to conceal the fact that he had had intercourse with a prostitute. The possibility of late hours, too, having any such effect is one I

[1] *Op. citat.*, p. 27

should be very much inclined to question. It is, therefore, only against the more probable of these causes that any arguments are directed.

It must always be kept in view that many patients are possessed with a desire for finding any reason but the right one. It is not that they wish to deceive the surgeon. Most probably it arises as much as anything from a desire to extenuate the responsibility of the female, or to set up a higher standard for her health and physique than they are entitled to. Be that as it may, it is quite certain that they will snatch at a straw to save their drowning theory, and are only too happy to find the surgeon concur with them in assigning the disease to such innocent causes as a strain, a cold, &c. Still, making all allowance for bad logic, for the morbid desire to impose on medical men on the one hand, or on their own judgment on the other, it must be granted that cases of discharge from such causes are met with.

And first, I have to urge that a very slight gleet, a tender state of the urethra left behind by a gonorrhœa suffered to die out of itself, or only treated with medicines, meaning really uncured gleet ready to break out again at any moment, and sometimes even incipient gonorrhœa, are often at the bottom, not only of the disease conveyed to the female, but of the symptoms set up in the male also. I have been consulted in several cases where the urethra had remained free from visible disease for a pretty long period, owing apparently to the patient leading a quiet life, and abstaining from connexion; and where yet the disease soon ripened into dangerous activity under the influence of sexual indulgence. As to gonorrhœa itself, I believe it to be, both in its decline, when there is scarcely a speck of discharge left, and in its nascent stage, when the most timid might think there was no ground for alarm, infectious in a very high degree for some persons.

A lady, whose husband had brutally assaulted her, left him in consequence. As her womb was thought to be injured, I carefully examined her, and certainly I had every reason for saying that she was at this time perfectly healthy. Some time afterwards she became attached to a gentleman who had been very kind to her in her troubles, and who occasionally consulted me for a very

slight gleet; so slight, indeed, that sometimes it left no mark on his shirt, sometimes a pale one not bigger than a sixpence, but never more than this. This fluid was simply whitish mucus. Had the patient asked me the question, I should have said that such a discharge, albeit the relics of a gonorrhœa contracted two years previously, was innocuous; fortunately, he took this responsibility off my shoulders. The attachment was followed by connexion, of which I first became aware in consequence of the lady presenting herself in great distress, with every symptom of a violent gonorrhœa, from which she suffered very severely. Of course, the infection might have been derived from another source; but knowing her family intimately as I did, having always heard, even from her husband, that her character was up to this time irreproachable, and that her disposition was averse to anything like sensuality or impropriety, I think it may be inferred that she caught the gonorrhœa from my patient.

When, however, there are no pus corpuscles in the discharge, there is most probably no danger. I need scarcely say that it is not very easy—perhaps it is impossible—to prove such a point, especially as one source of observation, the existence of pure mucous gleet in the male, is not very common. The only evidence I have to offer is simply that I have never been able to find, either in the practice of others or in my own, a single complete history of a case of gonorrhœa being communicated to the female, unless there was positive proof of, or very strong reason to suspect, the existence of a certain amount of pus in the discharge by which she was infected. Dr. Durkee says,[1] that if there be no pus cells in the discharge, there is no danger of infection, and the reader will see that I agree with him. The requisite amount, however, seems in some cases to be very small.

Mr. R. consulted me about the middle of December, 1873. His account was, that owing to protracted absences from home, and the disinclination his wife had long shown for sexual intercourse, he had remained almost always continent for the last five years; that, three days previously, he had in the evening a suspicious connexion, which was followed, two nights later, by intercourse with his wife; and that he had been alarmed by noticing,

[1] *Op. citat.*, p. 29.

the morning after, that is to say the morning of his visit to me, a slight discharge, which he distinctly stated had not shown itself before. On examining, I found the lips of the urethra wet with a sticky secretion, which looked more like thick serum than mucus; there did not appear to be any pus in it. Within a few days his wife began to complain of uneasiness in the private parts. I examined her, and found considerable discharge from the vagina; there was also some swelling with tenderness in the right groin. The next day, the discharge being thoroughly washed off, I cauterized the vagina pretty freely, and two days after repeated the process. The affection, whatever it might have been, yielded to this treatment, which was seconded by the use of aperients, preparations of potass, rest, and low diet. In the husband the symptoms developed into distinct purulent running. I may add that this lady was not in any way subject to leucorrhœa, having had no symptom of the kind. .The urethra was not implicated in her case.

Contrast this with the following case in which there was as great a degree of incipient inflammation from a mechanical irritant. A gentleman, who had suffered severely from spermatorrhœa, married. Finding that connexion only made him worse, he came up to London, and placed himself under my care. I found the tendency to emissions as strong as ever, the urethra excessively tender, red, and secreting mucus freely. On placing a little of this under the microscope, it was seen to be swarming with inflammation corpuscles (cells). There was, however, no pus, nor had there been any, and there was no history of gonorrhœa. This condition seemed to have been brought on by masturbation, followed by excessive connexion. As he had got the fancy into his head that he must have given his wife the same disease as himself, I examined her at his request. The most careful search with the speculum revealed only a perfectly healthy state. Some time after he again consulted me, and stated that she had remained quite well.

It does not, however, follow from what has just been said, that every slight gonorrhœal discharge, in its first or its last stage, must necessarily convey infection. Just as there are some men so constituted, that they are almost certain to catch gonorrhæa

nearly every time they commit an imprudence, while other men repeatedly court risk and yet escape again and again, or if they do in the long run, as perhaps always happens, become infected, the gonorrhœa dies out of itself, or yields to such simple remedies as a few injections of cold water; failing, however often the attack may be repeated, to bring on any of the more severe results, or to entail more than some slight inconvenience, so does the susceptibility vary in women. Some will suffer most severely and for a long time where others would probably get off safe; or again, a woman may here and there be found so constituted as to expose herself with impunity to contagion in its worst form. I have known instances where men, with some amount of gonorrhœal discharge still remaining, had not communicated any disease to young women whom one might have thought susceptible enough; I am speaking, too, of cases where the argument about frequency of intercourse having something to do with the power of resisting infection could not be urged; and M. Robert says that women having connexion with men in the first stage of blenorrhagia, constantly avoid infection. But supposing that we can look upon both these positions as established, they are only rare instances of a disparity in receptive power which extends itself to all diseases and both sexes.

The reader has most likely pretty well anticipated what I have to say about the probability of urethritis, brought on in the male by any of the irritants mentioned in the third class, being conveyed to the female. I have already given my reasons for saying that the disorder is mild, and that the cases are fewer than is sometimes supposed; that it is really quite an occasional event when running is set up by such causes as cold, gout, strains, &c. Still as they are met with, we have to investigate the fact of their transmission. Now though I have once or twice known men so infected have connexion, not only with their wives, but with other women, I have never seen any discharge whatever thus brought on in the female; or rather I ought to say that the answers to my questions have been in the negative, for I never had an opportunity of hearing the evidence on the other side. At the same time I ought to state that my experience here has been small, although I have seen so many cases of gonorrhœa.

It is quite certain that some of those women who have sufferred from gonorrhœa and discharge produced by other causes than connexion, draw a broad and practical distinction between the two. Among other cases I may state the following :—

A lady was infected with gonorrhœa by her husband. After being under the care of two surgeons, one of whom practised chiefly in this special branch, she consulted me. I had great difficulty in curing her, and only succeeded by means of repeated blistering and cauterizing the vagina and mouth of the womb freely. She now separated from her husband. A considerable time after this she married again, and again contracted gonorrhœa, which also required a considerable time to remove. Seven years subsequently she consulted me for a muco-purulent discharge from the vagina. Knowing how severely she had suffered on the two former occasions, I gave a guarded opinion as to the time it would require for a cure, but to my surprise she avowed her conviction that she would soon be well, as the discharge had not arisen from connexion, and as she had three years before suffered from a similar, but more severe attack, after long exposure to great cold when travelling, which, though accompanied by considerable pain and even the formation of abscess, got quite well in a few weeks, with very simple treatment. It was a very different affair for all that, she said, from either gonorrhœa. The result in the present case proved that she was right, as she was well in ten days, though she only took some saline and merely used a lead lotion.

Against this we have to set the experience of Dr. A. Hiller, who, it seems,[1] inoculated his own wife with the muco-purulent secretion brought on in the urethra by a mechanical irritant, and succeeded in reproducing the discharge. I have not seen his pamphlet, and trust entirely to the abstract of it in the german " Archives of Dermatology," which does not contain any account of the experiment. Without contesting the accuracy of the conclusions drawn by Dr. Hiller, I am yet forced to say that an experiment, designed to succeed, is a very different affair from the facts of every day life ; and that it would require, not one, but several trials to establish the fact of communicability, and a

[1] *Archiv. fur Dermatologie, &c.*, B. 4, S. 555.

separate series to show that the disease, so generated in the female, was identical with gonorrhœa. Inoculation is, no doubt, a valuable means of observation, but it has more than once led to serious error.

Point at which Infection takes Place in the Male; Seat of Gonorrhœa in the Male.—There seems to be a certain amount of confusion on these points. Infection most probably takes place at the reflexion of the mucous membrane from the urethra over the glans; the lips of the urethra. I imagine no fluid from the female can possibly enter the urethra during connexion, owing to the turgescence of the penis completely closing the passage; and were any introduced, it must, one would think, be forced out again when the semen is expelled. The glans seem in no way implicated in the process, as gonorrhœa is met with often enough in Jews and others who have the glans uncovered from youth upwards, and in whom the skin covering it is so dry as to be apparently quite insusceptible of infection. Moreover, the symptoms at the commencement are, I believe, invariably limited to the neighbourhood of the lips; chordee, pain in the perinæum, irritable bladder, and swelled testicle, never appear till the inflammatory symptoms near the mouth of the urethra have lasted some little time.

I shall perhaps be told that the presence of chancre in the male urethra is fatal to such a view, as in this case discharge from the female *must* be carried down the urethra. There is, no doubt, a good deal of force in the argument. I am myself disposed to think, from the presence of chancre manifesting itself so generally within a very limited range of space, that the chancrous action begins at the mouth, and, when it does not expend its force there, spreads in a diffused form, like the gonorrhœal action itself, till it reaches a part of the urethra where, owing to a peculiarity of tissue or tendency to take on an ulcerative action, it can develop itself. My reason for assuming that something of this kind occurs is, that chancre has been found so low down the urethra (and even in the bladder), that it really requires a stretch of the imagination to believe any fluid from the vagina could be propelled so far along a narrow and, at the time, swollen canal; especially considering how strong the disposition is of the urethra to extrude

everything in the shape of a foreign body, and even its own secretions when more copious than usual.

The seat of gonorrhœa varies most materially, both according to the date after infection at which the patient is seen, and the disposition of the urethra to take on the purulent action, a disposition which is not always alike in the same individual, and which is certainly widely different in different persons. At the outset the seat of the disease is, as I said, limited to the very vicinity of the mouth of the urethra, but after a few days have elapsed we find every degree of severity as to extent. In some persons the inflammation spreads rapidly, in others slowly, backwards, reaching in succession the bulb, membranous, prostatic portions of the urethra, the bladder, and so on. I tried hard for a long time to make out if there were any law under the influence of which this extension takes place, but after collecting a great number of observations I gave it up.

These views were made public several years ago at a meeting of the Medical Society of London, and again at more length in the third edition of this work published in 1871. While this edition was going through the press, an important paper on the subject appeared from the pen of M. Ledeganck.[1] This gentleman, who has examined the urethra in the living subject by means of a cylinder of thin glass, says that in the majority of cases, the disease begins in the fossa navicularis. Fifteen or twenty hours after infection, he tells us, the vessels of the parts are injected, the seat of the hyperæmia being strictly limited to the frænum, and stopping almost at the borders of the meatus. On the second day, the injection has extended to the interior of the navicular fossa. When the urethra is examined with the glass, it is found that the mucous membrane presents a port wine hue, which springs from the anterior lip of the meatus, and extends down the canal in the form of two or three descending and diverging striæ. On the third day the port wine hue has become intense, and the part so coloured has the form of a myrtle-leaf, with the base at the anterior border of the meatus, and the apex

[1] *Journal de Medecine;* Nov., 1871. Quoted in the *Practitioner*, vol. viii, p. 183.

about three quarters of an inch down the passage. After the third day the injection extends rapidly towards the deeper parts, and its limits can then no longer be accurately fixed.

Guided by the endoscope, Dr. Cruize concludes that in true gonorrhœa the inflammation spreads backwards over the whole length of the canal, and then either contracts the area of its operation towards the orifice, or fastens upon the posterior tract of the urethra from the bulbous to the prostatic part. When it fixes itself near the bulb, which is its seat of predilection, it brings on a granular state of the urethra, which has no tendency to get well of itself.

But, as I pointed out in the paper just spoken of, the dawn of the doctrine that gonorrhœa is not confined to the first inch and a half or two inches of the urethra must be sought in the writings of the earlier authors. The opinion that Hunter considered the seat of the disease to be limited to this small tract, is erroneous; he certainly looked upon it as the part most commonly affected,[1] and contended that the inflammation does not usually go farther than two or three inches from the meatus,[2] a doctrine taught by at least one surgeon,[3] though, perhaps, not very clearly, long before the appearance of Hunter's work; but he never expressed such a view as that the inflammation is always confined to this part; so far from it, he distinctly says,[4] that "we sometimes find the irritation and inflammation exceed the specific distance, and spread through the whole of the urethra." Cockburn, too, in the fourth edition of his work on gonorrhœa, published in 1728, if not in his earlier productions, expresses[5] his conviction that the inflammation extends to the neck of the bladder.

Again, Sir Astley Cooper examined the body of a man executed at the Old Bailey while suffering under gonorrhœa, and found that the inflammation was greatest in the first three inches of the urethra, but that the lining membrane was inflamed up to the membranous portion.[6] The doctrine of limitation to a specific seat was also opposed, long ago, by an excellent observer, Dr. Egan,

[1] *Treatise on the Venereal Disease*, 1786, p. 50. [2] *Ibid.*, p. 47.

[3] *Venereal Gonorrhœa.* By James Neville; 1754, p. 18.

[4] *Op. citat.*, p. 51. [5] Page 271.

[6] *On the Structure and Disease of the Testis*, 1830, part ii, p. 15.

who, as far back as 1848, stated[1] that gonorrhœa sometimes engages the whole extent of the urethra, and by Mr. Colles in 1850, who maintained[2] that the inflammation may spread as far as the bladder, and even at times to the ureters and kidneys. He found the urine loaded with pus from the bladder in two or three days from the beginning of the gonorrhœa.

Post-mortem examination reveals little for or against M. Ledeganck's account. I have only twice examined a gonorrhœal urethra after sudden death. Both patients committed suicide. It was difficult to say exactly where the inflammation, which was principally shown by a punctiform reddened state of the membrane, really stopped; but it could not be said to extend beyond three and a half inches in one case and three in the other. Hunter simply says that in such cases he found the urethra a little blood-shot. Dr. Stoll, of Vienna, examined very carefully the urethra of a man who died in his hospital while suffering from "a virulent clap." He found the internal surface preternaturally red, two of the lymphatics white and enlarged, and puriform matter oozing out from the internal membrane, especially at the lacuna.[3] Drs. Jones and Sieveking only state that the mucous lining becomes swollen, injected, and covered with mucous or muco-purulent secretion, the follicles and lacunæ being attacked, particularly the lacuna magna.

This much relates to the course of simple uncomplicated gonorrhœa at the outset. The question of extension of the morbid action, as the first stage in the pathology of orchitis, will, necessarily, come under discussion in the part treating of that affection, as also in that relating to gleet.

Period of Incubation.—This has been so variously stated, that if we allow equal weight to all who have given us the result of their observations, no time can very well be laid down. It is, of course, very often a most important question for the patient's peace of mind to know at the expiration of what term he may fairly calculate on escaping from the results of indiscretion; but really the question is not very easily answered, and I believe the only safe way of dealing with it is, if we include after in-

[1] *Dublin Quarterly Journal*, vol. v, p. 404. [2] *Ibid.*, vol. x, p. 103.
[3] *Swediaur; Op. citat.*, p. 24.

fections, to extend the limit beyond that often laid down in works. In the case of a first gonorrhœa, the symptoms, though slight, usually set in quite unmistakeably at the end of three, four, or five days.

According to M. Le Fort,[1] out of 2,070 patients suffering under gonorrhœa, 778 noticed the initial symptoms of the disease within the first four days, 50 of them at the end of twenty-four hours after exposure to infection, and 869 in the second four days; 276 noticed the earliest signs between the close of the eighth and of the twelfth day; 112 in the fourth period of four days, and only 17 in the fifth of these periods, or from the sixteenth day to the twentieth, including the latter. Supposing these statistics to represent average results, the first symptoms must be considered to appear, in upwards of 78 per cent. of all the cases, in the time extending from the first to the ninth day. But often enough in after-attacks the symptoms appear much later, and not infrequently in so insidious a manner that both surgeon and patient at first look upon what is destined to ripen into a true gonorrhœa, as "a mere touch of gleet." Hunter gives[2] the time as varying from a few hours to six weeks, and if no regard be paid to the difference between a mild and a sharp case, a first attack and one preceded by many others, this rough estimate may hold good.

Seat of Gonorrhœa in the Female.—As concerns the seat of this disorder, and, by implication, the relative frequency of its different forms in women. I should say, judging from my own practice, that the vagina is the chief place of action in the first attack; that, in some instances, the morbid action spreads to the urethra, and fastens on it with such severity as to make this the predominant affection; and that in neglected cases, or after repeated infections, some degree of mischief will usually be found near or on the os uteri, most likely with some exudation from the canal of the cervix. Dr. Ashwell held that gonorrhœa in women is chiefly seated in the vagina, and Dr. Tyler Smith agrees with him. Out of 112 cases, Egan found[3] the vagina more or less inflamed in 98, granular erosion on the cervix

[1] *Medical Times and Gazette*; 1869, vol. ii, p. 52.
[2] *Op. citat.*, p. 31.
[3] *Dublin Quarterly Journal*; vol. v, p. 408.

in 38, erythematous condition of the os or cervix in 57, and the uterus participating in 97. Dr. Graily Hewitt considers[1] that when the vagina is attacked with acute gonorrhœa, the urethra frequently shares in the morbid action. According to the opinion of Dr. Barnes, a most truthful and laborious observer, quoted in Jones and Sieveking's Pathological Anatomy, gonorrhœal vaginitis more particularly affects the fundus of the vagina, with some implication of the vaginal portion of the uterus. According to Dr. Barnes, the redness is much more intense than in the simple form, and the gonorrhœal variety yields a copious muco-purulent secretion of greenish or yellowish tint.

Period of Incubation in the Female.—The time at which the signs of infection appear in the female is by no means easy to decide. The hidden site of the part, and the ignorance of many women as to the nature of the complaint, and, indeed, of such things in general, make it more difficult to fix the era of its outbreak with exactness; but the probability is that it is much the same as in men.

Milder Nature of Gonorrhœa in Subsequent Attacks.—Hunter held[2] that most men suffer more severely in the first gonorrhœa, and that "the succeeding ones generally become milder and milder till the danger of infection almost vanishes." Many authors have accepted and repeated the first part of this view, but I am satisfied that on both heads the statement is frequently at fault. It is true enough that a man who has caught one sharp gonorrhœa, with a good deal of scalding, chordee, pain, and perhaps swelled testicle and irritable bladder, does not often present himself with exactly the same symptoms ; partly, it may be, because, warned by what he has suffered, he takes more care about his next attack, and exposes himself less to infection. In such a patient, the symptoms will probably enough be slighter, but often matters do not go on in this way.

Some persons suffer more in the second attack than in the first. One of the most refractory cases I ever had under my care was a second gonorrhœa; according to the patient's account, which was perfectly consistent throughout, all the symptoms were

[1] *British Medical Journal ;* 1862, vol. i, p. 57.

[2] *Op. citat.*, p. 37.

worse than in the first. I have notes of two or three similar cases, including one in which the fourth attack was worse than the first, and one where the third gonorrhœa was more severe and obstinate than the second. Some men always have the disease in a mild form, others the very reverse. I had a gentleman three times under my care for this complaint; it went away very quickly in each instance, and he assured me that, though he had often exposed himself to contagion, he had never had a discharge which lasted more than a week, nor was the complaint ever attended by such symptoms as chordee. On the other hand, I treated a patient for eleven gonorrhœas in three years, in none of which did I notice any symptoms of abatement, there being a good deal of running, redness of the urethra, scalding, and disposition to chordee at each attack. All were cured very quickly, but for anything I could make out to the contrary, the last attack was as bad as any of the others. Irrespective of this evidence that we cannot always rely on the danger of infection "almost vanishing," I may add that I was last year consulted about a case where the patient, in his written account, roughly computes the number of his infections at thirty.

Does Gonorrhœa infect the System?—Dr. Tanner says that the occurrence of such a disease as gonorrhœal rheumatism can only be explained on the supposition of systemic infection. I am not quite clear that I understand exactly what systemic infection is. Extension of the purulent inflammation, Hunter's sympathy of continuity, either in all its integrity or in a modified form, may be imagined as possible all along the mucous membrane of the genito-urinary tract; indeed, there is every reason to believe that it takes place sometimes. Again, inflammation of the contiguous parts (sympathy of contiguity) is clearly excited by gonorrhœa, and is comprehensible enough. But I see neither proof nor possibility of the whole frame being affected; of the lungs, brain, heart, liver, muscles, and bones being enveloped in one common mass of disease, and yet this is what systemic infection must mean, if it mean what it professes to do. Possibly Hunter's "remote sympathy," of which he gave some instances, and of which I think many more might be given, offers a clue to the solution of the problem.

Prognosis.—According to some writers, gonorrhœa is so mild a complaint as scarcely to require any rules for treatment. I heard a consulting surgeon, in large practice, assert that he always cured his patients in a week or ten days. Dr. Chambers, of St. Mary's Hospital, considers[1] that gonorrhœa is never obstinate or of long duration, unless rendered so by bad treatment on the part of the surgeon, or folly on that of the patient. Like a mild catarrh it passes off of its own accord, if the patient will only be reasonably quiet and the surgeon abstain from mischievous interference. The reader must bear in mind that these assertions are not made by any mere tyro, but by a physician to a large hospital, a Lumleian lecturer, and a well-known author.

This view does not in any way harmonise with my experience, which is that many cases of gonorrhœa are only subdued with great difficulty. It is in direct conflict with the experience of Mr. Henry Lee[2] and Sir Astley Cooper,[3] and Dr. Bumstead says[4] gonorrhœa is a disease which, independently of treatment, rarely terminates in less than three months; that,[5] laying aside those cases which are seen in the first stage, and which are speedily cured by the abortive method, its average duration under the hands of the best surgeons may be estimated at three or four weeks, and that, probably, greater success is not attainable by any treatment we are acquainted with. Dr. Durkee speaks pretty much to the same effect. "The precise time," he says,[6] "requisite for a complete and permanent restoration of the parts to a normal state is as uncertain as the winds." Hunter found[7] that, though many cases terminated in a week, the discharge in others sometimes lasted for a month, and Mr. Johnson puts down[8] the average duration of *the acute stage* at three weeks. M. Robert says[9] that the disease rarely yields by the twenty-first day, and often lasts to the fortieth or sixtieth.

[1] *Clinical Lecture on Gonorrhœa and Imaginary Spermatorrhœa.* By Thomas K. Chambers, M.D., Fellow and Censor of the College of Physicians. *Lancet;* 1861, vol. i, p. 582.

[2] *Op. citat.*, p. 195.

[3] *Lancet;* vol. iii, p. 104.

[4] *Op. citat.*, p. 63.

[5] *Op. citat.*, p. 100.

[6] *Op. citat.*, p. 43.

[7] *Op. citat.*, p. 69.

[8] *Op. citat.*, p. 86.

[9] *Op. citat.*, p 81.

Results of Gonorrhœa.—As it formed no part of my plan to describe the symptoms of this affection, inasmuch as they have been fully and carefully laid down in many excellent works, so for a similar reason, I did not intend to touch upon the results it induces. But since the last edition of this work was published, some accounts of the effects produced by this disease have appeared, which are enough to make one's hair stand on end, and have consequently obliged me to break through the rule laid down. They are from the pen of Dr. Noeggerath of New York,[1] who informs us, that gonorrhœa, in man as in woman, once contracted, is, as a rule, incurable; that it renders every man who has suffered from it to a great extent sterile, and that eight out of every ten men have gonorrhœa. The wives of men who have contracted this disease either remain barren, or, if they become pregnant, abort or bear only one child. He gives the cases of eighty-one women thus situated. Out of these only thirty-one conceived. Five of the thirty-one aborted, and three were prematurely confined, thus reducing the number of child-bearing women to about one-fourth of all who married. Of the twenty-three who went their full time, twelve had one child during married life, seven had two children, three had three and one had four. I am indebted for a knowledge of these startling facts to a review of the work in the *Edinburgh Medical Journal*,[2] for I have not seen the original, and I may observe, that the reviewer seems rather favourably disposed towards Dr. Noeggerath's opinions, and speaks of the work as a thoughtful and important essay; a sentiment evidently shared by the reviewer in the *Dublin Quarterly Journal*,[3] who describes the book as inviting "the most careful consideration of the subject."

But the troubles of women who have the misfortune to marry the victims of gonorrhœa do not end here. Nine out of ten of them fall into some incurable kind of disease such as perimetritis, acute, chronic or recurrent; oophritis, and catarrh of the genital passages. Finally the infection of gonorrhœa is so intense, that it may be conveyed when the disease is latent. Complaints are

[1] *Die latente Gonorrhœ im weiblichen Geschlechte.* Von Dr. Emil Noeggerath.

[2] Vol. xviii, p. 648.

[3] Vol. lvii, p. 326.

sometimes made that we get nothing new about this disorder. Here at any rate is novelty enough.

It does not seem to have struck Dr. Noeggerath, that, had his facts been correct, *gonorrhœa would have long ago depopulated every country into which it had penetrated.* According to him eighty out of a hundred men catch gonorrhœa, and we have just seen that eighty-one such men have thirty-one children. Suppose that, for convenience sake, we take eighty-one out of a hundred, instead of eighty, as representing the proportion of infected males; doing so will not materially affect the issue, and a second calculation by the reader will at any time set all right. If, to the remaining nineteen we allot an aggregate of a hundred children, which is, I believe, quite up to the average, this will give us a total of a hundred and thirty-nine children born to every two hundred grown up persons. It needs no reference to an actuary to show that, with such a state of matters, the disappearance of the entire population is only a question of time, and of a very short time too.

Again, out of every hundred married women, seventy-two must, according to Dr. Noeggerath's theory, suffer, sooner or later, under incurable disease of the womb, the surrounding parts and appendages, and the genital passages. This is the percentage from gonorrhœa. Add to this the cases where either such affections, or other formidable diseases of these parts, are brought on by more innocent causes, and we are driven to the conclusion, that out of every hundred married women, nearly eighty at least are suffering under severe or hopeless uterine disease. I think I may safely ask, whether there is a man living whose experience agrees with that of our author.

His statement, too, about the sterility of men who have once had gonorrhœa, does not harmonize with what I have seen; on the contrary I know cases enough which prove the very reverse. I attended a gentleman who had, he told me, been repeatedly infected. He had gonorrhœa to a certainty; I saw the pus coming out of the urethra, and injected him with my own hands. Two or three years after this he married, and his wife had twins at her first confinement. Both lived, and are now fine sturdy lads. When I last saw him his wife was again pregnant. I was

consulted about the case of a gentleman whose brother, himself a surgeon, told me that this patient had in his younger days so repeatedly suffered from gonorrhœa, that he believed it was rather the rule than the exception for him to have one. After marriage he had four healthy children, the somewhat advanced age of his wife seemingly alone preventing any further increase of family. I attended two gentlemen, friends of each other. One of them had as bad a gonorrhœa as ever I saw and extremely rebellious. He has now five fine children, one of them growing up quite a type of manly beauty. His friend had eight attacks of gonorrhœa, for three of which I attended him; he has since married twice, and had children by each wife, the number amounting to six when I last heard of him. My opinion was asked about a case of somewhat alarming bleeding from the urethra, owing to chordee from gonorrhœa. The patient married directly after he was cured, and has had fourteen children, twelve of whom are now living, and so on.

Nor am I any more in accord with this gentleman as to the serious state of health induced in the female by marriage with a man who has been infected. In many cases I have, of course, had no chance of learning the history of the case after my attendance on the husband came to an end; but in several others I know that, so far as their own repeated statements can inform me, the wives have remained free from not only uterine but any other grave disease. I have not heard that one of them aborted or was prematurely confined, and I am sure that many have not done so.

Dr. Angus Macdonald, who thinks Dr. Noeggerath has got hold of "a grand idea," has gone[1] very carefully into his views, and quotes from his own practice cases which he thinks support the theory. Want of space will not allow me to reproduce these, and I must therefore refer the reader to Dr. Macdonald's paper, and especially to his fourth and fifth cases. So far as I can understand the question, he seems only to establish the fact, that gonorrhœa, even when of long standing and almost cured, may be communicated, a fact which I, for one, never denied. In a former edition of this work I called attention to the possibility of the

[1] *Edinburgh Medical Journal*; vol. xviii, p. 1086.

disease being conveyed by a discharge seemingly innocuous. Dr. Macdonald also shows that gonorrhœa, thus conveyed, may set up very serious if not fatal consequences in pregnant women. Not having had much experience of such cases, I can offer no opinion on the matter. One, about which I was consulted, rather supports Dr. Macdonald. The husband was certainly labouring under recently contracted gonorrhœa, and infected his wife about the mid-term of pregnancy. Shortly after she was attacked by serious symptoms, which the medical gentleman in attendance upon her seemed to have considered as inflammation of the womb, but I did not receive the account from him, and could not get any more definite statement.

But while I readily admit the contagious power of even a very slight amount of pus in the secretion of the male urethra, I entirely demur to such a doctrine as that of latent gonorrhœa, in the strict sense of the word, being conveyed by sexual intercourse; for by latent I understand *that state in which there is no discharge existing*. I have already given my reasons for coming to this conclusion. Dr. Macdonald, however, interprets[1] latent as chronic gonorrhœa, and from what Dr. Noeggerath says, of its being a common practice to sanction the marriage of young men still suffering under stickiness of the urethral opening, accompanied by such an amount of discharge as to cause spots on the linen, it is possible that he means the same thing; but I must take the liberty of calling this gleet, not latent gonorrhœa, and of adding, by way of rider, that any medical man, sanctioning marriage under such circumstances, takes upon himself a most dangerous responsibility. Rightly or wrongly, I have always understood by latent gonorrhœa, or latent gleet, a disposition in the urethra, unaccompanied by the presence of purulent secretion, to take on the characteristics of gonorrhœa, or gleet, when the system is excited by the stimulus of much connexion, indulgence in beer, &c.

I do not see how Dr. Noeggerath's assertion about gonorrhœa being incurable is to be met at all. A man might say the same thing about any complaint, without its being possible for another person to refute him; but I believe I am warranted in affirming, that morbid anatomy does not come to his assistance here, as it does

[1] *Op. citat.*, p. 1101.

not demonstrate any change of tissue induced by uncomplicated gonorrhœa, when cured in the ordinary sense of the term. What proof of cure is to be required, beyond a return to natural appearance and natural state of secretion, I do not know.

Origin of Gonorrhœa from a Fungus.—As most of my readers are no doubt aware, this disease has at different times been ascribed to the operation of a fungus, and especially by Dr. Salisbury, who tells us[1] that the species which produces gonorrhœa consists of spores, which are found in pairs and sometimes in fours, and develop rapidly in and among the parent cells of the mucous membrane. These spores unite and run into filaments. He also maintains, that if this fungus be once planted in the mucous membrane, it "extends from cell to cell, if not prevented by remedial means, till it has invaded all the mucous surfaces in continuity with each other." I presume this really means, that in every case where gonorrhœa is not checked by art, it spreads to the bladder, ureters, and epididymis. I ask the reader to weigh this, and say, whether he has not often seen a neglected gonorrhœa where nothing of the kind took place. The purely microscopical view of the question is carefully considered, and I think refuted, in the first volume of the "Archiv für Dermatologie," where also the statements of Hallier on the same subject are discussed.

How long Gonorrhœa has existed.—I suppose this oft-mooted question may now be looked upon as settled, and that even those who have only superficially studied the subject, will admit that we can trace gonorrhœa as far back as we can trace any disease with certainty. The hypothesis that it made its first appearance in Europe, along with syphilis, towards the close of the fifteenth century, scarcely requires to be refuted any longer. Most likely it began with the introduction of artificial forms of life, and it may be pretty safely assumed that it will die out when they are extinct, and no sooner.

I wish however to be understood here. Some of the evidence seems to me inadmissible; for instance I have already endeavoured[2] to show that an eminent author has rendered the

[1] *American Journal of Medical Sciences;* vol. lv, p. 22.
[2] *Edinburgh Medical Journal;* vol. xix, p. 1.

obscure words, used by Herodotus to designate the malady which the Scythians suffered from, by "a running from the penis." Now it is true the greek phrase cannot well be translated,[1] but I see nothing which justifies such an interpretation as this, and I think it would be better to restrict the evidence, selected about the history of gonorrhœa, to such as clearly admits of little or no dispute. In its present form, a good deal of what is brought forward rather weakens and encumbers the argument than strengthens it. Looking, however, to the general agreement in the proofs, it seems to me that the case for the antiquity of the disease is made out. Mr. Berkeley Hill, quoting from Dabry, says[2] that gonorrhœa was described 4,500 years ago in the collection of medical treatises made by the Emperor Ho-Ang-Ti, and I see nothing improbable in the statement.

[1] *The Nine Books of Herodotus.* By P. E. Laurent; 1827, vol. i, p. 51.
[2] *Op. citat.*, p. 6.

Chapter II.

TREATMENT OF GONORRHŒA.

Variety of Remedies Recommended.—Gonorrhœa has been successfully treated with purgatives and diuretics, corroboratives,[1] astringents and laxatives, demulcents and alexipharmics, mercury and iodine, acids[2] and alkalies, anæsthetics,[3] tonics,[4] specifics and treatment on general principles ; so that the puzzle must be, not to find out what will cure it, but what there is in the wide domain of therapeutics that does not possess this power. An old author complains that the specific for this disease had not yet been found; had he lived in the present day, he might have lamented that there were rather too many, always supposing we are to put faith in what we are told about some of the medicines recommended. As to injections, the variety is quite as great, upwards of sixty different substances and combinations having been recommended for this purpose within the last few years. External applications do not offer the same scope for diversity, yet it can scarcely be said that they have lagged much in the rear. If their narrow bounds do not admit of much choice, they leave the way open for sufficient difference of opinion as to the mode in which they are to be applied. One surgeon recommended that the patient should be macerated for five or six hours in a hot bath, while Ricord considers the hot bath, even in the usual form, calculated to develop gonorrhœa. Some practitioners apply evaporating lotions to the penis for the purpose of reducing the inflammation, perhaps it would be more correct to say in the hope of doing so, others have resorted to ice with the same view. Men with views

[1] *Swediaur; Op. citat.*, p. 65.

[2] *Essays on the Venereal Disease.* By William Blair; 1798, pp. 36, 72, &c.

[3] *Archiv für Dermatologie;* B. 5, s. 593.

[4] *Lancet;* 1870, vol. ii, p. 428.

opposed to this treatment sedulously caution the patient to avoid anything in the shape of cold getting to the part, or even sanction the use of india-rubber bags, which, though they prevent the linen from being stained, keep the organ hotter than the bath would do. Swediaur carried prudence so far as to deprecate making water in the street when there was a cold wind blowing.

It is gratifying to find that, with all this warfare of opinion, we are really making progress, and that we can not only cure the disease in many different ways, but cure it with a rapidity which leaves the feats of past days, and the most audacious assurances of quackery, alike in the back-ground. Our fore-fathers were content with removing gonorrhœa in a week or two, and the boldest charlatan, who undertook the same task, required a few days to do it in. But now, as the reader will see further on, we have remedies which cure the disease in one to two days, while its worst complications, gonorrhœal ophthalmia and rheumatism, can be set right in twenty-four hours. Orchitis requires only half that time, all the symptoms of it vanishing completely within twelve hours under the improved treatment of modern days.

Continuance of the same Fundamental Principles of Treatment.—What may, I think, be called the fundamental principles of treatment, of that treatment which is most largely adopted in each successive age, have, excepting the use of injections, changed less amid all this disparity of opinion during the last century or two than might be supposed. The handling of the subject is more scientific, but possibly not so much more likely to promote success, the grand test after all. The vague and elastic rules of treatment laid down in text-books and dictionaries; the want of tangible proof as to the proportion between cure and failure, mean in plain words, old results in a more modern dress and phraseology.

Judging from what I see and hear, treatment is rather regulated by the impression some striking case of cure or failure has made at the outset of the surgeon's career, or by the views some favourite teacher or eminent specialist may have inculcated, than by conclusions drawn from long and carefully watching the action of medicines. If this be the case, then I think matters have gone on long enough in this way to excuse me for saying, that there is no cure for the uncertainty in the

present state of things, and that the remedy would be a more full study of the therapeutics of the complaint, even supposing we had for this purpose to exclude many interesting points in etiology and pathology, coupled with a system of observation on a simple, uniform plan, *which dealt only with certainties, which admitted no case as cured or uncured unless the surgeon saw it for himself*, and where the history comprehended the beginning and ending of the disease. But of such a step I have no hope. The tendency of the age is to exalt scientific experiment, however useless it may be, *and to despise the teachings of experience*, as if to gather these did not demand as much toil and self-sacrifice as the other. One consequence of this is that time is spent on experiments which settle nothing, while we cannot get at data for establishing rules of treatment. In support of this statement let me ask the reader to take any of the more recent works on venereal diseases and to compare what is said on the management of gonorrhœa, especially the part contributed by the author, that is to say what is new, with the bulk of the section on this disease. I think he will admit that I have not over-coloured matters in saying, that the treatment is made quite a subordinate question to those of causation and pathology.

The point appears to me of so much importance, that at the risk of appearing ever so tedious, I will take an instance of the vagueness of the rules laid down by our teachers. I select it from the writings of an eminent surgeon. The author in question tells us that gonorrhœa must be treated on *general principles*, and that though it must be admitted that the disease is now and then cut short by an astringent or caustic solution, it is more the result of *chance than judgment;* and in many instances, where it has been supposed that this was the case, gonorrhœa has in reality not been present.

This is all *en règle;* but what a picture of uncertainty, what a maze of doubt it reveals! How much better it would be to say at once to the pupils,—"Gentlemen, you must first of all check the inflammation by antiphlogistics,—not that I ever convinced myself by experiment that these remedies have any power to effect this purpose, but because so many excellent authorities have insisted upon their efficacy. Perhaps they knew no more about the

matter than you or I do; however, that is no business of ours; the orthodox plan is to pay them due respect, and quote them on all fitting occasions. Then if you think it right, and I have no rule to offer you, specifics may be given; they may cure the case, or, which is just as likely, do no good. As to injections, I cannot say that I have myself seen an instance in which stricture, abscess, or swelled testicle resulted from them when properly given, even in the acute stage; but then the authorities I have consulted very properly dread the result of imprudent haste. If these remedies fail, you must use your own discretion about trying others. When you have exhausted your stock, send the patient to the seaside, or anywhere else, so long as you only get rid of him. Do not worry yourselves about failure. You have done everything sanctioned by the legitimate practice of surgery, and have therefore nothing to reproach yourselves with."

Such language as this would be honest, but then it would be injudicious. Men like Ricord and Hebra can and do say things of this nature, but what is quite orthodox at Paris and Vienna could not be tolerated here. A writer who would venture to speak his mind so openly in this land of liberty would soon be lectured by the press on the impropriety of his conduct.

I am continually asked if I have tried some new remedy—the specific of the day—to which I simply reply, that I am very glad to try anything recommended upon good grounds, anything that holds out the hope of exhibiting greater curative power than is possessed by the remedies I know; but that I entirely object to wasting the patient's time and my own; to running the risk of causing him unnecessary suffering, and reaping for myself only discredit and vexation, for the purpose of testing the virtues of any novelty, unless these are supported by the history of a sufficient number of well-observed cases.

There may be too much of a good thing, and I think we have had too much in the shape of novelties for many years past; simply adding to the list of remedies, which, Heaven knows, is already long enough, and many of which are just as useful as a "beane putte into ye harte of a black cat," and divers other pleasant nostrums of bygone days, can do no good whatever. Any simple remedy and mild injection will cure most cases of

gonorrhœa. One or two of these may be found every year in those valuable repertories, Schmidt's "Jahrbuch," Canstatt's "Jahresbericht," and Braithwaite's "Retrospect," and a reader tempted to go into the literature of this subject might be interested and amused to see how many are periodically introduced as though they had never been heard of before. Those fond of new modes of treatment are therefore able to gratify their taste; but unless it could be shown that these novelties really cure *more* cases out of a given number than the remedies every person is familiar with, or are specially adapted to a particular class of cases which can be diagnosed at the outset, their introduction would merely add to the existing confusion. I therefore propose to examine only those which seem exceptionally entitled to notice.

It is perhaps this incessant supply of novelties that has rendered men so inattentive to the few improvements that have been suggested in the treatment of gonorrhœa, such as the addition of long tubes to syringes, the use of *fresh-ground* cubebs suggested by Mr. Norman,[1] and the separation of the effete and nauseous parts of copaiba from the more useful constituents by Mr. Thorn.[2] The discoveries of Mr. Norman and Mr. Thorn may have been useless. I have had no opportunity of making such observations as to enable me to form an opinion, and therefore offer none. What I have to deal with is the total neglect shown by the medical public on both occasions. Judging as well as I can, I should say it is much more likely that they were of great value, and that if properly worked they would have materially alleviated and shortened the sufferings of thousands of patients. There was quite evidence enough in their favour to have recommended them to the notice of medical men. Yet they were honoured with no more attention than if they had belonged to the class of trashy and ephemeral papers on such topics so often seen in our journals. Mr. Thorn's preparation was carefully tested by the late Mr. Tyrrell, and found most efficacious. Yet his work was received with so much coldness, that he soon after threw up the subject in

[1] See a paper on this subject read by Mr. Norman before the North London Medical Society, and published in the *Lancet*, 1856, vol. i, p. 631.

[2] *On the Treatment of Gonorrhœa by a new preparation of the Balsam of Copaiba.* By James Thorn. 1827.

disgust, and left England for a country where he could look for more fair play. Had he scientifically destroyed a sufficient number of helpless animals, his method of purifying copaiba might have found a place in the British Pharmacopeia.

Without wishing to cast any blame upon systems or individuals, I still cannot help regretting, that that oblivion, which so justly awaits many unmatured notions, should so often, with the impartiality of "equal-footed death," overtake labours of high value.

It was represented to me that a work of the kind now before the reader would be incomplete without a history of the treatment of gonorrhœa. The suggestion is no doubt founded on a correct view of the case, but on going into the literature of the subject, I found that to execute such a plan thoroughly would carry me too far. Besides, after all, a history of this nature would be more amusing than instructive. It might be made to present a curious picture of bygone times, but it would convey little real information; for it must necessarily be a narrative of the same principles of treatment, recurring again and again under almost countless changes of form and authorship. However complete it might be, it must remain chiefly a collection of theories started only to be forgotten, of ever-changing fashions in therapeutics, varied here and there by a discovery made apparently only to be ignored or censured.

The reader was probably startled by an observation in one of the preceding paragraphs, viz., that treatment had not altered so much in the last century or two as might have been expected; yet there seems no other conclusion to arrive at. It is true the outward form, the husk, so to say, has somewhat changed; prescriptions are less complicated, medicines are given in milder doses and rather less nauseous forms. The language of medicine is no longer what it was, and old terms and old formulæ have died out, while new ones have sprung up; but beneath all this the essence of both practice and theory has remained much the same. The discrepancies of to-day are but amplifications of those which prevailed when Howard commented on gonorrhœa "having been so often cured in a great variety of different ways." In this instance we might say of medicine as of language, that while the

outer semblance is in a state of perpetual mutation, the mould in which it was first cast, the radical structure and nucleus, undergoes but little change.

With the reader's permission, I will endeavour to illustrate this by means of a few instances, beginning a little later than the middle of the seventeenth century with the famous Sydenham.

Sydenham's Treatment.—Although this great man separated the treatment of "gonorrhœa virulenta" from that of venereal disease, yet even his acute and diligent observation did not suffice to show him that there was any fundamental distinction between the two. He describes gonorrhœa as beginning with "an uncommon pain in the parts of generation and a kind of rotation of the testicles," while in those who have not been circumcised, "a spot not unlike the measles appears on the glans;" then the discharge from the urethra comes on, and "when this disease is more virulent and degenerated into the pox," "this matter becomes green, and is mixed with a watery humour streaked with blood." The description is not very clear or satisfactory; but the fact is, men had removed the landmarks set up by the old writers; they had long ceased to observe and discriminate these affections as accurately as their predecessors. The writers in the early part of the sixteenth century, for instance, knew well that syphilis was communicated by methods which those of the eighteenth century denied, but which the investigations of our day have shown to be quite correct. It is therefore in no way surprising to find, in Sydenham's time, syphilis, gonorrhœa and spermatorrhœa confounded together, or to see this confusion maintained till Benjamin Bell separated the two former.

The first thing that strikes us in Sydenham's treatment is a feeling of astonishment that he did not kill a good many of his patients, or give them bleeding piles, tenesmus, and excoriation of the anus. Possibly, like Howard,[1] he looked upon piles as rather a favourable omen. He directs[2] "three drachms of cochia (colo-

[1] "When it [the treatment] occasions piles, and those piles bleed freely, such discharge must tend greatly towards a cure [of the gonorrhœa]; and when they are distended and inflamed without discharge, they draw off irritation from the urethra."—*Practical Observations on the Natural History and Cure of the Venereal Disease.* By John Howard. 1787, vol. iii, p. 26.

[2] *The Works of Thomas Sydenham.* 1788, vol. ii, p. 453.

cynth) pill, a drachm of extract of rudius, half a drachm of resin of jalap, and half a drachm of resin of scammony," with "sufficient of opobalsamum"[1] to make them into a mass. Of this mass two scruples, in the form of *four* pills, were to be taken *every morning*, till the running had grown considerably paler and the scalding abated. I fancy the patient must often have grown paler under such handling. Those who were "hard to purge"—and I should say they must have been decidedly "hard" when their intestines resisted such a stimulus,—were directed to take, in addition, his "purging potion" now and then, with two drachms of the syrup of buckthorn and the same quantity of the electuary of the juice of roses. If the cure went on slowly, eight grains of "turbith mineral" were given every five days, or half a drachm of "pills of two principal ingredients" and a scruple of "sweet mercury" made into a mass with opobalsamum; not a bad dose. In addition to these remedies he gave opobalsamum in doses of twenty-five drops every night, or "the quantity of a hazle-nut of cypress turpentine." Sometimes he gave every second day half a drachm "of the pills of two principal ingredients," and three drops of opobalsamum. He also gave half an ounce of Venice turpentine occasionally in a clyster. The patient was also to be "blooded" once or twice towards the middle of the course: rather a bold step, for generally speaking men at that time dreaded the idea of venæsection and antiphlogistics, for fear of inducing absorption of the peccant matter. We smile at such absurdity, at treatment founded on preconceived notions of what must result, and continue the same practice in another form.

Sydenham used also to order his patients a "cooling or thickening diet," one item of which was "emulsions of the four greater cold seeds." For swellings of the penis or testicle he advised elaborate fomentations of marshmallow, white lilies, mullein, elder, camomile, melilot, flax and fennel seeds, for the particulars of which I must refer the reader to his works.

Supposing the drugs used in Sydenham's time were pure, we must believe that his patients had greater powers of endurance,

[1] Balm of Gilead, procured from the Balsamodendron Gileadense, one of the Terebinthaceæ. Physiological effects similar to those of copaiba and the turpentines. Disused in Europe.

or more faith in their physician, than those of the nineteenth century. A scruple or half-drachm dose of such pills as he prescribes would produce a rather startling effect on a patient in this degenerate age, and nowadays the "turbith mineral" (the yellow subsulphate of mercury) causes vomiting of the most violent kind in half the quantity prescribed by Sydenham.

I now proceed to examine the practice of a somewhat later date, selecting as specimens Moyle, Marten, and Turner.

Moyle's Treatment.—Moyle directs[1] his readers to purge well for the running, but not to give anything to stop it, "lest it mingle with the Blood, and so become a confirm'd Pox;" and not to bleed, for the revulsion thereby occasioned "makes for the malign Atoms or Fumes to ascend from the Pocky ferment in the Inferiour parts and teints the blood in the Superiour." His purgative consists of pil. rudii ℈j.; resin jalap, gr. v.; ☿ dulc. gr. x.; every second day for five times. The patient is to "forbear strong liquors," and when "the Malignity is carried off" he is to take two drachms of cypress turpentine in an emulsion night and morning "for five times going." This generally cured the patient, but if a "Gleeting" remained he was to purge again.

Marten's Treatment.—Marten belonged to quite as rough a school as Moyle, but one evincing a much lower grade of professional feeling; for the old "sea-chirurgion" is honest and open, whereas Marten kept his remedies to a great extent secret. He is communicative enough about some of his affairs, such as the presents sent to him by grateful patients, the premium which he received with his apprentice, the price for which he sold his "general Business," or his benevolence in curing the poor gratis,[2] but the reader is left in the dark as to his real treatment. He says, with an air of innocence which might well call forth a smile, in speaking of some infallible liquor, "But what this Liquor is or how it is to be prepared, the Reader, I say, must pardon me at this time that I do not reveal." Indeed, the surgeon of that day,

[1] *The Sea-Chirurgion.* By John Moyle, senior, one of Her Majesty's Ancient Sea-Chirurgions. London, 1702.

[2] "The poor I cure gratis, no less I believe than to the value of £100 per Ann., discharging both to Poor and Rich, as near as I can, an honest conscience."—*A True and Succinct Account of the Venereal Disease.* By John Marten, Chirurgion. 1706.

albeit he might boast of belonging to the "Worshipful Company of Barber Chirurgions," or stood at the top of the tree in some specialty, was often little better than a mountebank or fortuneteller. Sir William Read, the queen's oculist, had been a mountebank.[1] He was so ignorant that he could hardly read,[2] and even after his appointment continued to sell nostrums. Dr. Thomas Saffold, spoken of in the *Tatler* as "my ingenious friend," had been a weaver and a fortuneteller before he became undergraduate in physic.

To quote almost literally from Marten, when a man, a Mohawk for instance, or a "looser sort of Spark," had "conversed with a Slut," and had caught "a pocky Running," with "a Stupidity of the Yard," he came to the conclusion that he was "inflicted with the Pox," and sent for his medical man, who forthwith came in a mighty periwig, and after a preliminary railing at the "Quacking Empericall Fellow" in the "Dark Entry," or at the sign of "the Hand and Urinal," or the "Frying Pan;" diversified, it may be, with a warning narrative of some "Gentleman who was blowed up to the Planets," owing to his having taken too strong a dose from one of these worthies, he proceeded to strike a bargain with the patient as to his terms for effecting a cure, and this done he set to work.

Marten's practice consisted "in cleansing and destroying the Malignity," in giving "gentle Specificks, appropriated suitable to the Distemper." For "Scalding of Urine" he gave "two or three quarts a day of proper Liquors," which "radically extinguished and destroyed the very Seed of the Disease." He had a great horror of stopping the discharge by "Emplasticks and Restringents," lest by using them "the Venereal Malignity absconding itself in the Liminary or Spermatic Parts," might degenerate into "a radicated and ill-contrived Pox," or "a Tumor Humoralis happen upon the testicle." But how he effected all this I leave to be explained by those who can gather anything definite from his book.

Has the reader ever heard this theory about purging off the malignity, not stopping a discharge lest it might be absorbed, or be thrown into the system, or something of that kind, repeated

[1] *The Tatler*; 1797, vol. i, p. 84. [2] *Ibid.*, vol. iv, p. 218.

under another form in the present day?—because if not, I have, and very frequently too.

Turner's Treatment.—Turner clearly separates[1] gonorrhœa from syphilis in so far, that while he admits the possibility of a neglected or badly treated blennorrhagia being transmuted into syphilis, he carefully points out that it may run, or rather that it naturally runs, its course without anything of the kind happening. The treatment of gonorrhœa is accordingly kept tolerably distinct from that of the more serious disease, or, as he quaintly terms it, "the second Infection called the Pox."

His treatment consisted of purgatives given perseveringly till the more severe symptoms had passed off, or, to use his own words, till "the Cacochymy was discharged," and "the Stillicidium was lessened in Quantity and had grown better conditioned." He began with "Ext. rud.," "Pil. coch. min." or "Pil. ex duobus," ℈j. to ʒss. of the latter, or, if the patient were strong, ℈ij. along with ℈ss. gr. xv. or ℈j. of calomel. After this he gave powdered rhubarb with some preparation of turpentine, and followed these up with copaiba, on which he placed great reliance. Injections he avoided, except very mild ones, such as barley-water, "a small solution of the Troch. Alb. Rhus in aq., Plantag. vel Ros.," or "a small Aq. Calcis c. Syr. de Ros. sicc. vel Mel Ros." For phimosis and paraphimosis he recommended that "the Humour should be revulsed by an Emetick," and that "a good discutient Fotus should be apply'd to breath out the impacted Humour." Scalding he tried to alleviate with sedatives, such as poppy and hyoscyamus and "edulcorants," *e.g.* gum arabic and milk of almonds. When chordee was present he added five-grain doses of sugar of lead and the same quantity of camphor for painful micturition. His remedies for orchitis were "a suitable Bag Truss" and warm cataplasms, at the same time directing that "all Restringent or Balsamick Medicines be entirely forborn." For the sympathetic bubo of gonorrhœa he had no separate treatment.

Turner was evidently a sound, careful physician. He held

[1] *Syphilis: A Practical Dissertation on the Venereal Disease.* By Daniel Turner, of the College of Physicians. London, 1717. This work contains, in accordance with a good old fashion, a well-executed likeness of the author.

that the way to improve treatment and gain a better knowledge of disease was to study symptoms and observe the action of medicines. "The new way by Arithmetic, Algebra, and Elementa Mathematica!" he considered only fit to amuse young heads, and fill them with what he plainly calls "gibberish." According to him gonorrhœa, like syphilis, arises from an unknown infecting property in the discharge of the person who communicates it, "a Poison of a peculiar Nature, and acting upon the Blood and Humours of humane Bodies." Treatment he therefore thought must be, for the time being, empirical, and he counsels the reader to "take his Indications chiefly, if not solely, a juvantibus et lædentibus."

Cockburn's Treatment.—Cockburn seems[1]—for he words his opinions here very obscurely—to have used "Purging, Astringent and Healing Medicines," such as turpentine with lemon-juice and sugar, opobalsamum, peruvian balsam and copaiba, along with rhubarb, acetate of lead, pulp of cassia, syrup of marshmallow, and sal prunella. He had great faith in purgatives and injections, though he believed that the improper use of the latter might bring on "the Lues." He held that diuretics effected a "mere washing of the Urethra," and were apt to be very injurious by causing too great "an Afflux of Humours to the stimulated Part." To relieve scalding, the volatile salt of amber, sugar-candy in tincture of tea, or whey, along with crystal mineral, nitrate of potass and tragacanth, remedies perhaps as useful and pleasant as most of those used nowadays for this symptom; for "Cording of the Penis" cold bathing and internally warm milk, sugar of lead, white lily root, &c. He treated phimosis, which he thought only merited the title when the "Choaking of the Præputium" gave pain, with a vast variety of remedies, such as bryony, and thought the method which prevailed in his day, of draining the water from the foreskin by "insinuating green Gentian Roots, the pith of the Way-faring Tree, or a bit of Sponge between the Glans and Foreskin" was bad; a view in which my readers will possibly concur.

Astruc's Treatment.—We now come to the practice of an

[1] *The Symptoms, &c., of Gonorrhœa.* By W. Cockburn, M.D., Fellow of the R.S., &c. 1728.

author whose views seem to have been pretty extensively adopted in England, where surgery had been getting on only slowly; for Mr. Pott tells us, that when he began his studies, a little before the time that Astruc's writings began to be known here, there was not, with the exception of Cheselden, Wiseman, and Sharpe, "an English writer on surgery fit to be read," and that no lectures were given in London "on the Materia Medica, Chymistry, or the Practice of Physick."[1]

Astruc's general plan seems[2] to have been in the first stage to bleed, give ptisans of cooling plants, such as chicory, wood-sorrel, lettuce, &c. When the bowels were to be moved he gave the ptisan in the form of a glyster, with a drachm or two of "Crystal mineral or an ounce of fresh pulp of Cassia." He poulticed the perinæum with "crumb of bread, milk and Saffron," and injected into the urethra "Saccharum Saturni in Frogspawn water," or "Goat's milk diluted with a decoction of Marsh mallow." He gave "Camphire and Saccharum Saturnum" internally "to asswage the heat of the parts," and prescribed a "light moist diet," with absence from all peppered or preserved meats.

In the second stage he "purged gently" with cassia, or gave ten or twelve grains of jalap or "Diagridion," possibly an old name for scammony, or a scruple of calomel, which I should think must have purged very gently indeed, though it was certainly quite a common dose in those days. This was followed up by mercurial inunction.

In the third stage, that is to say when the dysuria, erections, &c., had passed off, he gave "Chio Turpentine," powdered rhubarb, and copaiba or Canada balsam in moderate doses, accompanied by a host of other remedies, among which we find nine astringents, such as catechu, dragon's blood, &c., to be taken internally. Mucous gleet he treated with "detersive" injections of

[1] Perhaps it was a deep sense of contrition for their shortcomings in this way that impelled the surgeons of that day often to weep disconsolately at the bedsides of their patients! Disgusting as such an exhibition must seem now, it appears to have been quite a common occurrence in Mr. Pott's time, for we are told, as a striking instance of his uprightness, that "he never would condescend to whine over a patient"!

[2] *A Treatise on the Venereal Disease.* By John Astruc. Translated into English by W. Barrowby, M.B. 1737, vol. i.

decoction of bugloss, geranium, &c., mixed with solution of honey of roses.

In the "œdematous kind" he bled less, purged repeatedly and freely, and gave a sudorific ptisan of guaiacum and sassafras woods. When there was much phlegmon he ordered frequent bleeding, with diluting, softening, and anodyne medicines.

For the Venereal tumour of the testicles, or the Venereal Hernia (orchitis), which he warns his readers may degenerate into schirrus, sarcocele, or cancer, he bled, gave aperients, laid aside all astringent and "repelling" medicines in favour of warm sedative applications, such as decoction of marshmallow or lily roots, henbane, &c.; when the pain was severe, he prescribed narcotics internally, such as laudanum, "Tinctura Anodyna," or syrup of diacodium, "in a convenient dose." He recommends that an attempt should be made to relieve the hardness of the testicles by mercurial inunction, or the application of emplastrum Vigo; the testicle was also to be supported. When abscess of the perinæum threatened, he ordered cooling ptisans, cooling and anodyne fomentations of bear's breech (branca ursida), with clysters of quassia and some anodyne. In a stillicidium it was, of course, necessary "to correct the acrimony of the semen," and this was effected by means of softening remedies, such as "cooling broths and apozems," after which the relics of the ulcer were to be deterged with "vulnerary" and balsamic remedies.

Hunter's Treatment.—Hunter thought[1] the soothing plan the best at the beginning. When the violence of the symptoms had abated, astringents might be employed. He considered diuretics had their advantages, and that injections might be used. He employed as an injection corrosive sublimate, one or two grains to an ounce of rose-water, also opium and lead as soothing injections. He doubted the power of "the vegetable mucilages" to remove scalding. He seems to have made little use of internal medicines, and not to have had much faith in them. Possibly he was too much occupied in his vast anatomical and physiological researches to have had time to establish any fixed principles of treatment, even in his own mind.

Howard's Treatment.—Howard, the confidential assistant, as

[1] *A Treatise on the Venereal Disease.* 1786.

he puts it, of Percival Pott in his "large general business," gives[1] a very careful account of the practice of his day, as also of that for a considerable space of time previous. He draws attention to *the great discrepancy of views as to treatment*, and remarks that *gonorrhœa* "*has not only been frequently but successfully treated in many different ways.*"

Howard bled[2] in almost every case, leeched when there was much inflammation, kept the bowels moderately open, recommended warm baths, opium, and a cooling and well-regulated diet. He considered the period following the decline of chordee the proper one for administering mercury. If the irritability of the membrane did not diminish he gave bark; he also speaks in favour of blistering the perinæum. Cases treated in this way rarely required balsams, such as copaiba, turpentine, colophony (pix græca), mastic, and so on. For orchitis the horizontal position, and suspension of the testis, with cooling applications of lead. Inflamed prostate was to be met with antiphlogistic treatment. Perinæal abscess was to be freely opened. He dreaded injections at the early stage, lest "by smothering chancrous infection for a time," they might produce "future symptoms of lues," or stimulate metastasis. Perhaps the reader has heard this kind of thing about injections from men of a later school than Howard. According to this author Pott used injections freely.

Foot's Treatment.—Foot injected[3] with a preparation of blue vitriol precipitated by means of lixivium tartari, the precipitate being subsequently dissolved in a saturated solution of volatile sal ammoniac. This was used of a strength of five grains to an ounce of water. With it he gave daily one grain of calcined mercury and half a grain of opium. If the inflammation extended along the urethra, he advised soothing applications, such as constant injections of warm milk and water with the application of the steam of hot water. He thought no method protracted gonorrhœa so much as giving purgatives. For gleet, to which term he allows a pretty wide latitude, he prescribed bark, steel, the cold bath, and injections; if these did not succeed, copaiba was to be

[1] *Practical Observations on the Natural History and Cure of the Venereal Disease.* By John Howard. 1787. [2] *Op. citat.*, vol. iii, p. 51.
[3] *Origin, Theory, and Cure of the Lues Venerea.* By Jesse Foot. 1792.

taken. Chordee he seems to have left pretty much to time. For phimosis, poppy fomentations and poultices containing spirit; internally, calcined mercury. If in this complication the fever ran high, the patient was to be bled and to take antimony. For swelled testicle he counselled rest, lotions of liquor ammoniæ acetatis, &c. If the running did not return, and the testicle continued to swell, he resorted to bleeding, leeches, fomentations, &c.; giving at the same time mercurius calcinatus, opium, and small doses of antimony.

Sir Astley Cooper's Treatment.—Sir Astley Cooper purged his patients freely with salts and senna, calomel and colocynth. He gave carbonate of potass or soda as a drink, or liquor calcis. He recommended warm bathing of the penis; he also prescribed liquor potassæ with conium in camphor mixture. When the inflammation had subsided, he ordered balsam of copaiba with injections of sulphate of zinc and liquor plumbi. If the disease had existed some little time when he first saw the patient, he gave balsam of copaiba at once. He also gave cubebs when the inflammation did not run high; and it appears from his account that this medicine was so little known at that time, that Cooper had never heard of it till a patient brought him some to try. Yet it was used in London nearly six hundred years ago, a toll on every pound of it carried over London Bridge having been levied as far back as 1305.[1] In old-standing cases he passed bougies.

Sir Astley had the courage to say that the man who gave mercury in this disorder deserved to be flogged out of the profession, and to stigmatize in the strongest way the practice which then prevailed at Guy's, of sending every patient affected with gonorrhœa into the foul ward, where he was pretty sure to be drenched with mercury.

Judd's Treatment.—I have not been able to make out on what principles Mr. Judd treated his cases, or what he considered to be the most useful remedies. He sometimes gave[2] calomel and colocynth, with fifteen-grain doses of extract of cubebs, sometimes injections of nitrate of silver, ℈j. to ℥j.; in other cases tincture of muriate of iron as an injection, with sulphate of magnesia

[1] Pereira's *Elements of Materia Medica.* 1840, p. 754.

[2] *Op. citat.*

internally, and again in a third case a zinc injection gr. x. to ℥j. He also prescribed, in combination with purgatives, essence and balsam of copaiba and essence and spirit of cubebs, without assigning any reason for the variation, except such as his readers can make out from the history of the case, which, so far as I can see, throws no light on the point.

I have spoken of the difference of opinion which prevails as to the best mode of treating this disorder. In support of this statement, I now proceed to give a summary of the treatment pursued at the different London hospitals. It is condensed from several able reports published in the *Lancet* during the year 1867.[1] I do not know who is the author of these papers, but they are extremely lucid and well written. If the date be objected to, the rejoinder is that I know of no later account.

Guy's Hospital.—Mr. Bryant gives scruple or half-drachm doses of tartrate of potass, adding, when weakness is present, potassio-tartrate of iron and tincture of the muriate of iron. He has given up injections, but in some cases introduces a concentrated solution of tannin into the urethra by means of a bougie.

London Hospital.—Mr. Maunder gives a mixture of copaiba, liquor potassæ, spirit of nitric æther and camphor julep. In the acute inflammatory stage a scruple of nitrate of potass, with or without an eighth of a grain of tartar emetic and morphia, every four hours, night and day. An occasional purge is ordered. For gleet he prescribes twenty drops of tincture of muriate of iron thrice daily. In private practice he prefers injections of sulphate of zinc and treatment on general principles.

St. Bartholomew's Hospital.—Injections of sulphate of zinc two grains to an ounce. When there is much inflammation this is first of all allayed by means of warm fomentations, warm baths, opium, or a suppository of morphia. Free action of the bowels is maintained. Diluents are prescribed. This treatment is described as almost invariably successful. Should it fail, the local application of bougies and the counter-irritant effects of blisters applied to, or nitrate of silver rubbed over, the front of the upper part of the thigh, Scarpa's triangle, are found the most efficient

[1] Vol. i, pp. 331, 362, 458.

remedies. Orchitis is treated with opium, rest, and linseed poultices.

King's College Hospital.—Mr. Wood in the acute stage gives a saline aperient, or a drachm of compound jalap powder, or a drachm of jalap and calomel if the patient be bilious, at intervals of three or four days, or a week, during the treatment. Afterwards he gives liquor potassæ or bicarbonate of potass in camphor mixture or infusion of pareira, with plenty of diluents. He prescribes early and frequent injections of lead lotion and glycerine. For orchitis he punctures the tunica albuginea. To allay chordee he uses compound henbane pills, or in severe cases morphia or chlorodyne, aided by the local application of iced water.

In the chronic stage, while the discharge is profuse, Mr. Wood gives copaiba and sulphuric acid, with frequent injections of sulphate of zinc, alum, or nitrate of silver; in obstinate cases powdered cubebs in drachm doses. In sluggish cases, with gleety discharge, tonics, mineral acids, and especially tincture of sesquichloride of iron in twenty-minim doses, three times a day. If the discharge become gleety or thin, injections of a weak solution of chloride of zinc, or perchloride of iron and glycerine. Sometimes he employs the same substances in the form of a soluble bougie or uses matico.

St. Mary's Hospital.—The treatment of the late Mr. Gascoyen is described as consisting of weak astringent injections in the very early stage, but not when the symptoms had become severe, preference being then given to copaiba in doses of forty to sixty drops daily. For ardor urinæ, irritability of the neck of the bladder and chordee, if severe, suppositories of soap and opium. After the violence of the symptoms had passed off weak injections might again be employed, along with drachm doses of cubebs when the discharge was very obstinate; after this quinine, tincture of iron, and other tonics. He considered salines and depleting means in the early stages not only useless but injurious, and he scarcely ever knew abortive treatment succeed, while he often saw gonorrhœa exasperated by it.

Charing Cross Hospital.—Mr. Barwell avoids copaiba. In a first attack he purges, orders hot bathing, diuretic or aperient alkalies as may be indicated, followed by an injection of sulphate

of zinc, two grains to an ounce. For second or subsequent attacks, free use of aperients and injections; chronic cases may be treated with tannic acid injections, three or four grains to an ounce. For slight but continuous discharge, either chian turpentine or canada balsam, with black or cayenne pepper. He often finds tincture of steel and tincture of capsicum useful. Cubebs is not better than the other peppers. The most certain and efficacious treatment is to pass down every other day, for an inch or an inch and a half, a bougie smeared with an ointment containing three, five, or even ten grains of nitrate of silver to an ounce of lard.

University College Hospital.—Mr. Christopher Heath, in the early stage, injects from the very beginning a strong lead lotion, an ounce of the liquor plumbi to seven of water. In the ordinary acute form he prescribes injections of warm water and weak lead lotion, followed by sulphate of zinc injections when the acute symptoms have subsided. Rarely gives copaiba. For chordee, extract of belladonna and glycerine applied to the under surface of the penis, with a pill of opium or henbane at night. He finds acute orchitis yield readily to antimony and sulphate of magnesia. When there is much œdema, he punctures the tunica vaginalis. Later on, strapping and mercurial ointment remove any enlargement of the testis. In gleet he examines the urethra with the bougie and endoscope, and if, as frequently happens, he discover a distinctly diseased surface, a strong solution of nitrate of silver is applied topically; if the disease appear to be more general, an astringent injection is given, a large metal bougie passed and steel prescribed.

Middlesex Hospital.—In the early stage Mr. Hulke prescribes an injection of acetate of lead frequently repeated, and purges freely, generally giving compound jalap powder. In the more chronic condition he orders frequent injections of one grain of nitrate of silver to eight ounces of water. For old gleets copaiba or cubebs, more frequently however tincture of sesquichloride of iron. In acute orchitis, Mr. Hulke prescribes nauseating doses of tartar emetic with epsom salts.

Here, then, we find irreconcileable difference of views about the most simple facts, an ever-recurring conflict of opinion. I suppose it is a natural and therefore inevitable result of the dif-

ferent constitution of the human brain, Nature having designed that men should no more exactly think alike than that they should exactly resemble each other in features, and there is nothing left for us but to conclude, that were a perfect system of medicine established to-morrow, it would at once be assailed more or less actively on all sides until it had been overthrown. Nor is this tendency in any way peculiar to any given state of our art—to any particular era. Possibly it may become more developed with greater cultivation of medicine. Lord Bacon well observes, that "empirics and old women are more happy many times in their cures than learned physicians, because they are more religious in holding their medicines," and I am inclined to think that multiplicity here proves something in favour of his assertion, or, at any rate, that if physicians nowadays treat gonorrhœa better than empirics, the system is still subject to that fatal defect which in Bacon's day often reduced their skill to the level of that of old women, and which is still such a source of weakness—a constant desire to try new remedies and other systems without sufficient grounds.

I have now endeavoured to give the reader chapter and verse for the three postulates I ventured to bring forward, namely—1. That except with respect to injections treatment has not changed so much within the last century or two as might have been expected. 2. That there prevails an irreconcileable discrepancy as to the best method of coping with this disorder. 3. That the ordinary method of stating the results of treatment does not enable the reader to form a positive opinion as to the relative value of the remedies actually employed. For instance, in the pages the reader has just passed through, eight different systems are found to prevail in as many different hospitals, all adopted and put in force by able and experienced surgeons. What is more, my inquiries lead to the conclusion, that had the number of hospitals reported upon been multiplied tenfold, the result would have been to display ten times as many different methods. Added to this, it must be remembered that great discrepancies of opinion prevail among those who have devoted special attention to the subject. If amidst these conflicting views we could find some secure basis for drawing conclusions; if an

analysis of each separate system would place us in a position to ascertain *how many cases are cured by it out of every ten or every hundred subjected to it, and in what space of time*, we could arrive at some definite opinion; as it is we are left to infer that each surgeon is equally satisfied with his own plan, and that all these various modes of treatment are equally successful. Whether the surgeon uses injections or not; whether he gives specifics or treats on general principles, seems a matter of indifference; methods diametrically opposed to each other conduct to one common goal. Under these circumstances it appears to me, that to extend such observations can only increase the bewilderment which the reader must necessarily feel on noticing such a uniformity of effect from such a diversity of causes. If, however, I have erred in this or in the other portions of these deductions, I hope the reader will admit that I have furnished the materials for my own refutation; indeed, this is the only line of argument that I care to pursue.

It would lead me too far out of my way to give a full analysis of the modes of treatment laid down by all the eminent specialists of the present day. What I have to say of their views may, I think, be more fittingly appended to the remarks on the different remedies used for this disorder. At one time I purposed examining the various plans of treatment adopted by modern authorities in gonorrhœa; but I soon found it was impossible to carry out this idea, for as many of them are exactly alike in great part of their details, the same arguments would require to be urged each time the separate elements of treatment came to be discussed. I therefore hurry over this part of the subject to examine rather more in detail the views of an author (the late Mr. Chalmers Miles) who struck out a path for himself. There are also one or two points in connexion with this subject, such as the expectant treatment, which I propose to discuss before taking up the subject of the remedies for gonorrhœa.

Mr. Chalmers Miles's Treatment.—This gentleman, after commenting with dry humour on the significant fact that so many successful modes of treating this complaint have been recommended, goes on to speak[1] of the results obtained by blistering

[1] *On the Cure of Gonorrhœa by Blisters.* By H. Chalmers Miles, Esq.,

not only in gleet but in gonorrhœa; a treatment which, he says, has proved in his hands of singular efficacy, and which he submits to the public only after having tested its success during a period of eighteen months, and in some sixty cases. Gonorrhœa, it seems, used, at the time when he wrote, to occur pretty freely among the artillerymen at Halifax, mostly young men from twenty-two to twenty-seven years of age. Now and then they had a periodic debauch, committed some offence when intoxicated, were sent to prison, and a few days after were found to be suffering from gonorrhœa. So soon as it was discovered that a patient was in this state, he was brought to the hospital, and blisters were applied to both thighs, or to the penis, as the case might be supposed to require them, and in all probability *the running would be found to have ceased entirely on the sixth day in the former, or the fourth day in the latter, instance after their application.* The man was at once discharged from the hospital and taken back to his cell, where he was to undergo the remainder of his sentence.

This treatment, which Mr. Miles says was first suggested to him by Mr. Park, the accomplished surgeon in charge of the third brigade at the Royal Artillery Hospital at Devonport, and who told Mr. Miles that he had adopted the plan with great success for a considerable time, has, he says, not merely the advantage of effecting a rapid cure, but of stopping in a most summary way a trick by which soldiers used to evade punishment, and of restoring to the ranks a great number of men who used formerly to be on the sick list. It is a very common circumstance, just prior to a garrison field-parade, for the men to go out "on pass," and, as a natural result, catch an infection. Prior to their being taken before the commanding officer, they are brought to the surgeon for inspection, and when found to be suffering from gonorrhœa are placed under treatment; blistering, however, he found, soon restored them to active service. Again, men who were sentenced to punishment as defaulters, used frequently to report themselves infected; in consequence they were sent to the hospital, and thus escaped punishment. This, too, blistering soon stopped.

M.R.C.S., Assistant Surgeon, Royal Artillery; in medical charge of Royal Artillery and Royal Engineers at Halifax, Nova Scotia. *Lancet*, 1861, vol. i, p. 558.

Mr. Miles began treatment by giving an emetic so soon as the patient was admitted, and on the evening of the same day a couple of purgative pills, followed by an aperient draught in the morning. After this a blister, six inches by four, was placed high up on the anterior and inner part of each thigh; these were put on at night and left till morning. They were made with the ordinary cantharides plaster of the London Pharmacopeia, spread rather thickly on adhesive plaster. The blistered surface was afterwards dressed with lint dipped in castor oil, and a saline aperient ordered. The patient was put on spoon diet, and told to inject now and then a syringeful of cold or lukewarm water, according to the season of the year.

Mr. Miles found that at first there was every possible variety of result: generally the symptoms were rather aggravated, but with a little patience this soon passed off. On the third morning the patient was usually better. *By the sixth day there was no running, and on the seventh day the man was discharged, fit for duty, with one day's convalescent leave.*

In milder cases our author blistered the under surface of the penis, but in other respects treated the patients in the same way. *He had repeated instances of an immediate cure by a single application.* Sometimes the patient was discharged cured on the fourth morning after admission. When a relapse happened from the men getting out and giving way to a debauch, an injection or two of nitrate of silver would generally soon stop it, and if not, blistering the thighs was sure to succeed. When any pustules followed the blister, they were pricked, squeezed, dressed with a linseed poultice, and then rubbed over with castor oil.

Mr. Miles's experience of the treatment by blisters was that it proved more speedy and effectual than any that he knew of; that it was suitable to all classes of cases; *that the period required to cure a gonorrhœa in this way was from four to seven days*, though in some rare instances it might extend to fourteen; that relapses seldom occurred, and then only after a debauch or some imprudence; that such relapses always yielded to blisters; that there were no obstacles to the use of them; that men employed in the civil departments voluntarily came to him to be treated in this way; and, finally, he thought the "treatment by blisters" would

"be acknowledged to offer the means best adapted for use in the case of men in our armies and fleets."

I quite concur with what Mr. Miles says at the conclusion of his most valuable and interesting paper. His observations are evidently made with such care, and the results of treatment so precisely stated, and so distinctly superior to those which generally follow ordinary methods, that I think none but the unobservant and prejudiced can fail to be struck with them. I only wish such a simple and efficient system could be carried out in private practice, but I must admit that my own attempts to do so were a failure.

The Expectant Treatment.—This system has at one time or other had advocates of such capacity that it cannot be passed over. Not long ago it found an able champion in Dr. Chambers, of St. Mary's Hospital. This gentleman, as I understand him, says[1] that gonorrhœa is naturally a most mild disease both in the male and the female, *and if left to itself will get well in a short time, occasionally in four or five days*, while the simplest treatment will remove it *in a fortnight* if it be not made severe by the folly of the patient or his medical attendant. "I consider," he says, "all primary heroic treatment of urethral discharges *a most unjustifiable interference with nature.*"

It is not very easy to imagine how any one could argue in favour of a more hopeless cause. There is no evidence brought forward in support of a statement which runs quite counter to the experience of the greatest men who have studied the disease. What they, after mature deliberation, say, utterly negatives the idea of gonorrhœa being so easily managed by the simple process of letting it alone.

I shall state further on my reasons for thinking that this kind of disbelief in the powers of medicine is unfounded, and that the treatment I have ventured to recommend will on an average always cure gonorrhœa in less time than it requires to wear itself out. Besides, it appears to me that the experience of Mr. Chalmers Miles completely proves the superiority of treatment. I regret that I cannot give a full account of what Dr. Chambers's

[1] *Clinical Lecture on Gonorrhœa. Lancet*, 1861, vol. 1, p. 582.

treatment is, but the fact is that the part of his lecture devoted to gonorrhœa only occupies half a column of the *Lancet*.

I have collected a good many cases in which the expectant treatment had been pretty fairly tried, by the patient, however, rather than the surgeon, and where the gonorrhœa disappeared quickly of its own accord. But in all these I had to depend on the unsupported evidence of the patients, which I need scarcely say is, with all conceivable good faith on their part, almost useless in a scientific point of view. When a man, on whose truthfulness we feel able to rely, tells us that a discharge went away in a few days without his doing anything for it, we at once admit the fact; but it would be a step of a totally different nature to accord to such a fact any value in determining the average duration of gonorrhœa under the influence of expectant treatment. Yet such is the only evidence I have been able to procure, and so far as I can make out it is the only evidence employed by those who recommend this system. Though I have often heard of such events, I have never yet seen a gonorrhœa run its course and get quite well; indeed, I need scarcely say that the vast majority of patients would not give a surgeon the opportunity of trying such an experiment. They go to him expecting he will do his best to free them from a disagreeable complaint, and any patient who found his surgeon doing nothing would naturally imagine he could do that as well himself. Hospital in-door practice would alone afford a proper opportunity, and in that department I believe the experiment has not yet been tried.

But for one case where, according to the patient's version, so fortunate a termination as spontaneous extinction of a gonorrhœa thus treated took place, there were at least ten where the result was widely different, where the patients had, according to their own statement, taken all possible care not to aggravate the disorder, abstaining carefully from stimulants, &c., and where the cases had lasted months and even years, and might have in all probability lasted much longer were it not that even the most indifferent persons generally get wearied in the long run of seeing the hateful discharge for ever hanging about them, and at last make up their minds to do what they should have done at first, go to some surgeon who will set them right. Indeed, I suppose

it is difficult to limit the length of time gonorrhœa might sometimes last if systematically neglected, and even where very carefully attended to; Ricord relates,[1] a case where the patient had suffered from gonorrhœa for more than forty years, and I have seen several where the patient had had it for five, six, or seven, and in two instances for upwards of twelve years. True, in all these cases there was not much running, but it was distinctly purulent; the severity of the first symptoms, too, had long passed off, but it was evident that a slight irritant would speedily rouse them to very unpleasant activity, a fact of which the patients were quite aware. Mr. Johnson very justly remarks, that "the surgeon who calculates in a sanguine manner on the natural cure of gonorrhœa will probably be more remarkable for patience than success." It is, according to him, repeating the old story of the rustic by the bank of the river waiting till the stream ceases to flow!

Gonorrhœa as a Cause of Stricture.—Again, it is to be borne in mind, that should the experiment (of leaving gonorrhœa to itself) fail, and should the disease in consequence last a certain time, it will, in a given percentage of cases, certainly be followed by swelled testicle and stricture. In many old-standing gonorrhœas the surgeon, on passing the bougie, finds a certain degree of contraction, with tenderness of the urethra at different spots, and often, even when there is no discharge from the urethra at the moment of examination, small clots or strips of pus and mucus will be found adhering to the bougie when it is withdrawn. There is indeed reason to believe that in some persons a tendency to stricture takes place *almost as soon as the gonorrhœa has well established itself*, and that up to a certain degree, at any rate, *it constantly and uniformly tends to get worse.* Hunter's old rival, Jesse Foot, pertinently says, "that a gonorrhœa may cease to be a gonorrhœa if left to its own action may be true, but it may also be as true that it might not cease to be a gonorrhœa till it had reduced the organism within the urethra to a condition which could not afterwards be restored to a sound state."

Hunter and many other surgeons have, it is true, considered the theory of stricture arising from gonorrhœa as a mere prejudice,

[1] *Lettres sur la Syphilis*, p. 120.

and as I was anxious to investigate this subject carefully, and had no theory to serve, I made for a long time a careful collection of cases, going into the most minute details. I was at last obliged to confess, that the mere history of the case, as given by the patient, always offers insufficient and doubtful data. However, after carefully weighing what facts I could collect, I think myself fairly warranted in drawing the following conclusions, which after all contain nothing new :—

1. That strictures arise in persons who have never had a gonorrhœa, and in some, at such an early age as to preclude all probability of gonorrhœal infection.

2. That occlusions of a similar character occur in mucous canals, without being preceded by any inflammatory and purulent discharge.

3. That the progress of the stricture seems to bear no sort of proportion to the duration or severity of the gonorrhœa.

4. That the proportion of patients attacked by stricture to those who suffer from gonorrhœa is extremely small.

5. That gonorrhœa appears to develop the tendency to stricture in persons who would otherwise never have been assailed by it.

But I need scarcely point out to the reader how untrustworthy such conclusions are. To get at the truth we require information which we are never likely to procure; for, first of all, it would be necessary, before attempting any deduction, to divide the whole male population of a given district into—*a*, those who had had gonorrhœa, and *b*, those who had not; secondly, the males must be again separated into *c*, those suffering from, and *d*, those free from stricture. The proportion of *c* to *a* and *b* would give us something like data.

The following table is taken from the *Edinburgh Medical and Surgical Journal.*[1] It contains, as the reader will observe, cases of gonorrhœa treated in different ways in the hospital of the Castle of Edinburgh by Messrs. Johnston and Bartlett :—

[1] 1818, p. 264.

TABLE I.

Cases of Gonorrhœa treated in different ways.

CASES TREATED WITH REST AND ABSTINENCE.

No. of Cases.	Result of Treatment.	
3	Discharged cured in	3 days.
2	,,	5 ,,
4	,,	7 ,,
4	,,	10 ,,
1	,,	18 ,,
1	,,	23 ,,

Or an average of 8½ days.

Cases treated with Cubebs.	Cases treated with Capsicum.	Cases treated with Camphor.
2 were cured in 4 days.	4 were cured in 8 days.	1 was cured in 5 days.
2 ,, in 5 ,,	4 ,, in 12 ,,	1 ,, in 8 ,,
4 ,, in 6 ,,	2 ,, in 24 ,,	1 ,, in 14 ,,
Average 5¼ days.	Average 13½ days.	Average 9 days.

To these may be added the cases tabulated by Mr. Macfie Campbell, of the Dreadnought Hospital,[1] who found that the average duration of gonorrhœa, treated with copaiba or cubebs, was thirteen days.

It will be observed that of these cases fifteen treated with fasting and quiet were cured in three to twenty-three days; eight by cubebs, in four to six days; three by camphor, in five to fourteen days; ten by capsicum, in eight to twenty-four days; whereas twenty treated with injections of lapis infern. ʒj. to ℥j., were cured in three to forty-two.[2] With the exception of the cases in which cubebs and injections were given, these figures may be held to represent pretty well the effects of expectant treatment, as it is difficult to believe that either capsicum or camphor would materially shorten the course of gonorrhœa; at any rate, we do not as yet know that they do. I have cited this list, as it is the only thing in the shape of statistics bearing on this point that I have met with. The results of treatment, as given in it, by no means harmonize with my experience, the time for cure appearing to me much too short.

[1] *Lancet*, 1871, vol. i, p. 73. [2] *Op. citat.*, p. 263.

Homœopathy.—Of that singular compromise with expectant treatment called homœopathy I have no personal experience to record beyond what I have learned from patients, and their report is to the effect that the action of the remedies is so slight as to elude the closest observation. I fancy, too, that even the supporters of homœopathy would be puzzled to bring forward a series of cases showing that gonorrhœa was cured more quickly by infinitesimal doses than by active allopathic treatment. Till that is done, or at any rate attempted, it will be unnecessary to pursue the subject farther.

CHAPTER III.

TREATMENT OF GONORRHŒA (CONTINUED).

Proposed Plan of Treatment.—The most practical arrangement of the various means of treatment for gonorrhœa, appears to me a division into *A*, internal remedies ; *B*, external applications, such as lotions and fomentations ; and *C*, direct applications, comprising injections, caustic, bougies, and so on.

A. INTERNAL REMEDIES. 1. *Copaiba.*—Perhaps without exception the most potent and generally used of all the internal remedies for gonorrhœa is copaiba, one of the most nauseous drugs ever found out. It is quite time that men banished it from the therapeutics of this complaint. Excepting, perhaps, the plan devised by Mr. Thorn, no method of really disguising its filthy taste without impairing its efficacy has been discovered, and other objections apart, this alone is an insuperable drawback. I have heard scores of persons say that they would rather leave a gonorrhœa to itself than again take copaiba. Besides in a certain percentage of cases, copaiba, if given in sufficiently large doses to influence the discharge, brings on nausea, retching, and vomiting, griping and purging, great irritability of the stomach and often of the temper too. Symptoms of strangury not unfrequently follow its exhibition. Mr. Johnson has seen[1] acute inflammation of the bladder, extensive suppuration in the thigh, severe gastro-enteritis, and even death follow the use of it. M. Ricord has seen[2] serious effects on the nervous system, such as partial paraplegia and temporary hemiplegia, follow the exhibition of it. Mr. Lee suggests[3] that organic disease of the kidneys, thickening of the coats of the capillary tubes, &c., may be caused by protracted use of it. In several instances, when taken

[1] *Op. citat.*, p. 52, &c. [2] *Traité Pratique*, p. 732.
[3] *St. George's Hospital Reports*, vol. vi, p. 52.

during an epidemic of cholera, it appears to have determined an access of this complaint. Dr. Durkee mentions[1] an instance where a patient was attacked with a species of cholera, the symptoms being griping, vomiting, and purging, from taking merely half an ounce. Again, in certain constitutions it brings on pain in the region of the kidneys, hæmaturia, severe headache, giddiness. The vomiting, too, it must be remembered, which copaiba brings on is horrible, and few but the most resolute, who have once suffered in this way, can be induced to make a second trial.

One pretty certain result of all this kind of thing is, that some patients give up treatment in despair, others are driven to try some dangerous remedy, such as a very strong or irritating injection, *e.g.*, one of bichloride of mercury, a mistake I have known several times committed; while a few try to overwhelm the disease by swallowing an inordinate quantity of wine or spirit, a freak of very probable occurrence, inasmuch as probably every patient has in his turn heard some wonderful story of gonorrhœa being cured in this way. When to all this is added the fact that copaiba is never really indispensable, inasmuch as every case that can be cured may be got rid of without resorting to it, I think there are very strong grounds for the views just laid down.

It will perhaps be said in reply, that such objections apply to all remedies; that any potent drug taken in excess will produce serious symptoms; that to discard all remedies for such reasons would be to reduce medicine to a nullity. I have heard such a method of getting over these objections repeatedly put forward, but it does not meet the case. *These disagreeable results occur when copaiba is given in doses which very good surgeons have not hesitated to recommend.*

Even were it an infallible remedy for the discharge, its disagreeable action in so many cases, and the smell it communicates to the breath and urine, would always be obstacles to its use. It is however anything but infallible.[2] It fails in a large proportion of cases it is given for; it fails in every dose and in every form. Half-ounce doses are no more to be relied on than those of half a drachm; it is often no more to be trusted to in the form of

[1] *Op. citat.*, p. 39.

[2] Johnson, *Op. citat.*, p. 88. Ricord, *Traité Pratique*, p. 726.

capsules that in that of injections,[1] enemata,[2] or suppositories. Now as no amount of experience will enable the surgeon to diagnose *at the outset* those cases in which copaiba will be useful from those in which it will almost certainly fail, it necessarily follows that every surgeon who treats *all* cases with copaiba, and there are plenty who do so, *must give it in many instances where it is sure to be of no service.* It seems to me that there is no getting over this fact.

It appears that whatever disadvantages the use of copaiba may entail it still has numerous advocates. My own experience has satisfied me that the practice of giving it is very extensively diffused, and Mr. Weeden Cooke confirms this. On inquiry at the London Custom House, he found that during the first ten months of the year 1859, no less than 118,396 pounds of copaiba were admitted, or at the rate of 151,075 pounds annually,—a quantity sufficient to supply five hundred thousand people every year with a strong dose three times a day for nearly four weeks ![3]

The following table, drawn up from cases in my own practice, contains some statistics which may be of value to those really desirous of investigating the subject :—

TABLE II.

Cases treated with Copaiba.

	Initials.	Nature of Case.	Treatment.	Result.
1	J. D.	Mild gonorrhœa of three months' duration.	Copaiba. Injections of sulphate of zinc and nitrate of silver.	Not quite cured at end of 27 days.
2	W. J.	Gonorrhœa of three or four days' standing.	Potassio-tartrate of antimony, copaiba, turpentine, and steel.	At the end of 86 days left off attending. Not quite cured.
3	—	Gonorrhœa of three days' standing.	Pulv. salin. At the end of fourteen days copaiba, and then turpentine. Afterwards colchicum.	Cured in 65 days.

[1] Sigmund has found that injections of the urine of persons taking copaiba are inert.—Schmidt's *Jahrbuch;* also Braithwaite's *Retrospect*, vol. xxxviii, p. 451.

[2] *British and Foreign Medical Review*, July, 1856.

[3] *Lancet*, 1860, vol. i, p. 93.

	Initials.	Nature of Case.	Treatment.	Result.
4	J. S.	Ordinary gonorrhœa.	Had been treated for seven months with sulphate of magnesia, copaiba, &c.	At the end of this time he was still suffering from gleet, cloudy urine, and pain over the bladder.
5	L. H.	Gonorrhœa of a month's standing.	Injections and purgatives for fourteen days. Pulv. salin. and inject. of sulph. of zinc. Copaiba, turpentine, and pulv. salin. Injections.	Cured in 52 days.
6	W.	Gonorrhœa of a week's duration.	Magnes. sulph., followed by copaiba and nitrate of potass. Injections of sulph. of zinc.	Not quite cured at the end of 3 months. Subsequently he reports that the disease died out without anything further being done for it.
7	J. W.	Gonorrhœa of some days' standing.	Aperients and copaiba perseveringly used for seven months.	Rapid improvement. Severe relapse, apparently from bathing. At the end of 7 months scarcely well.
8	Mr. N.	Gonorrhœa, second attack, very severe.	Copaiba, liquor potassæ, compound calomel pill at night.	Cure twice deferred by his giving up treatment just as he appeared to be getting quite well.
9	Mr. R.	Gonorrhœa of four days' standing, complicated with a sore on the penis.	Copaiba and liquor potassæ with five grains of blue pill every night for a short time. Injections of nitrate of silver and sulph. of zinc.	Discharge removed in 3 months.
10	Mr. W.	Gonorrhœa of a fortnight's standing; first case.	Copaiba, cubebs, zinc injections. Almost constant rest.	Little improvement at the end of 12 weeks.
11	Mr. E.	Gonorrhœa of four days' standing; second attack.	Brisk purgatives, copaiba, liquor potassæ, pil. hydrarg. chlor. comp. Injections of arg. nit. and zinc. sulph.	Cured in about 7 weeks.
12	Mr. B.	Gonorrhœa of some weeks' standing.	Copaiba, liquor potassæ, compound calomel pill.	At the end of 2 months still some gleet remaining.

	Initials.	Nature of Case.	Treatment.	Result.
13	A. T.	Ordinary gonorrhœa.	Took six drachms of copaiba, and the same amount of spirit of nitric ether, every week for one year.	Still some purulent discharge remaining at the end of that time.
14	Mr. H.	Ordinary gonorrhœa. Patient very delicate.	Took two pints of copaiba in two months, under the care of an experienced surgeon.	No better at the end of the time.
15	C. S.	Simple gonorrhœa.	Took half a pint of copaiba a month for four months.	Discharge diminished to a very small amount; returned directly on the copaiba being left off.
16	Mr. F.	Rather severe. Patient himself a surgeon.	Copaiba in small doses, and then an ounce daily for above two months.	Little if any improvement at the end of this time.

I could easily lengthen this list, but I cannot see that doing so would serve any useful purpose. If what has been said will not work conviction, I am afraid but a small amount of faith would be gained by constructing a more elaborate table. It is of little use to accumulate evidence when the reader is indifferent or has resolved beforehand that he will not be convinced. I heard a surgeon say before the Medical Society of London, that he did not believe gonorrhœa *could* be cured without copaiba. The reader's experience will possibly supply him with equally striking instances. Of what use then can be the most positive proof in such cases?

It may be supposed that the copaiba here was given injudiciously, and that the surgeon had not waited till the inflammation was subdued, or that the patient was refractory or intemperate. Nothing, however, could be more incorrect; these were model patients—men most anxious to get well. In the cases treated by myself, every precaution I had ever found of service was used, for at that time I believed in copaiba.

Here the reader may object that I am making out a case against copaiba; so far from this, however, I am quite ready to

admit that it is of service in a great number of cases, though I myself never had such success with it as some writers have recorded. Graves, for instance, tells us that Dr. Roe cured his patients in a fraction less than twelve days. I never could do so; and besides, I think, no one will deny that it *does not* cure a great number of cases, which is of far more importance, and any person who finds such results, after a long and fair trial, is plainly justified in seeking for a more generally useful remedy.

Dose and Mode of giving Copaiba.—It would be satisfactory if those who recommend copaiba would really come to an agreement as to the most suitable dose, the best mode of giving it, and the period at which it should be used. At present any person seeking for reliable information on these points must be rather apt to get bewildered. Some surgeons give four-and-twenty times as strong a dose as others. Again, it was not long ago stated by a reviewer in one of our leading medical journals, that no sensible or experienced surgeon would think of giving copaiba in the acute stage of gonorrhœa; and many authors, M. Ricord for instance, strongly advocate the necessity for preliminary steps in the shape of antiphlogistics, &c. But it is quite certain that numbers of patients take copaiba at this stage, not only with impunity but with benefit. Irrespective of the evidence on this head met with daily in practice, some surgeons distinctly recommend it at this period. "It would appear," says Dr. Bumstead,[1] "that copaiba can be administered with safety and to much greater advantage in the acute stage of gonorrhœa, or at an early period of the stage of decline, than afterwards; and the same is true of cubebs." My own experience quite confirms this. Dr. Durkee says[2] that patients have taken eight drachms at a dose, morning and evening, in the most acute stage, with entire success and without any preparatory treatment, and Dr. Veale goes so far as to maintain,[3] that the great error in giving copaiba is allowing the acute stage to pass before administering it, and ordering too small doses. As to waiting till the inflammation is subdued before administering it, it is to the best of my judgment simply useless. Moreover, copaiba, when it does cure the disease, cures it more quickly and certainly

[1] *Op. citat.*, p. 91. [2] *Op. citat.*, p. 38.
[3] *Lancet*; 1855, vol. ii, p. 2.

when given at once than after antiphlogistics. As to any danger from using it in this way, it is imaginary. The few recorded instances of serious or fatal results from prescribing it in the acute stage, when analyzed, seem to have been due to the irritable constitution of the patient, imprudence and intemperance on his part, or to the medicine being continued when it was manifestly acting as a poison, and would probably have occurred to a considerable extent at any rate, had copaiba been administered under similarly unfavourable auspices at another stage. I have repeatedly known it make strong and temperate patients very ill, when taken for a mere gleet.

The most efficacious way of giving copaiba is, to my thinking, in combination with liquor potassæ. Spirit of nitric ether or nitrate of potass may be advantageously added, as may the compound spirit of lavender, which, mawkish as the last is to some persons, still serves to disguise the more disagreeable flavour of copaiba. Mucilage is useful for the same purpose, as well as for suspending the balsam. Mint-water is the best vehicle that I know; some persons, however, strongly object to the taste of it, in which case cinnamon-water or camphor mixture may be substituted.[1] With regard to the addition of such substances as cubebs, alum, tincture of cantharides, of sesquichloride of iron, and so on, I have had little experience, but that little is decidedly unfavourable. However I give[2] two or three formulæ taken from Dr. Bumstead's work.

[1] ℞ Copaibæ ʒij (ad ʒiij).
Mucilaginis acaciæ ʒiij.
Liquoris potassæ ʒiss.
Potassæ nitratis ʒiss.
Aq. menth. pip. ad ℥vj. ℳ.
Capiat ℥j. bis die.

℞ Copaibæ ʒij. ad ʒiij.
Spir. ætheris nitrosi ʒiij.
—— lavand. comp. ʒij.
Syrupi flor. aurant. ʒiv.
Aquæ cinnam. ad ℥vj. ℳ.
Capiat coch. amp. duo bis quotidie.

[2] ℞ Copaibæ ℥j.
Liquoris potassæ ʒij.
Ext. glycyrrh. ℥ss.
Spir. æther. nit. ℥j.

Dr. Durkee recommends that copaiba should be taken in coffee, wine, or compound tincture of cinchona. Other authors have suggested sucking a slice of lemon immediately afterwards.

It seems to me a great pity, if surgeons will continue to prescribe and patients to take copaiba, that Mr. Thorn's plan is not tried. This gentleman found that in two ounces of copaiba there are five parts in which all the virtues of the balsam reside, and eleven parts containing only useless and nauseous residue, so that tons of dirt are annually swallowed by patients to no purpose. As I have already said, Mr. Tyrrell obtained the most extraordinary success with Mr. Thorn's extract, and certainly the trial could not have been made by better hands; but I imagine the subject has now lapsed into oblivion, although, supposing his statements and those of Mr. Thorn are well founded, no subsequent method of prescribing the drug can be said to possess so fair a claim to public notice.

But sometimes the question is not what is the most efficacious

Syrupi acaciæ ℥vj.
Olei gaultheriæ gtt. xvj.

Mix the copaiba and the liquor potassæ, then the extract of liquorice and spirit of nitre together, subsequently adding the other ingredients. A tablespoonful to be taken after each meal.

℞ Olei copaibæ,
—— cubebæ, aa. ʒj.
Aluminis ʒij.
Sacchari albi ʒiv.
Mucilaginis ʒiij.
Aquæ ℥ij. ♏.

A teaspoonful to be taken three times a day.

℞ Copaibæ ʒx.
Tinct. cantharidis,
—— ferri chloridi, aa. ʒij. ♏.

Dose from half a teaspoonful to a teaspoonful.

The following formula is copied from Dr. Druitt's admirable *Vade-Mecum*, 1870, p. 808:—

℞ Copaibæ ʒiij.
Olei cubebæ m. xx.
Spir. ætheris nit.,
—— lavandulæ, aa. ʒij.
Olei cinnam. gutt. ij.
Aquæ fl. ℥v.

Dosis ℥j. ter die.

formula, but what preparation the patient's stomach can bear best. Many persons cannot support copaiba in a liquid form, and the surgeon looks round to see in what solid vehicle it can be got to stay on the stomach. There is no lack of variety here; invention has been racked to produce something which will be pleasant or, at any rate, tolerable. Capsules of all kinds, sizes, and degrees of solubility; pills, lozenges, dragées, pastes, &c., have been brought forward in plenty—some of them ingenious enough. I believe common experience has united to condemn them one and all as more or less unreliable. Perhaps one of the best substitutes for copaiba in the form of mixture is that of the balsam solidified by magnesia, while I think one of the least unpleasant forms is that adopted by the dispenser at University College Hospital, who prepares the copaiba with honey, sugar, &c., so that it resembles "raspberry jelly." The formula is given at full length in the number of the "Lancet," from which this notice is taken.[1] It is to be remembered, however, that in all these preparations one very important ingredient, which figures in the prescription I have recommended, the liquor potassæ, is omitted. It is said that the alkali turns the copaiba into a kind of soap, insoluble in water, but in my experiments this has not appeared to impair the efficacy of the drug.

One thing is absolutely necessary, and that is to secure pure copaiba. Most medical men have, I presume, noticed a very great difference in different samples of this drug, but generally speaking they have little idea of the extent to which it is adulterated, and possibly some parts of the discrepancy in the results from using copaiba might be explained by the varying degree of purity in which it is met with. Rape oil seems to be a favourite ingredient for adulteration; some specimens contain a large amount of this useless substitute. Dr. Durkee says that this adulteration is easily detected by dropping a little of the fluid into water. The pure copaiba assumes a spherical form, while the other does not. Irrespective of this, two kinds of copaiba are met with in commerce. Although neither of these is known to be adulterated, yet one is naturally much weaker than the other; the

[1] 1871; vol. i, p. 570.

stronger one solidifies with magnesia, but this is not the case with the other. Again, it seems that unobjectionable specimens differ materially as to the amount of volatile oil they contain, the percentage being only thirty in some, and as high as eighty in others,[1] and as about forty per cent. seems to be the most useful standard, it has been recommended that only tested balsam should be used. Of the value of this oil, when given separately, I have had no practical experience. It seems generally agreed that we can depend less upon it than upon the balsam.

The cutaneous eruption which sometimes follows the use of copaiba, would not, in my opinion, be a sufficient ground for withholding it. For the most part it is a mild form of exanthema, akin to roseola and urticaria, distinguished by diffused redness of the neck, shoulders, face, and upper part of the body, accompanied generally by itching, tingling, a feeling of not being well, and disorder of the stomach. It usually passes off under the influence of a saline or febrifuge, aided by rest and light diet. Some serious cases have happened. Occasionally this affection has given rise to troublesome mistakes. Simon speaks[2] of a case where the house surgeon pronounced a patient with balsam rash to be ill of scarlet fever, and kept him six weeks in doors; and some years ago a gentleman gave, at a meeting of the Medical Society of London, the particulars of a case where the same error seemed to have occurred, the speaker himself having believed the eruption to be that of scarlatina.

2. *Cubebs.*—What I have been able to learn respecting the action of this remedy would lead me to place it pretty much on a level with copaiba, but the statements about it are so vague and conflicting, that it is impossible to form any certain conclusions. One observer, Mr. Broughton, reports[3] that he cured nine cases out of ten with it. Another, Mr. Crauford, asserts[4] that it fails in many cases. A third, Dr. Pereira, found it exert[5] no influence over the disease in the majority of instances, a statement which is

[1] *American Journal of Syphilography*, vol. iii, p. 293.
[2] *Ricord's Lehre von der Syphilis.*
[3] *Transactions of the Medico-Chirurgical Society*, vol. xii, p. 99.
[4] *Edinburgh Medical and Surgical Journal*, 1858, p. 52.
[5] *Elements of Materia Medica.* By Jonathan Pereira. 1840, vol. ii, p. 756.

much more in unison with my experience than that of Mr. Broughton. Again, it is pretty widely known that the use of cubebs in this complaint owes its origin in part to the story related by Sir Astley Cooper, of one of his patients having cured himself of a gonorrhœa with this drug in four days, or more strictly speaking, in some space of time between a Thursday and the Monday following; now I believe this experience has been so rarely verified that it must be looked upon as most unusual. Possibly some part of all this discrepancy may be explained by a fact, which Mr. Norman stated in a very practical paper read before the North London Medical Society; some other part, perhaps, by a statement of Dr. Frazer's, that he has seen a large quantity of nutmegs, which had been subjected to distillation, sent to be used as cubebs! Mr. Norman brought forward some very strong facts to show that the action of the pepper, when freshly ground, is much more certain and potent than when it has been kept some time. He however admitted, that even thus used it often fails. To this difficulty must be added an objection made against copaiba, viz.; *that it is utterly impossible to separate, at the outset of the treatment, those cases in which it is likely to be of service from those in which it is almost certain to fail;* and hence, that a surgeon treating twenty cases with this drug, cannot tell beforehand how many out of this number he is even likely to cure, leaving aside any question of certainty.

Cubebs is said in some cases to have exasperated the symptoms of gonorrhœa; but this I think is doubtful, and most probably arose from its having exercised no control over the disease it was given for. I am much inclined to doubt if any medicine can aggravate the disease, except in failing to cure it. Behrend, in his "Syphilidologie" (!), says cubebs does not suit an irritable stomach—an announcement I can easily credit. There is, however, good reason for believing that in some cases large doses have set up considerable irritation, if not actual inflammation, in the prostate and bladder.

It occasionally cures gonorrhœa with marvellous rapidity, but these cases occur in those happily constituted persons who throw off disorders with extreme ease, and who are cured of a severe gonorrhœa by very simple remedies.

When the surgeon has decided to prescribe cubebs, it should, I think, always be ordered in teaspoonful doses of the fresh-ground pepper two or three times a day. Mr. Squire suggests moistened wafer-paper as a vehicle. The paper may be flavoured with essential oil of almonds. The powder is made into a paste with syrup of ginger, and then laid upon the paper, which is folded over it. The patient takes a mouthful of water, and then tosses the bolus down his throat. It is said in the "Pharmaceutical Journal,"[1] that "it is surprising how easily patients acquire the tact of bolting these boluses, without any convulsive action of the muscles of the throat." The surprising part of the matter to me is that they ever acquire the power of doing so, and indeed that they do not choke themselves at the first attempt. I should have thought that it almost equalled the feat of swallowing a clasp-knife.

The practice of giving copaiba and cubebs together, when one or both have failed separately to cure the gonorrhœa, is, I believe, a useless experiment. After giving my best attention to the facts, I can only conclude that all the instances, in which this combination is said to have effected a cure, were simply cases in which the separate ingredients had been of defective quality, or taken irregularly, or in too small doses, or where their action had not been properly seconded; and that it is very doubtful whether this combination possesses any curative power superior to that of either drug given separately.

3. *Turpentine.*—In a scientifically arranged treatise, turpentine ought perhaps to have followed copaiba, and not cubebs, but as I aim only at being useful, I trust to stand excused for placing together the two remedies most frequently used and most frequently combined.

Turpentine was, however, in its time quite as fashionable a remedy for gonorrhœa as cubebs at the present day. It seems clearly to possess a certain amount of control over the discharge in the later stage, when it has become partly mucous but is still profuse. Some substances of this nature, such as the resin of the spruce fir, act very beneficially when the inflammation of gonorrhœa has extended to the neck of the bladder, and even to the

[1] Vol. v, p. 503.

body of this viscus. In all other stages of gonorrhœa, and particularly when it is acute, every preparation of turpentine that I have seen tried has always appeared to me inert.

In large doses it may occasion sickness or nausea, but I believe it is quite unnecessary to use it in such a way, and that all the benefit likely to accrue from its use will be obtained by giving it in moderate quantity. Perhaps Chian turpentine will be found as useful as any. It should be simply allowed to dry to the consistence of an ordinary extract; it is then rolled in magnesia and divided into five-grain pills, two, three, or four of which may be taken twice a day. Care, however, should be taken to secure genuine Chian (or Cyprus) turpentine, the resin of the turpentine pistachia (Pistachia Terebinthus), as the coniferous turpentines are only too often substituted for it.

4. *Ngan Plang.*[1]—Some years ago my attention was called to the value of this medicine in gonorrhœa, and half a pint was sent to me for the purpose of making some trials with. It is a reddish-coloured fluid, about the consistence of syrup, and of a warm balsamic taste, reminding one of a delicately-flavoured kind of copaiba or turpentine. It is, I believe, for I have not been able to obtain such full and precise information about it as I could have wished, found only in Java, where it is considered a specific for gonorrhœa. It is taken in doses of a teaspoonful two or three times a day, no other means being used. No restriction as to diet, &c., is imposed on those taking it. I gave it, in four cases, in drachm doses two or three times a day. All the patients assured me that they took the medicine with the greatest regularity, and I have every reason to believe that they would only state the exact truth. The report in every case was that they did not notice any particular effect from the remedy. It was not unpleasant, they said, to take, and agreed very well with them; beyond that they had nothing to relate. I examined the patients nearly every day while they were using it, but did not notice any appreciable action on the gonorrhœa.

I have since then repeatedly inquired of friends and patients who had been in the East, as to whether they had ever heard of this drug, but never met with any person to whom it was known.

[1] Pronounced *Ne-an-plang.*

I have also examined the medical journals pretty diligently with the same view, but with equal want of success.

5. *Matico.*—As this drug contains a terebinthinate oil, it may very properly find a place here. I have been given to understand that it is used now in many cases of gonorrhœa, but that it is the resin which is employed, and in the form of capsules. My inquiries on this point, however, elicited no reliable information as to whether this is the fact, or how much of this ingredient is contained in each capsule. No mention is made of a resin in the pharmacopeia, or Mr. Squire's Companion. M. Diday tells us that druggists sometimes very judiciously associate it with copaiba, to which addition he ascribes the only power it possesses.

I have only had one opportunity of trying these capsules, and therefore can say but little about them. In the case I allude to, the patient, a delicate-looking, thinly-built man, suffering under a moderately profuse discharge, attended with some chordee and irritability of the bladder, informed me that he had had gonorrhœa once previously, and that then the disease, after long resisting other remedies, was promptly subdued by taking twelve matico capsules daily. Consequently I thought this a very suitable case for trying the remedy, and advised him to take the same number of capsules He accordingly procured some, which he identified as similar to those used on the previous occasion, and took them at the same rate. At the end of a few days, the discharge being in precisely the same state and his health being quite unaffected by the medicine, I suggested raising the dose, and he at once began taking eighteen capsules a day. Four or five days later he reported satisfactory progress, and then, two or three days after that, told me that he was no better than before he took the matico, having thus, in a very short time, twice changed his mind about the action of the medicine. For my part, though I saw the case almost daily, I could not observe that the remedy exerted any influence over the running.

I believe the patient did everything in his power to second the operation of the matico; indeed he was most anxious to get well, the continuance of his malady being for him a very serious matter; at the same time I am doubtful whether the remedy

received a fair trial, as I am not quite clear that some degree of contraction was not springing up at the time; indeed a certain amount of it was found later on, and the case will be subsequently related under the head of cases complicated by stricture.

6. *Oil of Santal-wood.*—We are indebted to Dr. Henderson, of Glasgow for a knowledge of this drug.[1] He gives it in doses of twenty to forty minims, and often notices a most marked suppression of the discharge within forty-eight hours. He recommends it as a pleasant medicine, not liable to cause sickness or to communicate any odour to the urine. Shortly after Dr. Henderson's communications some other reports appeared about the oil, almost if not quite as favourable as his own. A very natural result of this was that it came into general use and, according to the statements made to me by chemists, who have really better means of knowing how the current of professional opinion sets in such matters than any surgeon can possess, seems likely to remain so. Many of those gentlemen who have prescribed it largely consider it quite as efficacious as copaiba, and infinitely more pleasant both as to taste and operation. We find so high an authority as that of Dr. Otis in its favour. Dr. Atkinson, formerly house surgeon of St. Bartholomew's Hospital, Chatham, who was one of the first to employ it in England, and who watched its action with great care, was kind enough, in reply to some questions, to inform me that he had seldom found it fail in acute and sub-acute cases; that pain in micturition generally stops after the third or fourth dose, whilst the discharge itself usually ceases after the third day. Dr. Atkinson however thinks it is as well to continue the oil up to the seventh or eighth day, so as to guard against the possibility of a return. With the exception of very slight griping pains about the bladder, he has never known any unpleasant results from the use of this remedy. The dose he generally gives is from twenty to thirty minims in a little mucilage and cinnamon-water three times daily.

A Glasgow correspondent of the "Practitioner,"[2] however, has questioned its possessing any power, the remedy having failed not

[1] *Glasgow Medical Journal*, 1865, p. 70; and *Medical Times and Gazette*, 1865, vol. i, p. 571.

[2] Vol. iii, p. 106.

only in his hands, but in those of other practitioners. M. Diday, in his new work, ranks the essence of yellow sandal, which I suppose is the same substance, among the futilities, *parmi les insignifiants;* and Dr. Purdon found that, so far from occasioning little nausea and having little smell, as stated by Dr. Henderson, he had in many instances to discontinue its use on account of the nausea it brought on, and that the odour was extremely well marked, remaining in the breath and on the hands for hours after being washed, and being evident in the urine.

These objections however did not deter Mr. Robert Park from espousing the cause of the oil, which he has done in a very able and temperate article,[1] showing a sound knowledge of his subject. The oil, he tells us, was first introduced extensively into practice by the late Dr. Milner of Glasgow. It is in the case of full plethoric subjects, with thick purulent discharge from the urethra, that its specific power is so strongly marked; in such cases it often effects a cure in from two to five days. He gives five minims every four hours, and says that larger doses are superfluous and even dangerous. If this view be well founded, we must conclude that other authorities are in error about the doses and properties of the oil, that it is perhaps only suited to particular cases, and that our knowledge of the subject must become complete before we can use it in a reliable way.

It is very probable that some part of this discrepancy might be explained by a fact with which these gentlemen do not seem to have been acquainted. The fact is, that oil of santal-wood is so extensively adulterated with balsam of copaiba and castor-oil, that the genuine fluid forms in many cases but a very small part of what is administered. Some years ago I was assured by a gentleman on whose opinion I can quite rely, and who was kind enough to take a great deal of pains in order to procure me the information I required, that there was not a pint of pure santal-wood oil to be bought in the market at any price, and yet the supply to the retail houses was so regular and large as to seem practically inexhaustible, a fact which he partly explained by adding, that once, when supplying the oil direct from the still, he had been asked how much

[1] *Practitioner*, vol. iii, p. 266.

copaiba and castor-oil it would require to bring it up to the commercial standard.

The pure oil of santal-wood is of a light but clear yellow, without the least tinge of brown, almost exactly the same hue as pure, fresh, sweet almond-oil; whereas that generally sold has a tint approaching the colour of copaiba, and a look like mastic varnish which has lost some of its transparency; but to some extent the colour of the oil differs according to the district from whence the wood comes and the age of the tree. The best oil has a slight smell of copaiba, a fact, I am told, from which the first hint of adulteration was taken. The pure oil is intensely strong, and so acrid in taste that I can only compare it to croton-oil. Though I have prescribed the oil as usually sold, I have not made many experiments with it, confining myself, as far as I well could, to that procured from Messrs. Pears, on which I felt assured complete reliance might be placed, and which they have now arranged I believe to sell, pure as it drops from the still, in sealed bottles.

Most of the patients for whom I prescribed genuine oil have assured me that the doses ordered, from twelve to twenty minims, were as much as they could bear. One gentleman took thirty-five minims three times a day, but he was peculiarly insensible to the action of all the medicines I gave him, and even he had to discontinue the remedy at the end of two or three days, as he found it was inducing nausea. Judging from the effect which the oil produced on my own mouth, I should have thought it impossible for any one to support even such a quantity as thirty-five minims.

As to Dr. Henderson's statement, that it has a very slight smell, I cannot understand it. I kept a specimen of the pure oil for several months and yet the smell, when the fluid was even slightly warmed, was extremely pungent and most characteristic; in fact it seemed to overpower that of any material the oil may be adulterated with. With regard to the cures said to have been effected by means of this oil given in combination with liquor potassæ, I may say that the latter fluid, given in moderate doses in conjunction with very small quantities of balsam of copaiba, or mucilage of acacia, linseed tea, veal broth, or any bitter infusion,

will cure a great many cases of gonorrhœa;—a fact which I briefly pointed out many years ago in the first edition of this work.

Some of my first trials with the oil were encouraging. Given as below[1] it seemed to agree very well with the patients, who found it rather stomachic than otherwise, and it certainly appeared to remove slight discharges, particularly when injections were also used. But even in some of them it did not succeed as I could have wished, and in the more severe forms of the affection I could not observe that it exerted any appreciable action. Certainly at the end of six, eight, and even ten days the discharge had not ceased. My faith in its virtues has not improved on acquaintance; on the contrary farther experiment has only shown that the scepticism set up by the first trials was justifiable. It may be that I omitted some precaution which I ought to have taken, or gave the oil in too small doses, but if I am to rely upon my own experience, and pass an opinion, it must be that the oil is not possessed of greater curative power than balsam of copaiba, if indeed it be not decidedly inferior. At the same time I think it a valuable addition to the pharmacopeia as a remedy for bronchitis, in which complaint I have repeatedly used it, being more agreeable than copaiba and quite as efficacious if not more so.

7. *Gurgun or Gurghun. The Gurgina Balsam or Wood-oil.*—This remedy the product of the Dipterocarpus turbinatum, was also recommended by Dr. Henderson.[2] It is a medicine of the same class as the oil of santal-wood. Dr. Henderson experimented with it for a long time, and then, having exhausted his stock, was obliged to suspend operations. He however only used it in cases where copaiba had been tried and had failed. He gave it in large doses, such as a teaspoonful two or three

[1] ℞ Olei santali ʒj.
Ovi vitelli unius q.s.
tere bene et adde
Spir. ætheris nitrosi ʒij.
Syrupi flor. aurant. ʒiv.
Aquæ cinnam. ad ℥vj. M.
Capiat coch. amp. duo ter quotidie.

[2] *Glasgow Medical Journal*, 1865, p. 71.

times a day, and found it in every case successful within a week. I have no practical experience of its action, and I have not been able to learn whether any trials, of such a nature as to furnish the means of arriving at a reliable opinion, have been made of its power over gonorrhœa, except by the gentleman just alluded to.

8. *Erigeron Oil.*—Some years ago, Dr. J. S. Prettyman, in a communication to the American Journal of Medical Sciences,[1] stated that he had tried the oil of erigeron in about fifty cases of gonorrhœa, and found that it arrests the discharge in about seventy-two hours, and effects a cure in from six to eight days. He did not however recommend it as a specific, though it seems from such testimony quite as much entitled to the name as copaiba.

The patients took the medicine as follows. A gill of an aperient infusion of senna and jalap, with some aromatic, was ordered, and so soon as it operated, ten drops of the oil on sugar were taken. This was followed up three hours later by a full dose of spirit of nitric æther in infusion of marshmallow. Then, three hours after this, or six hours from the taking of the first dose of oil, a second dose of oil was given, followed in its turn by a second dose of the nitric æther mixture and so on. Dr. Prettyman states that he had only so far used the oil reputed to be obtained from the Erigeron canadense, but that he thought that of E. philadelphicum must be equal if not superior. The paper is very short, and contains no account of the history, taste, properties, &c., of the oil. I suppose most persons who have read the account would imagine that this substance really possesses some control over gonorrhœa, yet it so entirely failed in the hands of Professor Stein of New York, who seems to have given it a fair trial,[2] that it is difficult to refrain from supposing its virtues to be imaginary.

This concludes the list of specific agents, so far as my knowledge goes, and I therefore pass on to the consideration of some which are more comprehensive in their meaning. Of these the first on the list is—

9. *Antiphlogistic Means.*—It is unnecessary to state here how many excellent surgeons have insisted upon the necessity for resorting to these means, in order to pave the way for the use of

[1] Vol. lii. [2] *New York Journal of Medicine*, 1870, vol. i, p. 397.

specifics. I believe the practice to be unnecessary, and proceed to state my reasons for doing so.

If I understand the term aright, antiphlogistic treatment means the indiscriminate application of a certain series of measures, such as the use of mercury, tartar emetic, digitalis, blood-letting, leeches, cupping, and low diet; all employed with the view of combating the inflammation, quite irrespective of the structure primarily or chiefly invaded. Now this practice appears to me founded on false principles, or rather founded on a total disregard of any principles whatever; for as every structure, every secreting organ, has, from the moment life begins, an unalterable tendency to take on certain forms of action and development, whereby its anatomy and normal functions differ from those of any other structure and organ, so its disorders will necessarily be peculiar to itself. However varied the shapes which disease in its full development may assume, analysis reduces them, fundamentally, to increased action of some part of one or more natural functions, and as scarcely two parts can be said to perform the same function, so disease will scarcely ever run exactly the same course in any two different structures, while there is on the other hand a certain amount of evidence showing, that parts resembling each other will show a resemblance in disease, and in the action of medicines on them. Hence I think it is not going too far to say, that till experience decides the question, identity of disease, or what passes for such, in structures differing from each other, constitutes no valid reason for the assumption that the same measures ought to be applied in both cases. Indeed it seems to me that experience runs quite counter to such a view, and that the application of such measures in gonorrhœa is an instance in point. Remedies which scarcely ever fail to control inflammation of the cellular tissue exert the most insignificant power here, even when used heroically. Bleeding from the arm, leeches on the perinæum, calomel and tartar emetic, *scarcely ever effect the same amount of change in gonorrhœa which a single injection will induce.* They lower the patient, it is true, and make him weak and ill; but they do no more, for all this, than rest and abstinence would do. It is true that the first of those remedies is now rarely if ever employed in gonorrhœa, and that to battle against it indi-

vidually would be to fight with a shadow. But if no longer present in the body, its spirit still lingers among us, and a chain of argument, levelled at antiphlogistic treatment in this complaint, would be incomplete were all notice omitted of what was once the sheet anchor of the system.

That the treatment of inflammation by the abstraction of blood should have been so long inculcated and so resolutely defended, shows that an error may be very widely spread, and upheld by almost irrefutable reasoning, and yet be an error. If anything but their own personal experience could teach men to be a little more tolerant, to reflect before they decide, instead of zealously seeking for arguments to oppose a doctrine because it is new, the history of the struggle which ended in the overthrow of this destructive practice might well point the much-needed moral. I suppose there now remains little doubt that the man who most of all contributed to the putting down of lavish and indiscriminate bleeding was Dr. Samuel Dickson. Yet he was vilified in one medical journal as if he had been a common quack, and it is said that the fellows of one society were in such a hurry to show how much they abominated innovations of this kind, that they very nearly black-balled another gentleman of the same name by mistake.

Now I am quite ready to admit that Dr. Dickson's way of making his views known was possibly objectionable enough; but the question is, would he, had he confined himself strictly within professional limits, have succeeded in arousing the attention of the profession; and supposing he conscientiously believed that bleeding was yearly sending thousands to their graves, and ruining tens of thousands of constitutions, which was the right step to take—to leave the evil flourishing unchecked, or to brave the storm of obloquy, force the profession to recognize his views, and trust to time for justice? I leave the answer to the collective experience of those who have tried the former plan.

I am disposed to think that the abstraction of blood in gonorrhœa, speaking of it in the past sense, was simply a piece of routine, an offshoot from the great red-tape root. When I was young I saw patients bled for this disorder, but beyond making them low and faint, I never observed any effect; and though I

have often asked the question, I have never yet been able to learn that *a single observation, to say nothing of such a complete and accurate series as would be absolutely necessary, was instituted by any person for the purpose of determining whether it had a positive influence over the disease or not.*

The problem of the treatment of inflammation would perhaps advance more rapidly towards a solution *were the tissue in which it begins adopted as a guide and ground of distinction.* Circumscribed inflammation of the cellular tissue seems precisely the same complaint, whether seated in the lungs or groin, yet while the value of tartar emetic is admitted in pneumonia it is ignored in bubo. Ophthalmia may be very fairly compared to gonorrhœa; yet many surgeons who do not hesitate to check a purulent inflammation in a delicate organ like the eye by the free use of nitrate of silver, recoil from its employment in a far less sensitive part, the urethra. Untaught by experience, we see peritonitis cured by opium, hot fomentations, and blue ointment, which scarcely mitigate in the least degree the progress of gonorrhœa or abscess; we see another inflammation, erysipelas, subdued by wine, bark, and ammonia; a third, eczema, cured by an acid solution of iron; a fourth, rosacea, relieved by tonics and alkalies; and then treat the next case of inflammation, in whatever part of the body we meet with it, by calomel, leeches, and antimony.

The time however is perhaps coming when surgeons will have to admit that each form of inflammation must be met by its peculiar antidotes, however heretical this opinion may seem to those who look upon disease as a palpable substance that can be drained off or destroyed, as some element is eliminated in a chemical process; who talk of it as though they could measure it off by rule and compass: so much heat, cold lotions; so much redness, leeches, calomel, and opium; for double the quantity, bleeding, and so on.

However I suppose we may assume that bleeding for gonorrhœa has long had its day, and that it will never again come into fashion. One piece of routine being thus disposed of, there remain the other items of the antiphlogistic system, the use of which, taking them as integral and inseparable parts of the method, I believe to be quite as uncalled for as that of the

lancet, and it is for this reason that I have dwelt so long on the inutility of bleeding. If declaiming against the latter be superfluous, this most assuredly does not hold good of other items, seeing that the reader has only to open some very modern works to find leeches, calomel and antimony among the means recommended for the treatment of this disorder. M. Diday, for instance, writing in this very year, advises leeches to the perinæum in severe cases, though with the usual qualification, that he does not often find them called for.

Although I suspect that some of those surgeons, who advize leeching in their writings, do not always enforce it in their practice, yet even the recommendation, widely disseminated as it must be, cannot fail to ensure its being adopted. Now, used in moderation the practice seems quite inert, and if pushed to such an extent as to exert any influence on the system, it prostrates the patient without acting upon the gonorrhœa. Though at one time I often saw leeches used, I never observed anything which led me to believe that their employment shortened the course of the disease or mitigated its severity. Nor did I ever notice any greater success from the administration of large doses of calomel, antimonial wine, tartar emetic, &c., which seem to me equally powerless except for mischief, and I therefore think the therapeutics of gonorrhœa will sustain no more harm from the banishment of these remedies, than they did from the abandonment of bleeding. The benefit derived from any or all of them was, I believe, illusory. A patient who was bled and leeched, sickened with antimony and purged with calomel, naturally enough had little temptation to overload his stomach or indulge in any folly, but any beneficial change which ensued under such treatment was most likely due to the rest and abstinence.

The force of habit, however, is difficult to overcome; and though it is easy to see that the most exact, consistent, and vigorous use of antiphlogistic measures leaves the urethra as hot, and even painful, as ever, the impression will still remain that, after all, these were the most proper means to use. If the reader doubt this assertion, let him really go into the matter so as to learn what men's opinions are. I think he will soon satisfy himself that the faith in such time-honoured ideas, as that of the

necessity for subduing the inflammation of gonorrhœa before ordering either specifics or injections, will outlast his day and perhaps that of many succeeding races.

Few authors have treated gonorrhœa more energetically than M. Ricord; I have no means of knowing what his present practice is, but at one time he used leeches, &c., in a manner bordering closely upon the heroic; and yet, though it is difficult to ascertain what time he requires for the cure of his patients, there is evidence enough to show that they often remain for weeks under his antiphlogistic treatment, even when seconded by rest, specifics, injections, and cauterization.

I will take another instance, one of Ricord's most ardent and distinguished students, M. Melchior Robert, an able, careful, and I believe above all an honest, writer, who has pretty evidently moulded his treatment on that of his teacher. To my mind, M. Robert's account and some of his incidental allusions look very like a history of failure. He calls gonorrhœa[1] an "interminable maladie;" speaks[2] of its interminable, its maddening[3] persistence; of the half-cured state in which the urethra remains when "preceding blenorrhagias have left in it a leaven ever ready to ferment,"[4] and honestly admits that, except in a few rare instances, when the abortive treatment avails, the disorder is only cured in the most fortunate cases, by the aid of specifics and injections, at the end of thirty or forty days.

In the cases I collected from my own practice and that of my friends, the cures effected by this mode did not amount to more than one in four, and they were both slow and uncertain. Those which yielded were mild forms of the disease, and yet they lasted from thirteen to thirty-seven days; when injections also were used, antiphlogistic measures proved nearly equal to copaiba, for then out of twenty-three cases thirteen were cured, the average period of treatment being twenty-eight days. Even this disproportion in the results might lead reflecting persons to doubt if the antiphlogistic treatment had any influence over the complaint, and ask, if the cures obtained were not rather due to some agent which had been overlooked. I may possibly have been under the influence of some

[1] *Op. citat.*, p. 70.
[2] *Ibid.*, p. 80.
[3] *Ibid.*, p. 81.
[4] *Ibid.*, p. 117.

baneful star at the time I made these calculations, but the fact remains as I have stated it, and it has certainly made me very sceptical about the powers of this system.

10. *Purgatives* are another favourite remedy in this disorder. Some surgeons set a high value upon their revulsive action, others simply view them as a part of the great antiphlogistic family, and a great deal of the reader's time, and mine too, might be very unnecessarily wasted in discussing the question. As it is not of the slightest moment, I will simply proceed to examine their power of arresting or curing the disease.

Greatly to my surprise, I was not able to collect any evidence of the slightest value as to this point, by far the most important of all; and what I could make out by experiment was, that a powerful purgative will, in some very mild cases, or at the beginning of the attack, most materially aid in cutting short the disease, and this is about all it will do. Dr. Bumstead, who seems to have paid great attention to the subject, says,[1] "We often meet with patients who have treated themselves with low diet and purging *for weeks*, and are no better of their gonorrhœa." Mr. Whately relates[2] an instance in which a purgative was repeated every day for thirty days together, accompanied by a strict adherence to an antiphlogistic plan of treatment; and all this was done "without producing any material alteration in the complaint, or any considerable abatement in the inflammatory symptoms!" Dr. Durkee is strongly opposed to over-purging. "If," he says,[3] "repeated evacuant medicines be given, they will be liable to interfere with the digestive functions, will render the bowels more and more torpid, and an increase of the dose will be needed on every successive occasion. In many cases where free purgation is resorted to a long and tedious course of treatment is required. Patients of their own accord often pursue a cathartic plan for several weeks, and then report that their urethral difficulty is as troublesome as at the beginning."

The faith of man in purgatives seems to have been always

[1] *New York Journal of Medicine*, 1859, vol. ii, p. 210.

[2] *Practical Observations on the Cure of Gonorrhœa Virulenta in Man*, 1801, p. 96.

[3] *Op. citat.*, p. 31.

great. The medical men of the latter part of the seventeenth century and the beginning of the eighteenth used them, as we have seen, quite as freely as the most reckless quack herbalist of our day; and at a considerably later date we find Rowley[1] citing a case which shows that the belief in the virtues of this system was by no means extinct. In the instance he speaks of, the patient was purged and drenched till he looked like "a dead corpse" (*sic*). The result of this vigorous treatment was, that purple spots appeared on every part of the body; the greater part of the penis "dropped off," and very soon afterwards the patient dropped off also—that is to say, he died. The reader may possibly wonder what a jury would say nowadays to such a case.

Perhaps it may be said that these were merely the errors of a bygone day, to which my answer is that, so far as I can learn, a general belief in the virtue of purgatives is nearly, if not quite, as firmly rooted as ever. True, men do not, and probably never did, generally purge their patients, nor do the latter physic themselves, till they look like "dead corpses" or induce piles, but the old faith, though much modified in outward form, is as strong as ever in many quarters.

I now proceed to give a table of cases in which these remedies were tested with all the care I could use.

[1] *An Essay on the Cure of the Gonorrhœa.* By William Rowley, Surgeon, 1771, p. 13.

TABLE III.

Cases treated with Purgatives.

	Name.	Days previously ill.	Character of the Disease, and previous Treatment when ascertained.	Treatment.		Date of final Disappearance of the Discharge.
				Medicines.	Injections.	
1	W. D.	10	First clap.	Strong purgatives. Pot. sod. c. rhei. gr. reac. c. pot. nit.	Sulph. zinc. arg. nit.	On the 35th day a stricture was detected. Cure in 2 months by bougies.
2	J. B.	3	...	Strong purgatives.	Nit. of silver.	Cure in 16 days.
3	W. H.	Not ascertained.	...	Ditto.	Sulph. of zinc, and occasionally nit. of silver.	Cure in 28 days.
4	J. S.	60	...	Pulv. salin. Steel and purgatives.	For one month none, then a strong injection once a week, and used one himself occasionally.	Cure in 47 days.
5	S. C.	Not ascertained.	...	Hyd. chlor. and haust. cath.	None.	At the end of 15 days no improvement.
6	H. H.	Not ascertained.	...	Ditto, followed by pot. iod. c. infus. rhei.	Injection only in the latter part of the treatment.	At the end of 35 days still some running.
7	G.	Not ascertained.	...	Purgatives.	Ditto.	At the end of 13 days still some discharge.

Aperients.—Aided by injections, aperients will effect quite as much as the most torturing and depressing purgatives; and could we but discriminate the cases at the outset, it would in many instances not be necessary to do more than prescribe these two remedies. But this is impossible. It will constantly happen that in very healthy-looking persons gonorrhœa becomes so severe or obstinate under this plan of treatment, that other means have to be resorted to after a considerable waste of time and money. Nay, it will occasionally happen that the very same patient, apparently suffering from the very same form of the disease, can be cured at one time by these simple remedies, and yet at another require all our resources. Besides, this plan is slow and uncertain, even when injections are used.

I give below a table of cases thus treated, and ask the reader if he does not think that it bears out this view. I could easily add to the number, but resist the temptation, as the returns agree so closely with those previously obtained.

And here I may observe that the reader will probably enough object to these tables as embarrassing, superfluous, and difficult to carry in the mind. My answer is, that the object in this work is to separate, as far as I can, *certainties from uncertainties*. It appears to me that this is the first step on the true road to knowledge, and that, without such a standing ground as this method offers, there can be no real progress. The number of opinions and the aggregate amount of experience may indeed increase, but such increase can only augment the difficulties of those who essay to analyze the mass and extract the truth from it. I therefore hold that the only plan is to reduce observations to such a form as will not merely admit of their being clearly comprehended and easily tested, but will reduce almost to a minimum the imputation of any vagueness. When observations are impartially digested down into figures, we can deal with them better than in any other form I know of.

TABLE IV.

Cases treated with Aperients.

	Name.	Days previously ill.	Character of the Disease, and previous Treatment when ascertained.	Treatment.		Date of final Disappearance of the Discharge.
				Medicines.	Injections.	
1	R. M. K.	...	... ...	Salines, carb. of soda and pulv. jalap.	None.	Left at the expiration of 13 days, in no way improved.
2	A. R.	10	... ...	Saline powder, consisting of pulv. rhei. pot. nit., and sulph. magnes.	Sulphate of zinc ʒi. to Oj.	At the end of 35 days the discharge disappeared, but returned immediately on leaving off treatment.
3	J. S.	30	Complicated with rheumatism.	Ditto.	Ditto.	Cure complete in 19 days.
4	J. B.	21	... ...	Pulv. sodæ c. jalap.	None.	On the 25th day only a slight gleet remaining.
5	H. B.	Not ascertained.	....	Pulv. salin. pot. nit. c. pulv. antim.	None.	On the 35th day the discharge was still bad.
6	J. R.	Ditto.	... ...	Pulv. sod. c. jal., pulv. salin., mist. salin., followed by tincture of steel.	None.	On the 34th day there was still some scalding, accompanied by purulent discharge.
7	J. C.	Ditto.	... ...	Pulv. salin.	Sulph. of zinc.	At the end of 75 days there was some improvement. He now took no medicine for 35 days, during which time there was no further alteration in the disease.

8	W. B.	...	Apparently from over-walking.	Dilute sulph. acid and aperients.	None.	The discharge ceased on the 3rd day.
9	...	30	He had drunk beer, and tried to cure himself with salts.	Pulv. salin. Restricted diet.	Sulph. of zinc.	Cured by the 35th day; the scalding ceased on the 6th day.
10	A. D.	30	He complained of the scalding being very severe.	Pulv. salin.	Ditto.	By the 21st day the scalding had nearly ceased, and by the 25th the discharge was gone.
11	...	3	Not very severe.	Pulv. sod. c. jal. No restriction in food or drink.	Lotio saturn. to the penis.	On the 30th day there was still some purulent discharge.
12	A. S.	Not ascertained.	... ...	Pulv. sod. c. jal.; mist. salin.	Ditto, followed by injec. of sulph. of zinc.	On the 39th day there was still some purulent discharge.
13	W. S.	...	... ...	Pulv. sod. c. jal., pulv. salin.	Lotio saturn. as an injection.	On the 61st day there was still some purulent discharge.
14	A. S.	4	... ...	Pulv. sod. c. jal. No restriction in diet.	Ditto.	On the 16th day almost all well.
15	A. H.	4	... ...	Ditto. ditto.	Ditto.	No improvement at the end of 33 days.
16	D. F.	6	... ...	Ditto. ditto.	Ditto.	At the end of 14 days there was but little improvement.
17	R. K.	90	He had taken copaiba and catechu, and used injections.	Pulv. salin.	Lotio saturn., and after 24 days sulph. zinc.	Cure in 78 days.
18	S. C.	7	... ...	Pulv. sod. c. jal.; salines.	Lotio saturn.	On the 30th day the chordee had ceased, but scalding and discharge were present.
19	E. S.	90	Very mild.	Pulv. salin.	Sulph. of zinc.	Cure in 4 days.
20	M. J.	42	... ...	Ant. and salines.	Ditto.	Cure in 30 days.

TABLE IV. (*continued.*)

Cases treated with Aperients (*continued*).

	Name.	Days previously ill.	Character of the Disease, and previous Treatment when ascertained.	Treatment. Medicines.	Treatment. Injections.	Date of final Disappearance of the Discharge.
21	B. B.	42	Cubebs in mixture.	Pulv. salin. Not restricted in diet, drank beer.	Sulph. of zinc.	On the 40th day there had been no discharge for a week; there was still some smarting on making water.
22	J. P.	270	Thick white discharge, no chordee; lived regularly, took medicine, and no malt liquor.	Pulv. salin., tinct. of steel.	Lotio saturn.	On the 49th day there was still some discharge.
23	W. C.	3	... ...	Pulv. salin. Drank beer.	None.	No improvement at the end of 33 days.
24	A. S. K.	6	... ...	Pulv. salin.	Sulph. of zinc.	In 12 days had diminished to a gleet, and a few injections completed the cure.
25	H. C.	3	... ...	Pulv. salin.	Ditto.	Cure in 43 days.
26	G. W.	24	... ...	Pulv. salin., followed by copaiba and turpentine.	None.	Cure in 16 days.
27	H. H.	Not ascertained.	Said to be non-venereal.	Pulv. salin.	Sulph of zinc.	Cure in 12 days.
28	J. S.	60	Copaiba and injections.	Pulv. sod. c. jal.	Ditto.	Cure in 12 days.
29	S. W.	Not ascertained.	Said to be from a strain.	Ditto, and tinct. ferri m. xx. ter die.	None.	On the 37th day there was still a slight gleet, when the tincture was commenced. Cure in 8 days more.

Here, then, with the exception of four cases, one of them (Case 8) being very likely not gonorrhœa at all, where I began injecting within the first fortnight, the results were of the most unsatisfactory kind. Many of these patients were as bad as ever at the end of thirty, forty, or fifty days, and the treatment had to be exchanged for something more calculated to effect a cure. A few slowly recovered; and some, who thought the disease gone at the end of a long course of medicines, found it return so soon as ever they left off treatment.

I have heard these views disputed, and heard surgeons say at the Medical Societies that they generally found a few days sufficient to bring down the disease to a gleet. So I thought at one time; but when I came to put down the results in black and white, and limit myself to cases in which I positively ascertained what the action of these remedies had been, I changed my opinion.

The objection urged against copaiba and cubebs holds good here. When once a case proves refractory no further benefit seems to arise either from increasing the dose or persevering in the use of aperients. Of this, practice affords us every day the most convincing proofs; and there is perhaps no surgeon, however limited his sphere of observation, who has not seen cases in which patients, attempting to cure themselves, had persevered for months in the employment of these remedies without even materially relieving the disease.

12. *Diuretics.*—The principal diuretics used in gonorrhœa are the spirit of nitric ether, nitrate and acetate of potass, and liquor potassæ; though perhaps the latter ought only to be classed exceptionally under this head, being an ant-acid.

The action of liquor potassæ, by means of the kidneys and urine, is possibly one of the very few successful instances of a means yielding the results expected, for unless its use arose from some person imagining that it would produce the same effects when employed in this way as when applied to the tissues, I am at a loss to know how it was introduced at all into the treatment of this and similar diseases. It certainly does exert, however, a good deal of control over the purulent discharge, and in women it often, combined with bitters, acts better than remedies which prove more powerful in the male.

As to the employment of diuretics, I never could quite satisfy myself about my own reasons for using them, although I am always glad to avail myself of their employment. A moderately increased action, however, of the kidneys so generally, seems at any rate to alleviate the disorder, that these remedies have been admitted into almost every plan of treatment. The spirit of nitre is perhaps the most unexceptionable and pleasant to take, as it rarely offends either the taste or the stomach, and even when not beneficial never acts injuriously. As to the nitrate of potass I must give a more qualified opinion, and in the section on scalding, in a later chapter of this work, it will be seen that it was given to the extent of six drachms a day without producing the least effect either on the disease or scalding.

The acetate is unquestionably, I think, a much more powerful remedy as an adjunct. It was first introduced, I believe, by Mr. Hilton to the notice of the profession as a remedy for gonorrhœa.[1] Long previously I had used it extensively, but I had ceased to place any reliance upon it as a specific, and this is really the only decision I could arrive at.

A close scrutiny of Mr. Hilton's cases will, so far as such a small number can prove anything, prove this assertion. In the first case the discharge ceased within sixteen days; in the second on the eighth day; while in the third instance no very material improvement took place for the first fifteen days, and it required thirty-nine days to subdue the scalding and discharge. Even then the cure was not complete.

13. *Alteratives.*—I have little or nothing to say on this head likely to interest the reader. It seems almost unnecessary to state that the belief of the old surgeons, in the power of mercury over this disease, did not very speedily die out among their representatives in more modern times, even when men became convinced of what they might have learned at any time, when they chose to learn from nature—viz., that syphilis and gonorrhœa are two entirely distinct disorders, although we must admit that so much progress has ensued as to make the salivation of gonorrhœal patients, and faith in mercury, for this disorder matters of history in Great Britain at least. I say Great Britain advizedly, for I

[1] *Lancet;* 1850, vol. ii, p. 507.

have not the same means of knowing that it is quite extinct in some other parts of Europe. M. Robert, in the work so often quoted from and published but a few years ago, after stating his firm conviction that mercury has no power over chronic runnings, admits[1] that he has failed with it (and therefore that he had needed to convince himself by actual trial), and tells his readers that about a year previous (in 1860) he was consulted by one of his *confrères* for a chronic discharge, who had tried to no purpose a *long mercurial treatment*. But, indeed, Mr. Lee says[2] that the late Mr. Johnson was, and that M. Baumés and M. Lagneau are, in the habit of treating obstinate gonorrhœa by means of a mercurial course, and with success, the explanation of which is that the gonorrhœa is syphilitic. Mr. Lee himself clearly leans to this belief, and considers that the discharge, from which Hunter inoculated himself, was of this nature and not chancre larvé. Although I have watched, with all the care I could bestow, every case bearing upon the genesis of syphilis, I have never met with any fact showing that it originates except from some recognised form of syphilis itself.

The iodide of potassium, one of the most powerful alteratives in proper cases, has been repeatedly made a subject of discussion, and at one time a paper frequently appeared setting forth its merits as a remedy in gonorrhœa. It is, however, inert for such a purpose, except in so far as the potassium may act in the same way as the liquor potassæ does; and any benefit that arose during its use was probably due, either to this cause, to some other part of the treatment, or to the natural tendency gonorrhœa sometimes shows to get well of itself. In a paper by Mr. C. Cornwall, in the fifteenth volume of the "Medical Gazette," it will be seen that the author's success in treating gonorrhœa in this way amounted to effecting a cure in thirty-four days, which does not show the plan to be unusually efficient. I assume, however, that faith in the virtue of the iodide, if it ever really existed, is about as extinct as that in venæsection.

B. External Applications.—For the sake of accurate examination it will be best to divide these into—1. cold applica-

[1] *Op. citat.*, p. 119.

[2] *St. George's Hospital Reports*, vol. vi, p. 48.

tions, as ice and evaporating lotions; 2. warm applications, as hot fomentations, baths, &c.; and 3. sedative applications. We may thus ascertain their comparative value, and see if there are any fixed rules to guide us in making use of them.

1. *Cold Applications.*—How far cold evaporating lotions, particularly when used as they generally are, act beneficially in checking the pain and inflammation and in abating the heat felt in the penis, and, indeed, in any inflammation where a mucous membrane is implicated, is a question which a future race of surgeons will, perhaps, subject to a more rigorous examination before recommending them. As yet there is nothing more than individual conviction to show that, were equal numbers of patients submitted to the same treatment, those who were in addition treated with cold applications would derive more benefit than the others. Now, until some evidence of this kind can be produced, the patient should not be subjected to the trouble and expense of using them, and a fair trial should be made to see if the rest generally observed is not the real source of relief. My experience is that they are valueless.

2. *Hot Applications.*—Ricord condemns the hot bath, as Howard did long previously,[1] as being liable to promote the outbreak or occasion the reappearance of the discharge.[2] With respect to the last-named contingency, I would remark that it may have been a very possible occurrence in England in bygone days; it may be so yet in France among the rather inflammable youths seen occasionally at the Hôpital du Midi, good-for-nothings of the first water, decidedly too fond of leading the same kind of life as Sybaris did after being subdued by Lydia, and in whom I should say being affected with gonorrhœa was rather the normal state than otherwise: but I fancy it is a rare event nowadays in english surgery, and, so far as my own observation goes, I never saw or heard of an authentic instance in which hot baths exerted any prejudicial influence over the course of gonorrhœa.

Prior to bringing out the first edition of this work I made a careful series of observations, and could not verify these opinions about the injurious effects of hot baths in a single instance. Blank forms were prepared like the following, and mostly filled

[1] *Op. citat.*, vol. iii, p. 61. [2] *Traité Pratique*, p. 667.

up only from cases seen every day; and it may perhaps save some repetition if I state here, that all the remedies, spoken of in this work as having been tested by myself, were experimented upon in this way.

Form for Calculating Action of Remedies.

Name	A. B.	
Date		
Feels	Better.	Worse, &c.
Discharge	Lessening.	Increased.
Chordee	Much the same.	
Erections..................	Troublesome.	
Bladder	Irritable.	
Urine		
Bowels		
Tongue		
Effects of Medicine ...		
,, Injections ...		
,, Baths.........		
General Remarks		

On these data alone was any reliance placed, and after destroying all the incomplete returns and computing the results, it was not found that the warm bath had ever induced the slightest unfavourable change in the character of the purulent discharge. Experience continually tends to ratify the verdict first arrived at. Not long ago I had under me a patient, who took quite forty baths, each one, he told me, at 100°, and I was not able to detect the least exasperation of the disease.

But I believe the bath to be equally powerless for good, so far as concerns the cure of the running. It relieves the uneasy sensations in the urethra, perinæum and testicles which often depress patients, especially nervous persons and delicate subjects, but I never saw reason to think that it shortened the duration of the gonorrhœa by an hour. In a report[1] of the cases treated at the Liverpool workhouse, it is stated that the use of the warm bath has been found to lessen the term of gonorrhœa in the female; Mr. Phillips, who seems to have been very successful with his treatment, recommends[2] that hot baths should

[1] *Medical Times and Gazette;* 1861, vol. ii, p. 335.

[2] *A Treatise on the Urethra, &c.* By Benjamin Phillips; 1832, p. 88.

be used every day for many hours; and M. Diday, who has had good opportunities of knowing what the success of M. Ricord's treatment has really been, and who is as much opposed to him on this point as one man can well be to another, carries the practice almost as far as Mr. Phillips. In the irrepressible stage, as he calls it, he advises several cold local baths a day. Should the symptoms become more pronounced, the patient is to take every second evening *a hot bath for an hour and a half at a time*, and two or three times a day a lukewarm local bath of mallow tea; in still more severe cases he recommends full length baths *daily for two or three hours*, and multiplies the mallow-water baths. I suppose, then, these gentlemen have really found some benefit from the practice, but I can only adhere to what I have said; I admit, however, that it possesses one advantage; it must help to relieve the ennui entailed by confinement. A patient who has to spend two or three hours daily in a bath, and foment several times with infusion of mallow, to take a fair amount of medicine and two litres of ptisan, has a nucleus of useful occupation provided for him.

Contrary to the opinion of the observers just mentioned, I have seen ground for thinking that all the beneficial effect of the practice may be attained by a stay in the bath of from two and a-half to three minutes. Thus restricted, I constantly employ it, particularly when the patient suffers much from scalding, or is very sensitive to the action of injections. I always recommend that it should be taken on an empty stomach, that the heat should be quite 98° or 100° Fahr., and that, if the weather be very inclement and the patient liable to catch cold, he should have the bath in the evening and go straight home after it, remaining there till next day.

But the external application which I like best, and which is at once simple and useful, while it is more attainable and less expensive than the hot bath, is that of very hot water to the penis. To do any good, however, the water must be hot, not lukewarm, and when the case is very severe, it should be used at such a temperature as to make the penis quite red. When thus employed, and especially in the earlier stages of the disease, the weight felt about the testicles soon disappears, the pain on making water

and using injections is soothed, and the glans and prepuce lose their unhealthy appearance.

The best plan of employing it is, I think, the following :—The patient should stand over a slop-pail, holding a small basin brimful of very hot water in his left hand. With the right hand he should lift up the penis by the skin of the upper part, and just allow the lower surface to come in contact with the fluid. When there is uneasiness about the perinæum, he should roll up a piece of rag, flannel if possible, into a ball about the size of a walnut, tie this firmly to a small piece of firewood, dip the ball in almost boiling water, dash off the drops, and press it against the perinæum. This practice, recommended in the earlier editions of this work, has since then received the approval of Bumstead,[1] Durkee,[2] and Lee,[3] who distinctly state that its merits have not been over-rated.

Were it no way superior in its effects to other applications, this remedy would far surpass them in point of convenience. No smell, no mess, no cumbersome apparatus. A piece of sponge, or a rag, and a little hot water suffice.

3. *Sedative Applications.*—This simplicity, on which its value is in some measure dependent, vanishes the moment we essay to increase (?) its efficacy, by adding such things as decoction of poppies, solution of opium, laudanum, &c. Now as one grain of opium taken internally will really allay any pain, the patient may feel, more effectually than the most elaborate messes, I should be glad to know if it is not high time that the employment of such filthy concoctions should be summarily put down. Why will surgeons persist in trying again and again some useless compound which has failed a thousand times, which can only add to the patient's discomfort, complicate treatment, and waste time; which must dirty the linen, sheets, &c. Is it because routine, tradition, and authorities say that something of this kind must be done?

The only thing I ever thought relieved the pain and aching in gonorrhœa is the acetate of lead used in large quantities, such as two or three drachms with an ounce or so of acetic acid and five

[1] *Op. citat.*, p. 79. [2] *Op. citat.*, p. 32.
[3] *Op. citat.*, p. 207.

ounces of camphor mixture, applied constantly by means of a rag, after bathing with hot water. But I at once admit that I have never satisfied myself of its possessing any action whatever. Nay, I am somewhat disposed to think that I have occasionally caused the purchase and consumption of a very unnecessary amount of it.

I wish some physiologist would condescend to be useful, and leave off elaborate experiments on dogs and cats, frogs, and guinea-pigs, and give us a satisfactory explanation of some matters we know very little of, such, for instance, as the action of heat and cold on inflamed surfaces. All I have been able to make out is, that in slight inflammations cold is often more beneficial than heat, especially if the mere outward surface is inflamed; but if deeper structures be involved, the application of heat is more useful. Even here there are contradictions I have never seen explained. For instance, if the penis be exposed to cold air during the acute stage of gonorrhœa, an exacerbation is apt to follow, but if the organ be kept cool and moist, the very opposite result ensues; again, if it be kept too warm, an aggravation of all the symptoms, especially of the chordee, sets in, while the free use of scalding hot water materially relieves all this, and is invaluable in such complications as perinæal abscess and sympathetic bubo. Evaporating lotions seem to have no effect on gonorrhœa, yet, in the wide field of inflammations, I do not know of one that is affected by any remedy so quickly and certainly as orchitis is by these very compounds. In mammary abscess, an increase of pain is often induced by exposure to cold, but if warmth and moisture be applied, relief of the most gratifying kind is experienced. Heat and moisture have the same soothing effect upon whitlow, and under their influence the skin becomes cooler and less uncomfortable. Dry heat, such as that of a hot sun, especially if accompanied by much light, will often rapidly aggravate eczema; the heat of a furnace is frequently far less injurious in this disease than that of a cold wind, and sometimes appears rather beneficial. Some persons, suffering from eczema of the backs of the hands and wrists, find that holding them before a bright fire till the skin is almost scorched gives great relief. Bathing an eczematous or erysipelatous surface with hot water seems to me useless or injurious, whereas this appli-

cation, properly carried out, is of much service in many forms of inflammation, such as croup, peritonitis, suppurative inflammation of the cellular tissue, &c.

Are we to conclude that in some men the urethra, rectum, and adjacent parts are acted on in the same way by cold, as they are in others by heat, or must we believe, that, in certain circumstances, any great departure in either direction from the natural heat of the body is attended with precisely the same effect? It seems to me that some of the facts bearing upon the influence of great change of temperature on the urethra must demand one of these two solutions. Thus, Sir Benjamin Brodie says,[1] that a gentleman of his acquaintance, who was subject to attacks of retention from stricture, almost always began to pass urine after a pint of warm water had been thrown up as a clyster. I do not cite the effect of the hot bath on the same state, because its power has been disputed by very good observers; but I have seen the urethra yield to a sudden application of almost boiling water to the penis, after holding an instrument with such firmness that I could not withdraw it till the water was used, when it relaxed directly. I should have thought that such facts as these, which any man of great experience could verify for himself, proved that heat does exert a relaxing influence over spasmodic tightening of the urethra. Yet Mr. Teevan, in a paper read before the Harveian Society, recommended, in spasmodic retention of the urine, that the rectum should be plugged with ice, as a potent means of overcoming the spasm; and Sir Thomas Watson says[2] that "in cases of external inflammation, sometimes cold applications are found to be of use, and sometimes warm."

C. Direct Applications. 1. *Injections. Variety of Substances used.*—A list of the substances recommended for injections within the last few years would perhaps show, more strongly than anything I could say, the discrepancy of opinion that prevails as to which is the best. I therefore give a selection:—chloride, tannate, and acetate of zinc, carbolate of zinc, sulphocarbolate of zinc,[3] sulphate of zinc, curing as a rule on the third or fourth day,

[1] *Works;* 1865, vol. ii, p. 417.
[2] *Principles and Practice of Physic;* 1857, vol. i, p. 250.
[3] *The Surgeon's Vade Mecum.* By R. Druitt; 1870, p. 166.

or even sooner;[1] nitrate of silver; acetate of lead; sulphate and chloride of copper; the four sulphates (a combination of alum, zinc, iron, and copper); iodide and potassio-tartrate of iron, iodide of iron in combination with iron filings, tincture of sesqui-chloride of iron, solution of perchloride of iron, solution of per-sulphate of iron; oxychloride of tin combined with phosphate and tannate of tin; trisnitrate of bismuth; pernitrate of mercury, perchloride of mercury;[2] chloride of soda; chlorate of potass, carbolate of potass,[3] carbolic acid and potass, permanganate of potass, which was said to cure recent attacks of the disease in from one to two days, and only failed twice in 64 cases,[4] being just one day less than was requisite to effect a cure with the chlorate of potass; Condy's fluid;[5] alum, tannate of alumina, succeeding, according to one author, where all the usual injections had failed, and described by another[6] as not more efficacious than other kinds of injections; chloride of lime, bisulphite of lime;[7] tincture of iodine, recommended[8] as having never failed during a ten years' trial; nitric acid combined with strychnia; tannin, glycerine of tannin, singly and combined with olive oil and mucilage;[9] glycerine, combined with carbolic acid and tannin; glycerine and starch;[10] matico, subsequently stated by Signor Carlo Ambrosoli[11] to be the last medicament of the kind we should have recourse to; starch; tincture of catechu, solution of catechu in syrup of tolu; tincture of rhatany, extract of rhatany;[12] vinum opii, tincture of opium, watery extract of opium,[13] opium and glycerine;[14]

[1] *Lancet;* 1871, vol. i, p. 666.
[2] *Gaz. Med. Ital.* Quoted in *Gaz. Hebdom.;* 1861, p. 789.
[3] *Medical Times and Gazette;* 1867, vol. i, p. 391.
[4] *Canada Lancet;* 1864, July 15th. Quoted in *American Journal of Med. Sciences;* vol. xlix, p. 247.
[5] *The Doctor;* April 1, 1871.
[6] *Lancet;* 1851, vol. ii, p. 494.
[7] *Dublin Quarterly Journal;* vol. xlvii, p. 359.
[8] *Lancet;* 1867, vol. i, p. 411.
[9] *Lancet;* 1869, vol. i, p. 398.
[10] *Monpellier Med.* Mai, 1869. Quoted in *Practitioner;* vol. ii, p. 373.
[11] *Lancet;* 1866, vol. i, p. 47.
[12] Robert; *Op. citat.*, p. 153.
[13] Durkee; *Op. citat.*, p. 54.
[14] Dr. Bumstead speaks highly of the power of this combination in relieving local pain and uneasiness. His formula is—

℞ Extracti opii ℈j.
Glycerini ℥j.
Aquæ ℥iij. M.

A syringeful to be thrown up very gently every time the patient makes water.

decoction of poppies; acetate of morphia;[1] belladonna; chloroform; hydrate of chloral;[2] tincture of aloes; hydrastin;[3] leptandrin;[4] red wine; copaiba, volatile oil of copaiba,[5] repeatedly tried in vain at the recommendation of previous observers; honey; green tea; wine; ice-cold water, lukewarm water, not known to have failed "where the system was adopted at the commencement of the disease and followed throughout,"[6] warm water, recommended by Dr. John O'Reilly as curing in from seven to nine days;[7] earth and water, often curing in two or three days,[8] and retention of the urine by means of a kind of forceps (*pince*).[9] Though the last can scarcely be considered as an injection it is intended to act in the same way.

I do not know what the reader thinks of all this, but to me it is unsatisfactory in the highest degree. In the first place it would demand a series of careful experiments, prolonged for at least fifty years, to examine with anything like accuracy the comparative value of the different substances here recommended. I say this quite deliberately, for it took me more than two years, at a time when I was not overburdened with private practice, to satisfy myself even imperfectly as to the relative power of three drugs only, namely, the sulphate of zinc, acetate of zinc, and the nitrate of silver.

In the second place it is certain that there must, only too often, have been a serious mistake as to the real facts of the case, and that the substances so highly recommended do not possess the virtues ascribed to them. How otherwise did it happen that very competent observers entirely failed to achieve any such success, and that we find such an ominous silence about

[1] *Guy's Hospital Reports.* 2nd series; vol. viii, p. 477.

[2] *Giorn. Ital.*; 1870, 8, 9. Quoted in the *Archiv für Dermatologie*; B. 3, S. 57.

[3] Bumstead, *Op. citat.* p. 89.

[4] *Ibid.*

[5] *Gleet: its Pathology and Treatment.* By Henry Dick, M.D. 1858, p. 49.

[6] *Lancet*; 1871, vol. i, p. 872.

[7] *American Journal of Syphilography*; vol. ii, p. 382.

[8] *American Journal of Syphilography, &c.*; vol. v, p. 337; *Lancet*; 1873, vol. i, p. 894.

[9] See a paper by M. Diday, *Gazette Hebdomadaire*, Dec. 9, 1860, recommending this means, as also the introduction of a knitting-needle, gradually heated, into a follicle of the urethra for gleet.

drugs once vaunted as specifics? Take the history of permanganate of potass, for example. It has been recommended by at least five or six writers, some of them quite in a position to judge of its value—Dr. Rich, of Canada,[1] Dr. Warden, of Haulbowline Hospital, Dr. Van Versen, of the United States' Army, Mr. Macfie Campbell, of the Dreadnought Hospital, &c. It has been extolled by one author as curing in from one to two days, by another as curing even old cases of forty-five days' average duration in two to ten days,[2] while the failures, taking all the cases together, do not amount to more than one in forty. It is equally adapted to all cases, old or recent, and possesses, in addition, the valuable property of being painless in its operation, or only occasioning very slight inconvenience, even in pretty strong solution.

Such being the case, the permanganate ought to take rank as the paragon of remedies for gonorrhœa. Nothing that I have experimented with, or even read of, approaches it in point of efficacy, and the mystery is that a substance of such power has not come into universal favour, and indeed banished at once every other drug, seeing it would be little less than criminal to go on ordering antiphlogistics and specifics, when we possess a simple and painless injection, which puts an end to the complaint in six and thirty hours. But now let us hear the other side of the question. According to the evidence here the permanganate, so far from being either a painless remedy or a specific, is quite the contrary. Gentlemen, worthy of credit, distinctly state that its action on the urethra is so strong as to entirely deter patients from continuing it. Used in solution a little more than a fourth of the strength recommended as painless, it has been found to give so much pain as to necessitate its abandonment. Mr. Berkeley Hill reports[3] that it has been tried rather extensively at the Lock Hospital, and that very few patients had derived benefit from it, a statement corroborated, as far as one case can go, by another contributor to the same journal;[4] while Dr. Fessenden Otis says[5] he has used this salt in perhaps twenty cases, with the

1 *Edinburgh Med. Journal*; 1864, Sep.
2 *Lancet*; 1871, vol. i, p. 73.
3 *Ibid.*, p. 570. 4 *Ibid.*, p. 35.
5 *New York Journal of Medicine*; 1870, vol. i, p. 359.

apparent effect of arresting the discharge for a short time, but that he has "invariably been obliged to resort to other means to complete the cure."

We hear a great deal about medicine being an inductive science. I offer no opinion upon a subject which would be so much out of my province here, except so far as the therapeutics of gonorrhœa are concerned; but as regards that, I feel inclined to say that the state of knowledge which has just been laid before the reader is, in some particulars, much more on a level with fortune telling, or the prophecies in Moore's almanack, than with science in the proper sense of the word. The reader may think this is going too far; perhaps it is, but for all that I cannot resist the temptation of saying, that to recommend, in a disease like gonorrhœa, which will often disappear under a few cold water injections, a remedy on the strength of its having been successful in one or perhaps two cases, as has repeatedly been done, looks to me quite as haphazard as palmistry or weather-wisdom. Indeed I think even those who dissent from such a conclusion must allow, that the number of cases, referred to by some of the contributors to the literature of gonorrhœa, is at times so small as to awaken suspicion. One of these gentlemen candidly admitted that in his own case this was owing to "the author's limited sphere of observation;" but his readers were consoled by the assurance, that so soon as he had had an opportunity of trying the experiment farther, he would again trespass on the editor's kindness. No more cases, however, I believe, appeared on this occasion; indeed no more generally do appear. Why, I am at a loss to know, but surmise that perhaps the patients do not like the experiment, or that the result has not been so satisfactory, or finally, that the editor's kindness does not extend so far as to insert a second paper.

I do not wish to convey the impression that it is always so. On the contrary I am anxious to bear testimony to the value of many contributions on this subject, and in particular to the labours of Mr. de Méric, who examined the action of a remedy in 140 cases before bringing the subject under public notice.[1] The substance experimented with was the trisnitrate of bismuth. A special register was kept of all cases, but owing to the neglect

[1] *Lancet;* 1860, vol. i, p. 468.

shown by the patients themselves, Mr. de Méric was only able to obtain an account of the results in 52 instances. Out of the 52 there were 36 cured, 5 much better, and 11 not improved at all. Even in those cases which were cured, the patients remained on an average two-and-twenty days under treatment, and this, so far as the injections were concerned, did not begin till the inflammatory stage had subsided. But though the result of the trials was not satisfactory, the author deserves our praise for the candour with which he states this, and the pains he bestowed on the subject, and his paper is of infinitely more value than the vague generalities we often meet with in books, or hasty encomiums, which crumble into nothing at the first touch of experiment.

I think I am not going too far when I say that the introduction of some of these substances, such as honey, chloroform, ether, tincture of aloes, creosote, *et similia*, must be ascribed to some defect in the reasoning powers of the persons who first recommended them, and that any one who could expect to derive benefit from the use of these remedies must be incapable of forming a sound view of therapeutics; for what property is there in any one of them which would lead us to infer that it could possess the least power of controlling such a disease as gonorrhœa, or even modifying purulent inflammation of any kind? Only practical experience could of course prove they were worthless: as might have been expected it did so whenever these wretched tricks were put to the test, but it proved at the same time that they were often most injurious. Some of the persons injected with chloroform suffered severe pain, amounting, it was said, even to agony, for hours, *followed by copious discharges of blood from the urethra*, and any person who has suffered from the contact of chloroform with his lips knows how severe the pain is which it occasions, and will appreciate the torment these unfortunate patients must have gone through. The profession ought, in my opinion, to have visited with equal reprobation those who perpetrated such shameful experiments, and the journals which lent them the sanction of their columns. I beg to record this as my deliberate opinion. To give, as a mere experiment, an injection producing frightful pain for hours, and copious discharge of blood, is in my judgment a most scandalous act, and if the reader will kindly hold a tea-

spoonful of one of these chloroform injections in his mouth for a few minutes he will, I think, be of my opinion. I dare say these abominable tricks now and then effected a cure, and so would, perhaps, an injection of pure sulphuric acid, or a red-hot wire, with the additional advantage of preventing any new infection by closing up the urethra.

Seeing that I never heard an opinion on the subject expressed by any one, I am ignorant whether people think the evil is past remedy, or is so slight as to require no remedy at all. To me it seems that the introduction of such a host of new remedies, and the irreconcileable difference of opinion as to their value, are proof enough that there is some vital defect in our present method of trying to get at the truth. The basis on which our principles of treatment rest must be, indeed, ready at any instant to crumble under our feet, if all the teachings of authority and experience are liable to be overturned, at once, in favour of some new remedy which has not been tested in more than three or four instances. In some cases in the literature of gonorrhœa, there was scarcely even this ground for recommendation, as even a most cursory examination left it very doubtful if the substance in question had exerted any influence whatever; *e.g.*, the evidence about tormentilla and chloroform was of this class; but if we are ever to attain to anything like accuracy in medicine, it will be absolutely necessary to have a better system of recording cases, the best that I can suggest being *a school of experimental medicine*, with a system of registration for correcting errors of observation.

The disagreement as to the comparative value of different substances for injection has, perhaps naturally enough, extended itself to the strength in which they are to be employed, especially with regard to the nitrate of silver, the recommendations about which exhibit such a variety of opinions, that it is quite impossible to understand how men can have arrived at conclusions so diametrically opposed. Thus, for instance, while some surgeons find an eighth, a quarter or half a grain of nitrate of silver to the ounce quite strong enough, others have not hesitated to use solutions of a scruple[1], or even half a drachm[2], in the same amount of fluid;

[1] Judd; *Op. citat.*, p. 6.

[2] *Outlines of Military Surgery.* By Sir Geo. Ballingall; 1855, p. 513.

and it has been quite recently recommended[1] to inject a solution of twenty grains to the ounce not merely once, but as much as twice or even thrice in the twenty-four hours. But even this rather heroic treatment was not active enough for some surgeons, and it has been more than once advized that the solid nitrate should be employed.

Can Injections bring on Stricture and Orchitis ?—To this pertinent inquiry the most unhesitating denial may be given, provided the injections be suitably used. Stricture occurs by far the most frequently among those who have been treated only with medicines, or with medicines and injections given in a very inefficient manner, and is so rare among those treated with injections *properly given*, that in the course of many years I have never been able to trace a single case to this source. Mr. Phillips found[2] that, while out of 119 cases 117 had been preceded by urethral discharge, astringent injections had only been used in 49 out of the latter set of cases.

One would suppose that those surgeons who object to their use on this ground would have adduced some facts in proof. All these disorders are so common that, with ordinary industry, any writer might have accumulated materials enough to support his views. But, instead of doing this, which might entail the inconvenient risk of being converted to an opposite opinion, they content themselves with the safer plan of detailing their fears of *what ought to follow ;* they never appear to dream of relying solely upon a critical analysis of what *has followed* the use of such means. However, it is gratifying to find that all writers are not so prejudiced ; Mr. Whately, M. Ricord, Dr. Bumstead,[3] and some others, who are to be weighed rather than counted, have convinced themselves that strictures do not result from injections, though even M. Ricord is afraid of giving them when the testicle is affected, a fear quite as chimerical as the other.

1 Berkeley Hill ; *Op. citat.*, p. 387.   2 *Op. citat.*, p. 226.

3 Dr. Bumstead says : "Much influence in the production of stricture has been attributed to the use of injections. I feel obliged to dissent *in toto* from this opinion."—*Op. citat.*, p. 279. "I have seen as many strictures after gonorrhœas that have been cured without injections, as after those cured with them."—*Works of John Hunter ;* 1835, vol. ii, p. 232. Hunter's commentator, Babington, doubts the power of injections, more than that of gonorrhœa, to cause stricture.—*Ibid.*, p. 233.

One source of error often meets us here. A patient contracts a gonorrhœa and uses injections for it, perhaps also takes copaiba, cubebs or something of that kind. After a time the disease gets well. By-and-by the patient contracts another infection, and this, or perhaps a third, fourth or a fifth proves obstinate ; the surgeon passes down a bougie and finds a stricture. Now anyone who sees many of these cases is apt, however impartial, to think that, after all, there may be some truth in the patient's opinion that the narrowing was brought about by the injections. But I think I have evidence enough in my possession to prove that injections, as ordinarily employed, never really reach the part where most of these strictures begin, that is to say the bulb of the urethra and its immediate vicinity.

This much must however be conceded. In very irritable systems *over injecting* may stimulate these spots, and possibly lay the foundation of stricture, *even though not a drop of the fluid ever goes near the affected part.* Thus I was consulted by a gentleman who had been under the care of a well-known surgeon. The surgeon had ordered him a very mild injection of nitrate of silver, which the patient had, on his own responsibility, made much milder, reducing it to about one-eighth of a grain to the ounce. This he threw up several times daily, and then, as the disease did not get better, came to me. The symptoms did not seem to have been ever severe, and there was clearly not much the matter with him at the present time. I therefore wanted to give him an injection of a grain to an ounce, and to use it myself, so as to try if I could end the affair at once. He did not so much object to the strength of the solution, as to the idea of any person but himself inserting an instrument into his urethra, and I had to content myself with letting him use the injection himself, which he assured me he could do perfectly well. I found, however, that he only allowed the point of the syringe to go about a third of an inch down the channel of the urethra, and that the whole of the fluid streamed out as fast as it was thrown in. I told him it was of no use to inject in that way, but he was convinced that the method had so far worked well, and that it would suffice for what remained of the disease, so he continued it.

A few days after I received a letter from him, saying he was

suffering from great irritability of the bladder and difficulty in making water; he therefore asked me to see him at once. After he had taken a hot bath I passed down a number 8 gum elastic bougie. About four and a half inches down the instrument encountered a very tender spot, and there was some difficulty in getting farther. It was here, the patient said, that he found the obstacle to making water. After twice passing the bougie I detached, almost certainly from this spot, a clot of mucus as large as an extremely small nut. It was ragged in outline, greyish, and speckled with a darker colour, much as we see in patches of mucus expelled from the trachea. The extrusion of this mucus was succeeded by speedy relief, and passing the bougie once or twice more, followed by a couple of injections with a long syringe, completed the cure.

Now I consider I am warranted in assuming that, in this case, the injecting aggravated a slight, localized inflammation, already existing at the part of the urethra from which the mucus came away. The symptoms were more severe, and rose more rapidly to a height than happens in such cases when no injections have been used. But I think it is pretty clear that what mischief was done by the injecting, must be put down to the irritation set up at the mouth of the urethra, and not to the action of the fluid, as none of it could have reached within four inches of the tender part. I think too, after weighing all the circumstances of the case, that it is very probable stricture might have sprung up at the spot from which the mucus came. Some amount of temporary narrowing had indeed already begun.

Of course there are many cases to which such an explanation would not apply; those for instance where the nitrate solution is applied all over the urethra. Here I believe the explanation of the problem is to be found in the inability of nitrate of silver to cure gonorrhœa without the aid of other means. My conclusion would be, that the contraction is not caused by the employment of the nitrate, but that *it invariably ensues in a certain percentage of cases when treatment fails to arrest the discharge.*

In five cases I have traced stricture to the abuse of chloride of zinc injections, and twice to over-strong injections of the perchloride of mercury. My reasons for ascribing the contraction

here to the injection are, that in every instance the fluid used was either so strong, or thrown in so often, that severe pain and difficulty in making water were set up *at the time;* and that, also in every instance, on the subsidence of these symptoms, a bougie was passed and narrowing was found to have begun. In every one of the seven the fluid was thrown so far up the urethra, that some of it might have reached the part where the contraction arose.

If injections bring on orchitis, how is it that they scarcely ever produce this effect when given within the first fortnight from the breaking out of the disease—the very time when they induce the most pain? M. Diday and M. Ricord have never seen this complication before the fifteenth day,[1] and I have not observed it in my practice so early as this in a single instance, though M. Le Fort noticed it[2] twenty-four times during the first week out of six hundred and forty-five cases. If their strength is the object to be dreaded, how does it happen that, in the cases mentioned in Table V., where eighteen persons were treated with injections of nitrate of silver, ten grains to an ounce, no symptoms of orchitis were induced in any instance—a result I have since repeatedly verified, not indeed altogether from my own practice, for I have always dissuaded patients from such a step, but from observing the effects in the hands of others?

I must now, upon the lowest calculation, have given with my own hands injections of nitrate of silver several thousands of times in gleet and spermatorrhœa, and as I have not yet seen orchitis or stricture arise from doing so, I am inclined to think that such a result is scarcely to be looked for.

When a patient has neglected a gonorrhœa for some time, say three or four weeks, or has been for a time trusting to medicines only, and in consequence of not deriving from them the benefit he expected, takes to injections, it will sometimes happen, that so soon as these are begun with orchitis comes on; and I need scarcely say, that should this complication occur at any period when these remedies are being used, it is at once ascribed to their employment. I am rather disposed to think, that in some of

[1] *Exposition critique;* p. 484.

[2] *Medical Times and Gazette;* 1869, vol. ii, p. 52.

those cases the use of the injection does hasten the appearance of the swelling, but that it cannot be considered as the sole, or even the chief, cause. Even as an exciting cause its agency must, I apprehend, be limited to this, that it calls forth *what would have happened spontaneously at a later date.* I have not found orchitis more prevalent under such circumstances than where medicines alone were trusted to; and my experience is, that a certain percentage of this complication will happen under any system of treatment which does not cut short the gonorrhœa within a few days.

In contrast to the authors who declaim so vaguely, Mr. Johnson gives us[1] something tangible. Out of fifty-nine cases of orchitis which he quotes, sixteen were known to have used injections, and nine had taken copaiba. Out of thirteen cases of swelled testicle admitted into Guy's Hospital twelve had followed gonorrhœa. Of these twelve patients only one had used injections. Four of them had taken copaiba, but only one of them had succeeded in checking the gonorrhœa with it.[2] The remaining seven had neither used injections nor taken copaiba. Facts then, here, are against the supposition that these remedies possess any such power.

I presume it is unnecessary to discuss such questions as the power of injections to throw any infection into the system, or produce a metastasis of the disease,[3] or do harm by checking the purulent running. Such doctrines might do very well for a country nurse, or the feeble-minded class of persons who encourage homœopathy, or join anti-vaccination leagues; but I need scarcely say that the opinions of such people, when utterly unsupported by proof, do not require discussion. Further, I am not aware that the questions themselves have ever been supported by any reasons. I therefore pass by this part of the subject, simply remarking that what is really wanted, is not the putting an end to frivolous objections, but to the gonorrhœa, and that without giving pain, and in the shortest possible space of time. Long ago Hunter pointed out[4] that injections could not possibly drive

[1] *Op. citat.*, p. 197.
[2] *Guy's Hospital Reports*; 2nd Series, vol. viii, p. 467.
[3] Howard, *Op. citat.*, vol. iii, p. 123.
[4] *Works of John Hunter*, 1835, vol. ii, p. 199.

the disease into the system, because the poison resides in the secreted matter.

A very similar kind of dread prevails about checking gonorrhœa at all in the acute stage. Mr. Johnson says that at this period of the disease "the more discharge the better." But it is certain that the more discharge, the more extensively and severely is the urethra affected, and, *cæteris paribus*, the longer does it take to cure. Besides, it is utterly impossible to suppress a discharge except by means which make the membrane secreting it healthier, and it is difficult to understand how that can be injurious to the patient. Very strong remedies used for the purpose of trying to cure gonorrhœa may do mischief; but it is because they set up pain and irritation, not because they stop the discharge.

We might, I think, deal in the same way with the question of not giving injections till the acute stage has passed off. Mr. Berkeley Hill, one of the most recent writers on this subject, says[1] that "recourse to them should never be had until the acute inflammation has completely subsided," and I suppose it may be safely said, that Mr. Hill is here the exponent of a wide-spread belief. But, even with authorities against me, I must maintain the opinion to be groundless. I have for years employed injections so soon as ever I could obtain the patient's consent to let me use them, and have never in a single instance had to regret doing so.

Nitrate of Silver.—Of all the substances ever yet employed for injections this is, to my thinking, the best. I have seen a great number of injections tried, and have one time or other tried a good many myself, but I have never observed any exercise such a marked control over gonorrhœa as a solution of nitrate of silver, properly given, and of the proper strength. Yet it is used by comparatively few practitioners, and it is no uncommon thing to hear surgeons say that they have given it up in consequence of failing so often with it, or from its bringing on stricture. The latter objection is, I think, already got over. The former merits decided attention.

I am not sure about the matter, but I believe the merit of first

[1] *Op. citat.*, p. 402.

using this powerful remedy is due to an East-India surgeon,[1] who, being detained for some time "on the island Madagascar," about the year 1737, practised on the natives! I marvel much, by the way, that they did not eat him or put him to death as a sorcerer. Certainly

> "Illi robur et æs triplex
> Circa pectus erat."

He used to dissolve three grains in half a pound of soft water, and thicken it a little with powdered coral. But it was too bold a flight for the physicians of that day, and even for those of a later date, so that for something like a century afterwards this valuable remedy remained almost totally neglected.

When aided by medicines and employed at the very outbreak of the disease, *and particularly in mild cases*, it will often cure gonorrhœa with magical rapidity. This fact I think no one will deny. In some instances its action is so sudden that on the very next day only a slight gleet remains, which soon vanishes under the influence of any mild astringent. Even if it fail, it generally so alters the action of the parts that very simple means will remove the dregs of the disease; and, in point of fact, much greater progress towards a speedy and lasting cure is often effected by one injection, than by the most heroic employment of antiphlogistic medicines, rest, and low diet. But it does not always, or indeed often, succeed when used alone, and then in bad cases the disease will go on, and stricture will set in, or some other complication ensue, and the surgeon is blamed for using injections, "driving the disease in," and ruining the patient's constitution.

That its power, as a purely curative agent, when employed without the aid of other means is, in the general run of cases, very limited, I am quite satisfied. As an instance out of many others, I selected eighteen patients who were anxious to be cured at once, at all risks: they were injected with a solution of nitrate of silver, ten grains to an ounce; a dose of calomel and opium, with a purgative draught, was ordered, and the following results were obtained:—

[1] Howard, *Op. citat.*, vol. iii p. 136.

TABLE V.

Cases treated with strong Injections of Nitrate of Silver.

Name.	Number of days the Disease had lasted.	Symptoms and Result.
J. B.	60	Pain, bloody urine, but improvement; still some discharge.
J. N.	90	Pain and scalding lessened. Improvement; still some discharge.
S. B.	270	Much pain and scalding; little improvement.
H. H.	29	Some pain; great improvement; discharge lessened.
J. W.	17	Great pain; discharge much lessened.
E. C.	35	So much pain caused that he refuses to have another injection. Discharge lessened.
J. B.	5	Great pain for four hours after; no discharge to be seen; cure.
G.	14	So much pain that he will not be injected again. The discharge is lessened.
E. G.	14	Great pain; the discharge went away and then returned, but it is lessened.
B.	10	So much pain that he has no desire to have it repeated; speedy cure.
W. N.	18	Great pain; the discharge is gone.
E. E.	23	Discharge almost gone; irritability of the urethra greater; rapid cure.
H. H.	60	Not much pain; the discharge lessened.
H. C.	130	Pain for three hours; the scalding increased; discharge lessened.
R. T.	21	The pain trifling; pain and uneasiness in the penis and scrotum relieved; the discharge almost immediately lessened.
J. R.	5	Great pain; the discharge was stopped, and then slowly returned.
J. T.	2	Lost sight of.
W. H.	42	Lost sight of.

Here, then, we see that out of the eighteen two were immediately cured, and in nine others there was a considerable improvement; some of them, indeed, were quickly freed from their malady, though they had long suffered under it. Of the remaining seven, two disappeared without giving notice, and the residue were not cured for a long time.[1]

Subsequent experience has only tended to corroborate the

[1] In a table of twenty cases of gonorrhœa, treated in the hospital of the

conclusions then arrived at. Over and over again patients have applied to me with the request that I would cure them with a strong injection and without medicines, but the result has generally been that I was obliged to resort to the use of the latter, and that the injection failed. Many facts corroborating this statement have been communicated to me ; from among them I select the following. A physician told me that he had, in his own case, when a student, attempted to cut short a gonorrhœa by means of a strong injection of nitrate of silver. He did not know the exact strength of the solution, but it was at least fifteen or twenty grains to the ounce and might have been more. Pain of the most violent kind was at once set up. Two or three days after he noticed a dark substance, like a slough, protruding from the urethra. Taking hold of this he gradually drew it out. So great was its length that it seemed to be almost endless, and he assured me that it proved to be five inches long (!) yet the gonorrhœa went on utterly uninfluenced by the violent action which had been set up in the urethra.

The late Mr. Acton's experience was certainly very different. He generally found two strong injections of nitrate of silver quite sufficient. He seldom had recourse to a third, and his patient was "quit of a troublesome complaint in a very few days."[2] M. Diday, who employs strong injections, speaks[3] quite confidently of curing the disease at a single sitting with an injec-

Castle of Edinburgh by Messrs. Johnston and Bartlett with injections of nitrate of silver, twenty grains to an ounce, the results were as follows :—

Number of cases..	1	......Discharged cured in	3 days.
,, ...	1	,,	5 ,,
,, ...	1	,,	6 ,,
,, ...	2	,,	10 ,,
,, ...	4	,,	15 ,,
,, ...	4	,,	17 ,,
,, ...	4	,,	20 ,,
,, ...	1	,,	25 ,,
,, ...	1	,,	28 ,,
,, ...	1	,,	42 ,,

The average time required for a cure was therefore $17\frac{1}{10}$ days.—*Edinburgh Medical and Surgical Journal*, 1818, p. 263.

[2] *Op. citat.*, p. 90. [3] *Exposition critique ;* p. 88.

tion ("d'un seul coup de piston" . . . . "en une seance"). His one injection, however, really means two, or what he calls[1] a "seance d'injections," one being required to clear the way for the other. The curative injection is a solution of the nitrate, not quite ten grains to an ounce (three decigrammes of the nitrate to eighteen grammes) of distilled water. He injects about a drachm of this, keeps it for about a minute in the urethra, and all is finished. Of course this applies to cases seen at an early stage; but still, as I understand M. Diday, when the disease is unmistakably there. His later experience, however, seems to be rather different.

Chloride of zinc, first proposed, I believe, as an injection by M. Gaudriot,[2] was at one time strongly recommended by the late Mr. Lloyd, of St. Bartholomew's Hospital. It is not often that there happens such a success with any novelty in the therapeutics of gonorrhœa as occurred in this instance. According, however, to a pretty general rule, the result, when the remedy came to be fairly tested, proved to be so much below the expectations raised, that the chloride fell into very unmerited disrepute.

During the winter preceding the appearance of Mr. Lloyd's lecture recommending the chloride, I had been engaged for several hours every day in examining the value of certain substances as injections. Among these was the salt in question. As, however, my observations ran quite counter to those of Mr. Lloyd, I never had the least idea of claiming any priority; in fact, I could not claim it, because I never discovered such valuable properties in this salt as he did.

The patients on whom the chloride was used were seen daily. They were injected daily with a solution varying in strength from one to ten grains in an ounce of distilled water, and every effort was made so to regulate the strength of the injection as to avoid giving anything like severe pain, while a decided, though slight sensation, lasting from a quarter to half an hour, was aimed at. The patients were instructed in the use of the syringe, and furnished with a weak solution of the same salt to use at home. The disease was at the same time combated with aperients, salines,

[1] *Op. citat.*, p. 91.

[2] *Journal des Connaissances Médicale,* Sept. 1840.

and in some cases copaiba and turpentine, and the patients were diligently questioned as to every indulgence in diet, drink, and sexual intercourse.

Notwithstanding all this care, more pain was caused than with nitrate of silver or sulphate of zinc, while the disease did not disappear more quickly. In some cases it proved ineffectual, and had to be superseded by nitrate of silver or blistering; in two stricture sprang up, and some patients left dissatisfied, so that I was induced to give it up: in one or two instances only was it of benefit when the nitrate of silver failed. I tried weaker solutions, commencing with a quarter of a grain to an ounce, but after two years' careful examination I was compelled to return to the conclusions previously arrived at, namely, that, *cæteris paribus*, the chloride is equal but not superior to the acetate and sulphate; and I may mention that I have seen so many cases in which stricture followed, either from the chloride possessing no proper control over the disease, or from its really adding to the existing irritation, that I think its action ought to be carefully watched.

When used of the proper strength,—that is, so strong as only to produce transient pain, no one of the salts of zinc appears to me to possess greater curative power than another, but in respect to the amount of suffering they may entail, when used too strong, they differ more widely; for while the sulphate produces a sharp fleeting pain, seldom difficult to endure, that from the use of the acetate is more severe, and I have seen absolute torture arise from the employment of the chloride, even in a solution of moderate strength. One patient said that, "if it were not considered a liberty, he would beg to draw my attention to the close resemblance between the sensation induced, and that which he should fancy would be brought on by passing a red-hot knitting-needle along the urethra!"

Hence I am inclined, in cases where there is much pain, to prefer the sulphate; if very little pain be present, the chloride may be prescribed. As to the sulphate of alum, the sulphate of copper, and one or two other substances of the kind, on which I foolishly wasted my time and that of the patients, I am disposed to consider them as of very inferior value. A tabular view of the results of injection of several substances is given from Mr. Judd's

excellent treatise at page 131, and the reader can compare it, if he likes, with what I have stated.

I have been so often questioned, both by surgeons and patients, as to how injections act, that I seize this opportunity of publicly avowing my total ignorance of the subject. My readers will be good enough to bear in mind that no instrument as yet contrived, even one so valuable and elaborate as the endoscope, enables us to see more than a minute portion of the urethra, and that only for a very short space of time. Next, I suppose, it will be admitted, that to observe with precision what is being done in such a matter, the surface operated on must be seen. In that case, a man must be able *to look bodily down the urethra for hours,* or *see right through its walls.* Farther, it would be necessary for the eye of the observer to possess a special magnifying power of from 225 to 450 diameters; otherwise all that could be seen would probably be a certain amount of punctate redness of the urethra, the formation of a filmy coat of white deposit (supposing the nitrate were used), followed by increased redness and then a somewhat paler hue than before. When, therefore, I find a writer attempting to explain the action of these fluids by the hypothesis that, "by arresting the discharge they relieve the urethra from the stimulus of the virus,"[1] or that they "close up the orifice of the ducts" (what ducts?), or that they "dry up the discharge without curing the inflammation," when the discharge arises solely from the inflammation, I really cannot help thinking that such statements do not tend to raise the character of medicine among sensible men. If I were pressed to give an opinion on the matter, I should feel tempted to say, that *I do not believe any person knows how injections act,* and that, in the present state of medicine, any explanation must simply mean theory founded on personal conviction.

I think it is just possible that the *modus operandi* is as follows:— The secretion of pus is equivalent to exalted action in the mucous membrane of the urethra, which means that there is an accumulation of vital force at the part, for there could be no secretion without motion, and without force being applied there could be no motion. Now it seems pretty clear, that while a part will go

[1] Babington, *Works of John Hunter*, vol. ii, p. 208.

on with a certain amount of morbid action for a time, the application of certain agents to this part being superadded, so as to produce a sudden increase of this morbid action, a rebound takes place; and, as the action of the agent subsides, the part is found less capable of continuing the morbid action for the time, or, in other words, there is less accumulation of vital power in it. I have so repeatedly traced this form of action, for instance, in the application of a blister or galvanism to a sluggish ulcer, the influence of erysipelas in the same disease, in lupus, &c., the operation of a blister in gleet, and in some obstinate forms of tinea, &c., where the morbid action is first increased and subsequently diminished by one and the same agent, that I think the point merits inquiry. But any lengthened digressions on such a subject would be quite out of place in a work like this, and I therefore gladly revert to the more practical part of the subject, and give in a tabulated form the results of my trials with the chloride.

TABLE VI.

Cases Treated with Injections of Chloride of Zinc.

Name.	Days previously ill.	Character of the Disease.	Strength of injection.	Treatment.	Results.
J. A.	42	Mild.	gr. v. to ℥j.	Pil. tereb. c. strych.	At the end of 15 days little improvement.
G. S.	3	Thick pus, severe.	gr. ijss.	Salines.	Swelled testicle. In 21 days discharge gone.
A.	Not marked.	Severe.	Ditto.	Acet. pot.	No improvement on 25th day. Treated then with purgatives and nitrates. Cured in about 52 days after.
C. L.	1	Ditto.	gr. ijss. to iv.	Nit. pot. c. p. ipec. co.; salines and aperients.	No improvement at the end of 27 days. Left.
C. C.	21	Ordinary.	gr. jss. ad ijss.	Pulv. salin.; mist. acid benz.	The plumb. acet. was used for 12 days, and then the chl. zinc, which almost cured him in 2 days. Left not quite well.
J. S.	11	Severe.	gr. ijss. and ij.	Pot. nit. c. pulv. ant.; pulv. salin., &c.	Severe pain; discharge disappeared in 2 days, but returned. On the 31st day still a little gleet.

TABLE VI. (*continued*).

Cases treated with Injections of Chloride of Zinc (*continued*).

Name.	Days previously ill.	Character of the Disease.	Strength of Injection.	Treatment.	Results.
C. L.	12	Ordinary.	gr. iij. and ij.	Pot. nit. c. pulv. ipecac. c.	Gave him so much pain he would allow it no longer.
A. S.	21	Ditto, first clap.	gr. ijss. ad x.	Sulph. magnes., pulv. sod. c. opio pulv. salin.	In 8 days there was only a little moisture, and this remained 10 days after, when he left me. Gr. x. gave only slight pain.
C. G.	4	Severe, second clap.	gr. j.	Pulv. salin., pot. nit. c. pulv. ipec. c.	In 8 days discharge had diminished, but swelled testicle came on, and he left me.
D. M.	3 to 4 months.	Ordinary.	gr. vijss. to ij.	Pulv. salin.	Discharge disappeared in 11 days.
J. M.	6	Ditto.	gr. ij. ad iv. and then to vijss.	Ditto, pot. nit., mist. salin.	At the end of 37 days discharge still thick, purulent, and greenish.
T. R.	4 or 5	Ditto.	gr. j. to iij.	Salines, pulv. salin., mist. cop. c. tereb.	Caustic pastilles had to be resorted to on the 15th day; the cure was somewhat prolonged by his absence for a day or two. Cure in 62 days.

R. L.	Not known.	Very mild.	gr. ij.	Mist. acid benz.	Left the next day.
S. L.	Ditto.	Mild.	gr. iij. to vijss.	Ditto, pulv. salin., bark and acid.	Discharge disappeared in 6 days. But a slight gleet came back and lasted 30 days.
W. H.	21	Very severe.	—	Ditto, ditto, pot. nit.	On the 40th day the discharge was still bad. He then left.
G. C.	10	Ordinary.	gr. j. to v.	Pulv. salin.	Disappeared in 8 days.
T. J.	49	Very mild.	gr. j.	Sod. phos., sod. sulph. and mist. acid benz.	The discharge was nearly gone by the 9th day, when he left.
R. A.	Not marked.	Severe.	gr. jss. to v.	Pulv. salin., mist. pot. chlor., tincture of steel, pot. acet.	On the 20th day he left as bad as ever.
C. H.	A few days.	Ditto.	gr. j. to ij.	M. acid benz., pot. nit. c. pulv. ant. pulv. salin.	38th day no better. This case was followed by stricture.
W. T.	8 months.	Ditto.	gr. j. to v.	Pulv. salin, &c.	Stricture detected on the 75th day.
R. S.	3 months.	Ordinary.	gr. j.	Pulv. salin., bitters and acid.	The discharge gone in 10 days; a little gleet from time to time.
T. S.	Not marked.	Ditto.	gr. v.	Mist. pot. ac. c. rheo.	Left next day.

In conclusion, I may say that I think very favourably of both the chloride and sulphate of zinc, used as adjuncts to other treatment. The mode of thus using them will be examined farther on.

The reader can now compare the average results of treatment, as put down in those tables, with those in a series of cases extracted from Ricord's *Traité Pratique*, and from Mr. Judd's work.[1] The first column of the three in Table VII, compiled from cases in the *Traité Pratique*, A, marks the number of days between the date of infection and the entry of the patient into the hospital. The second column, B, means the number of days the patient stayed in the hospital under treatment. The third column, C, contains the principal remedies used.

TABLE VII.

Cases treated by Ricord.

A.	B.	C.	A.	B.	C.
—	20	Injections and cubebs.	15	25	Inject. arg. nit.
30	27	Copaiba.	30	20	Inject. arg. nit. copaiba.
15	20	Copaiba.	6[2]	20	Ditto ditto.
Old	10	Injections of alum.	21	20	Inject. zinc sulph.
Gleet	33	Inject. argent. nit.	8	20	Cubebs and inject. arg. nit.
8	20	Inject. argent. nit.	—	35	Inject.
—	32	Ditto and copaiba.	63	30	Cauteriz. and cubebs.
30	35	Inject. zinc sal. and cubebs.	60	34	Inj. plum. diac. and copaiba.
8	31	Cubebs, steel.	11	17	Copaiba and cauteriz.
10	41	Cubebs and injections.	5	28	Argent. nit. and copaiba.
4	21	Inject. arg. nit. and copaiba.	4	22	Ditto ditto.
21	13	Cubebs and inj. arg. nit.	—	14	Cauteriz.
8	37	Cauteriz. and copaiba.	12	22	Inject. and copaiba.
17	35	Cauteriz. inj. cubebs.	8	22	Inject. argent. nit.
—	29	Cauteriz. cubebs.	42	21	Inject. zinc sulph. and copaiba.
—	41	Inject. plumb. diac. copaiba.			

[1] *Op. citat.*, p. 16.

[2] Months.

TABLE VIII.

Cases treated by Judd, showing the duration of Treatment under various kinds of Injections.

Names.	Substances used.	No. of Days.
S——s.	Sol. liq. plumb. and extr. belladonnæ.	2
G——e.	Ditto.	5
G——t.	Ditto.	3
S——d.	Ditto.	5
G——t.	Tinct. ferri c. aquâ.	5
C——s.	Ditto.	4
H——s.	Ditto.	7
W——l.	Ditto, cubebs and copaiba.	6
McD——d.	Sol. arg. nit.	5
T——r.	Ditto, copaiba.	7
B——t.	Ext. cubeb.	3
R——e.	Inj. zinc, sulph., bals. cop.	By twice using injection, in one evening.
K——e.	Ditto.	1

The average time for cure is much below anything I have seen.

2. *Nitrate of Silver Pastilles* (*Soluble Bougies*).—In the first edition of this work, published in 1852, are some briefly detailed notices of attempts to cure obstinate gonorrhœa with pastilles. The marked effect produced by frequently repeating injections led me to hope, that if the action of such a salt as the nitrate of silver could be kept up for some hours, a more speedy cure might be obtained. For this purpose pastilles or small bougies, containing sometimes a grain, sometimes half a grain, of the nitrate, mixed with powdered gum arabic, were made into a paste, and after being shaped like a small bougie, an inch and a half to two inches long, were, while still soft, oiled and introduced into the urethra. In the course of from two to five hours they dissolved, but, instead of effecting any improvement, they either produced no change at all, or else brought on an aphthous state of the mucous membrane, such as is often seen after strong injections of nitrate of silver have been used, and equally difficult to remove. In some instances they occasioned such discomfort, that the

patients were glad to remove them, or expel them by making water.

Four years after the appearance of the second edition, and fourteen after that of the first edition, of this work, mention was made in the *Mirror of the Practice of Medicine and Surgery*[1] of the use of soluble bougies in the practice of Sir Henry Thompson, who was trying them in the treatment of gonorrhœa at University College Hospital. The practice was spoken of as quite a new idea. "Believing," says the reporter, "that the imperfect action of injection depends upon the very short time that they are in contact with the mucous membrane, Mr. Thompson conceived the idea of applying the astringent in such a form as would enable it to remain for a much longer period in contact with the inflamed surface." If Sir Henry Thompson communicated the information in this form, his memory must have played him false, as he had himself long previously informed me that he had read the first edition of this work, where he must have seen a similar reason assigned for the experiment in almost the same words, which run as follows: "The greater effect which is observed when injections are frequently repeated, led me to hope that if the action of such a salt as the nitrate of silver could be kept up for some hours, a more speedy cure might be obtained." I should think, therefore, that there was an error in the report spoken of. Some short time after, Mr. Henry Smith stated[2] in the same journal that two months previously Mr. Cooper, of Oxford Street, had suggested to him the idea of employing the substances used for injections in gonorrhœa in the form of bougies of cacao butter; and again, subsequently to this, a letter appeared[3] from Mr. Edgar Browne, of Liverpool, saying that he had used such bougies before either Mr. Smith or Sir Henry Thompson, and that he was led to do so from observing the beneficial effects of bougies smeared with lard ointment or medicated glycerine. Sir Henry Thompson pointed out, in reply to Mr. Browne, that medicated bougies made of wax, in which some active chemical agent had been dissolved, were used even before the time of Wiseman. The surface of the bougies being capable of liquefaction, a portion of their contents was set free by the heat and moisture of the urethra. From this

[1] *Lancet*, 1866, vol. i, p. 513. [2] *Ibid.*, p. 674. [3] *Ibid.*, p. 724.

time forth, a passing extract from some foreign periodical excepted, the subject disappears from the english journals. The idea was however, as we shall see directly, eagerly caught up in Germany.

The material used for the bulk of the bougie was, in Sir Henry Thompson's experiments, cacao butter, which, as it melts at a temperature of 100° Fahrenheit, is perhaps the best that could have been selected. The other ingredients experimented with were, for each bougie, a quarter of a grain of nitrate of silver, a grain of tannin, two-thirds of a grain of acetate of lead or ten grains of nitrate of bismuth as astringents, and two grains of belladonna or opium as a sedative. The walls of the urethra were pressed against the bougie by means of a pad of Taylor's stout lint and a slip of adhesive plaster, with the view of squeezing the melted bougie into the lacunæ of the urethra. Judging from the recorded effects, I am of opinion that the pastilles are cleanlier, and that neither can be considered very efficacious.

3. *Glycero-Tannin Rods.*—Professor Sigmund tried the bougies in four cases, but with unfavourable results.[1] Dr. Schuster also made some attempts with them,[2] but found that the plaster, by which they are kept in, is troublesome to apply, while, if it slip off, the cacao butter dirties the patient's linen in a very unpleasant way. He therefore substituted glycero-tannin rods, three to four inches long, which could be pushed right down the urethra. These rods are well rounded at the end, and each one contains two grammes of tannic acid, twelve centigrammes of opium, and sufficient glycerine to make these ingredients up into a proper consistence. They are prepared for use by dipping in hot water, and are only kept in the urethra five to ten minutes. These rods seem to have acted very well in Dr. Schuster's practice, curing the cases quickly, and not bringing on either orchitis, inflammation of the neck of the bladder, of the bladder, or prostate.

Tomowitz, however, who tried the rods in fifty cases,[3] did not

[1] *Der praktische Arzt;* Ap. 2. Quoted in *Practitioner;* vol. ii, p. 374.

[2] *Archiv. für Dermatologie;* B. 2, S. 176.

[3] *Allgem. milit. ärztl. Zeit.*, 1870, No. 46. Quoted in *Archiv. für Dermatologie*, B. 3, S. 41.

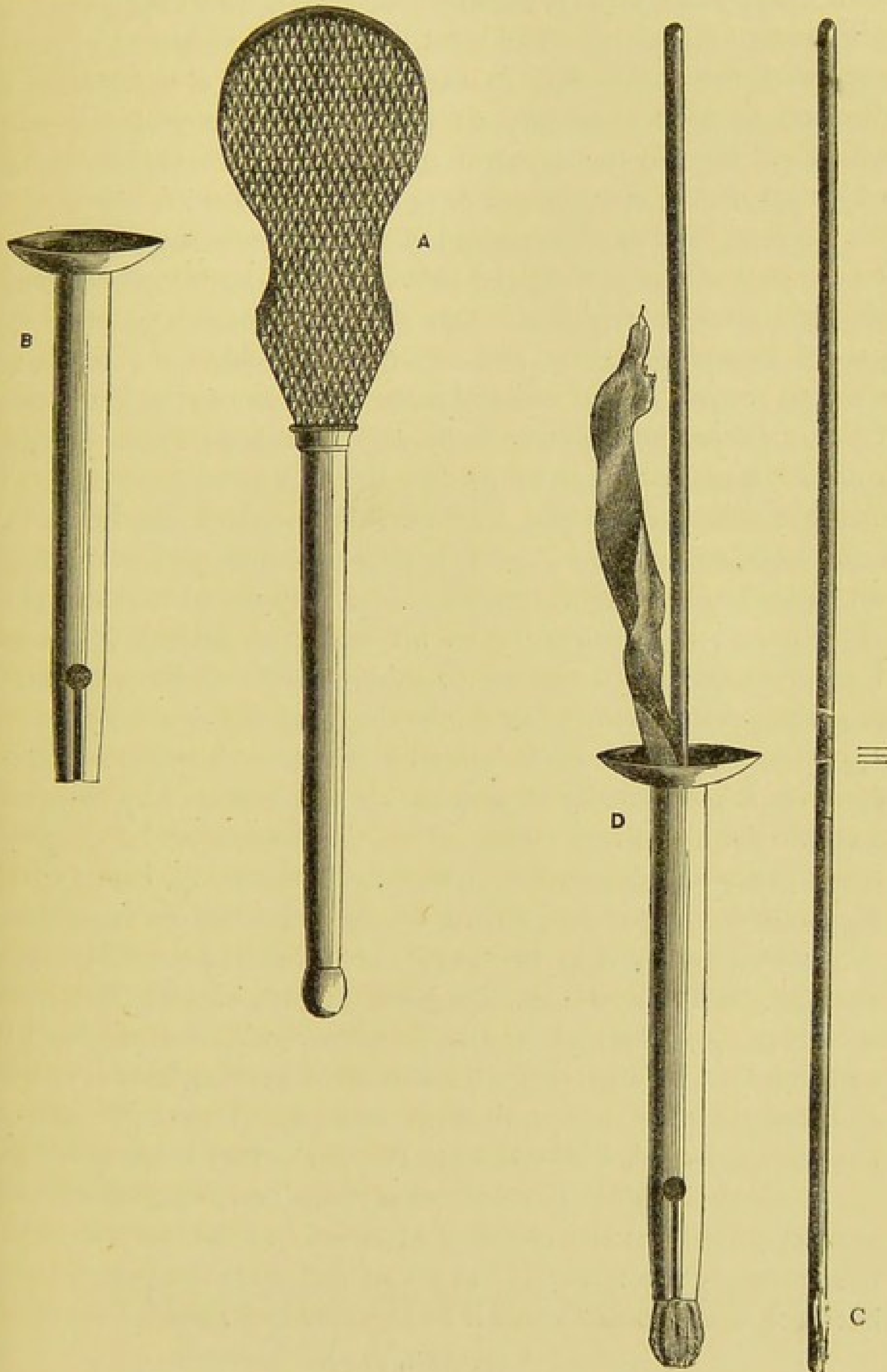
find them so easy to introduce as the readers of Dr. Schuster's paper might imagine, or more efficacious in acute gonorrhœa than ordinary treatment, but more useful than the latter in cases of gleet; and Dr. Adolf Stern, who gave Schuster's plan a fair trial in a large number of cases,[1] never in a single instance, where he watched the patient closely, achieved the cure of acute gonorrhœa in less than four weeks. Often the time required was from five to eight weeks, so that in respect to shortness of duration he did not find it in any way superior to injections. He had no better success with the rods in gleet, and never once noticed any of the wonderfully rapid cures related by Dr. Schuster. He found that the rods, though easy enough to introduce, were difficult to make, and left stains on the linen which could not be effaced. He very properly condemns Dr. Schuster's proposal to use them twice a day as impracticable, but agrees with him in observing that their employment is not followed by orchitis, the only point on which the two observers are in accord with each other.

Dr. Oidtmann, of Linnich, has tried a very similar mode of practice,[2] or rather one which might be described as more akin to the armed bougie, using bougies smeared with a compound of Goulard water, lunar caustic and spermaceti ointment, and afterwards dipped in a mixture of cod-liver oil and glycerine, the paste thus formed being left in the urethra. Dr. Oidtmann speaks of this method as curing rapidly and without pain. The injection of starch and glycerine, mixed to a creamy consistence, recommended by M. Paillasson, may rank in the same category. Of both plans however I find no later notice.

4. *The Caustic Plug.*—The application of the nitrate of silver for a prolonged period, in the manner now to be described, is sometimes beneficial. A slip of thin calico, two inches to two inches and a half long and a quarter of an inch wide, is first of all soaked in solution of nitrate of silver from five to ten grains to an ounce, and then introduced into the urethra by means of the canula shown in the annexed drawing. As this method is of course not often resorted to until a gonorrhœa has endured some

[1] *Archiv. für Dermatologie;* B. 5, S. 502.
[2] *Der praktische Arzt;* 9. 1868. Quoted in the *Practitioner;* vol. i, p. 384.

time, it will seldom be necessary to begin with a weaker solution than five grains. The surgeon having passed down the saw-handled stilet, A, and the canula, B, sheathed and oiled, with-



draws the former, and then, doubling the end of the linen over the point of the long stilet, C, passes it steadily through the canula, as seen at D, till it reaches the mark ☰, beyond which no attempt should be made to push it; this done, the sheath is withdrawn over both. The stilet is then very gently "wriggled" out, and the calico left in the urethra, where the patient is directed to keep it as long as he can. In many of the cases which call for this treatment, it must be supplemented by means which act on the more posterior parts of the canal.

No fear need be entertained if, by any unforeseen movement on the part of the patient, the calico should slip into the urethra, as it will soon be expelled. One day I was inserting a plug, the patient turned suddenly, and the calico vanished. I made no effort to recover it, and nothing more was seen of it, neither could I then or afterwards detect it by examination or by the bougie; and as the patient all along made water with ease, I felt certain it had not remained in the urethra. A few days afterwards the same accident occurred, and I requested the patient to keep watch for it; in two or three hours he reappeared with the plug in his hand; he had found it in his trousers. Indeed it always, I suppose, makes its exodus in this manner. I have known it to occur several times when a tolerably long piece was used.

In America a sponge saturated with a strong solution of nitrate of silver is occasionally employed. It is introduced by means of a canula for about two inches down the urethra, and the canula being partly withdrawn, the sponge is brought into contact with the walls of the passage, where it is left for a minute or two, and then slowly removed by twisting it gently on its axis. This plan was first devized by Dr. F. Campbell Stewart, of New York, and is favourably spoken of by Dr. Bumstead[1], who has employed it, and says that we can limit the extent of the application at will, and can therefore use a stronger solution. Unless the sponge were strengthened, I should have thought it very liable to break.

5. *Cauterizing the Urethra.*—I suppose every surgeon who has to treat gonorrhœa has either tried caustic to the urethra, or has been strongly recommended to do so, and more than one attempt has been made to introduce it as *the* remedy for acute gonorrhœa

[1] *Op. citat.*, p. 77.

whenever the patient was resolute enough to face it. I have in a few cases, with the entire concurrence of the patient, made trial of the method at this stage, and certainly cannot recommend it. In a case or two it seemed to effect a rapid cure, but it failed more frequently than it succeeded, and it was always abominably painful if properly performed. Perhaps, however, the most significant evidence on the subject would be the desuetude into which the practice has fallen among its former advocates; indeed, I fancy it would be rather an awkward question to ask some of them when they last employed caustic in this way. I know that on one occasion, when at the house of a gentleman who had in his time recommended the nitrate, I requested him to show me the instrument he used for applying the salt; to the no small amusement of both he at once candidly admitted, without any equivocation, that it was so long since he had used the implement in question that he didn't know exactly where to find it! He still contended that in principle the treatment was excellent; the objection to it in practice was that very few patients would allow it to be put into operation, and that those who did so inveighed loudly and bitterly against the pain it set up, blaming him for suggesting a measure which they themselves had eagerly accepted.[1]

In the later stages of gonorrhœa, as also in gleet, the solid nitrate is a most valuable remedy. I constantly apply it for this purpose by means of the instrument described farther on,[2] which is, in my opinion, superior to Lallemand's. I had, indeed, to give up the latter in consequence of the following rather untoward occurrence. I had applied the nitrate to a patient suffering from gonorrhœa, and on attempting to withdraw the instrument, found it was held so tightly that I could not stir it. This was quite a new state of matters to me; but, at last, when quite in despair about getting it out, I hit upon the idea of applying scalding hot water to the penis. By this means I certainly overcame the spasm and brought away the instrument; but in the mean time all the nitrate of silver had dissolved in the urethra, and the torture the patient endured was a lesson I have not forgotten.

[1] Mr. Johnson mentions a case of death from the use of the nitrate in this disease. *Op. citat.*, p. 58.

[2] In the section on "Strong Tendency to Stricture."

Dr. Humphrey was even more unfortunate. In his case the instrument broke, and the part containing the caustic was left in the patient's prostate.[1]

It would be wasting the reader's time to mention at length some of the remedies (?) which have been recommended for acute gonorrhœa, such as compression of the urethra, passing a bougie into the bladder, &c., &c., for the simple reason that most of them cannot be carried into effect.

And now, in order to bring into as narrow a focus as possible the arguments for and against all the systems of treatment as yet discussed, I shall try if I can reduce them to a few aphorisms, in which, indeed, if I could, I would have written the whole work; for I imagine that men like, above all things, not only to see at a glance what an author has borrowed and what he has found out for himself, but to find his meaning tersely and clearly expressed; and in no way can this process be made so easy as by condensing his views into these compact forms of speech which, as Bacon says, " except they should be ridiculous, cannot be made but of the pith and heart of sciences." The conclusions, then, which I venture to draw, are—

1. That all the remedies yet enumerated, though adequate to cure by far the greater number of cases, still leave many unrelieved.

2. That while many are undoubtedly valuable, some of them are disagreeable, some dangerous, and some superfluous.

3. That there are no rules to guide us in distinguishing, at the outset, those cases which are, from those which are not, amenable to these remedies.

4. That where so large a list of remedies is given, some attempt ought to be made to decide with accuracy in what cases each remedy should be tried; which as yet has not been done, so that every cure obtained is only an additional source of confusion.

5. That the reputation of injections has been injured by the want of any certain rules as to the relative value of the different substances employed, and the strength requisite in different cases; thus leading to the indiscriminate application of different

[1] Holmes's *System of Surgery*; 1864, vol. iv, p. 605.

substances in solutions of the same strength on the one hand, and on the other, to the equally indiscriminate application of injections of the same strength to cases not equally fitted to bear them.

6. That the treatment has been made secondary to disputes about the nature, sources, and history of this disease, and to speculations, for they deserve no better title, about the action of medicines; whereas the cure of disease ought to precede all other considerations; for however great may be the value of science, the welfare of man is a still greater object.

7. That rash as such an opinion may seem, I do not fear to say, *that I doubt whether man will ever discover drugs superior in their power over this disease to those we already possess*, and that there is accordingly more to be hoped for by trying to improve the administration and association of medicines already known to us, than in seeking for new remedies.

I have spoken plainly on this topic. The trite generalities, the incessant repetitions, the falling back upon authorities and general principles, practised by some authors, may be very orthodox, but they do not satisfy our mental cravings; they do not give us what we want. Writers now and then express themselves so very guardedly, that it is as difficult to arrive at a certain knowledge of what their opinions really are as it is to make out those of a greek chorus.

Proposed Plan of Treatment.—After this preliminary discussion the reader will naturally inquire whether I have anything better to offer in its stead. I reply that I must leave that point to his decision. In the meanwhile I beg to submit for examination, first of all a plan of *abortive treatment*, and to demonstrate the results it seems to offer. To do this properly I must first ask permission to divide all cases of gonorrhœa into two classes; viz., those which admit, and those which do not admit, of such a plan.

Abortive Treatment.—Those, then, which seem most adapted for it are—

1. Cases where the patients present themselves before great pain and running have set in.

2. Patients who have had gonorrhœa previously, and in whom the present attack does not appear to be very severe.

3. Those cases where the patient is desirous of an immediate cure at any price, and would rather go through anything for a day or two than have a long illness.

And before going into the details I must digress for a few minutes to combat an opinion which seems very prevalent, and which is, that M. Ricord is constantly in the habit of using an abortive treatment of a similar kind; or, in other words, of preluding all measures with a strong injection of nitrate of silver. This may be an incorrect assumption, as I have no written authority for it, but I know I have repeatedly heard it stated, both in private and public, without contradiction. Now nothing could be wider of the mark. M. Ricord's abortive treatment, as laid down in his " Traité Pratique,"[1] consists of rest, low diet, and, where there is pain, thirty or forty leeches to the perinæum, followed by copaiba or cubebs and *mild* injections of nitrate of silver; and he expressly confines his recommendation of a strong solution of this salt to those cases which begin " without pain, without any sign of inflammation." To the best of my belief it was Debeney and the irish surgeons mentioned by Carmichael[2] who first introduced the practice of trying to cut short gonorrhœa by giving a strong injection of nitrate of silver. By means of leeches used in this way and cubebs, he sometimes cures the disease in three or four days, and generally in fifteen to twenty. When the disease begins without pain he gives drastic purgatives, sometimes with astringent injections.

Before taking a single step it is indispensably necessary to ascertain whether the patient can rest for the entire day after, and if not whether he is disposed to suffer considerable inconvenience. If he be unable or unwilling to do either, it is best at once to lay aside all thoughts of an abortive cure and refer the case to the second class.

But if this co-operation on his part can be obtained, the

[1] P. 707.

[2] *An Essay on Venereal Diseases.* By Richard Carmichael, M.R.I.A. P. 111. They used an injection of ten or twelve grains to an ounce. Carmichael himself, however, strongly deprecates the practice. In a previous edition he is spoken of as recommending it, a mistake due to my having relied on the erroneous assertion of M. Ricord, without verifying the reference, as I ought to have done.

abortive treatment may at once be commenced. The patient should make water, and the surgeon then injects him with a solution of nitrate of silver containing five grains to an ounce of distilled water. The syringe used should be that spoken of in the section on syringes. By limiting the strength of the solution to five grains we avoid the severe pain which is caused by the strong solutions of this salt, and by retaining the injection in the urethra for two or perhaps three minutes we can, in almost every case, attain any useful purpose likely to be served by a more concentrated solution. M. Diday advizes[1] that the injection should be kept in for five minutes.

The deep burning pain which now ensues is widely different from that produced by the salts of zinc, and is often accompanied by flushes of heat which thrill through the frame. It is, however, generally soon relieved by bathing the penis with hot water, and a hot bath will for the most part effectually remove what the local application has left undone.

The next step is to prescribe a dose of calomel, at least three or four grains, followed by seidlitz powders, citrate of magnesia, or draughts of salts and senna every two hours until several loose stools are procured. The bowels should be completely scoured out, and no food allowed except a little warm tea or gruel to assist the action of the medicines. The citrate of magnesia is unquestionably the most agreeable, and I fancy it is quite as efficacious as the others.

After every stool the patient should inject with a solution of sulphate of zinc from three to five grains in the ounce. The injection is to be kept in contact with the mucous membrane, till a slight sense of burning is induced, when it may at once be withdrawn. The penis should be bathed each time with water as hot as it can be borne; and the greater the heat the more complete the relief, not only to the pain produced by injecting, but also to the scalding, weight, &c.

Dr. Niddrie advizes[2] injecting in much the same way twice every half hour, employing, the first day, cold water, and the second sulphate of zinc solution, and seems to have had great

[1] *Therapeutique des Maladies Veneriennes*; 1876, p. 9.
[2] *Lancet*, 1852, vol. i, p. 357.

success. Dr. William Colles injects every half hour,[1] as does Mr. Berkeley Hill, using however tepid water, and when the congestion is moderate and the irritation not too great, hourly injections of alum or zinc. I have never carried the system quite so far as this, but I have repeatedly known patients give themselves six or seven injections in a day with good results.

The next day the discharge is generally thin and small in quantity, the symptoms of inflammation have disappeared, and the cure is mostly completed in a day or two by the use of the same means; the patient using the injection every time he makes water, and gradually raising the strength of it till it reaches ten grains to an ounce. Mild aperients and low diet may also be continued. When this plan fails, the case may be referred to the second class, for I believe that abortive treatment, to succeed at all, must succeed at once.

The reader must, however, bear in mind that, as I have already said, and as I stated in the first edition of this work, but few cases comparatively admit of this treatment. I believe those who have tried it and have looked into the results are agreed on this point. Dr. Bumstead says,[2] "Taking the usual run of cases as met with in practice, probably not one out of ten is seen at a sufficiently early period to admit of the abortive treatment;" and Dr. Durkee considers[3] that the number of cases in which it can be employed must necessarily be very small, and that if the discharge have lasted more than a day and a night the time for making trial of it has passed.

Ordinary Treatment.—Every other case of gonorrhœa, every case in which the abortive treatment has failed, or in which it cannot be applied, and every case accompanied by excessive pain and irritability of the urethra, or of long standing, and attended by fixed pain on the under surface of this canal, may be placed in the second class. It is to these that I wish to apply a new treatment, substituting for the means usually employed certain salts of potass with aperients and injections so combined, graduated and applied, as to act efficiently but without much pain, *over the whole of the diseased surface.*

1 *Dublin Quarterly Journal;* vol. xxxv, p. 2.
2 *Op. citat.*, p. 78. 3 *Op. citat.*, p. 34.

After a great number of experiments I am disposed to think that in all but very severe cases, the acetate of potass, in combination with spirit of nitric ether, is one of the most potent internal remedies I have met with. The best proportions seem to be five drachms of acetate of potass with three drachms of spirit of nitre, and half an ounce of compound spirit of juniper, or two or three drachms of spirit of nutmeg, in a six-ounce mixture, employing as a vehicle almost anything the patient likes, camphor mixture and mint-water being perhaps among the best. In more severe cases the chlorate of potass may be added, and in those of unusual severity I should recommend beginning with it at once. As many failures attended my first attempts to discover an available form of prescription, I give one which I believe to be the most useful.[1]

Along with these medicines I would always recommend a free use of one or other of the pills given below,[2] the second formula being used when the bowels are only acted upon with difficulty. They should, I think, always be given to such an extent as to induce two or three loose stools daily. When they do not act freely enough, a teaspoonful or two of citrate of magnesia, or a seidlitz powder, may be given the following morning.

When one of these solutions is taken regularly, supposing it is suited to the case, an alteration in the discharge is soon noticed; indeed, within forty-eight hours it is often materially diminished, becoming at the same time thinner, less coloured, and more

[1] ℞ Potassæ chloratis ʒij.
Aquæ destill. bull. ℥iv. ℳ.
et agita bene donec solutio ft. dein adde
Potassæ acetatis ʒij.
Liquoris potassæ ʒij.
Spir. myristicæ ℥ss.
Mist. camph. ad ℥vj. ℳ.
Capiat coch. amp. duo bis quotidie.

[2] ℞ Pil. colocynth. comp. ʒss.
— hydrargyri ℈ss.
Ext. hyoscyami ℈j. ℳ ft. pil. xij.
Sumat j. vel ij. horâ decub.
℞ Pil. aloes et assafœtid. gr. L.
Hydrargyri subchlor. gr. vj.
Podophylli resinæ gr. ij.
Olei cinnam. m. j. ℳ ft. pil. xij.
Sumat j. vel ij. horâ decub.

mucous. This effect seems to be produced with equal rapidity in cases of long standing and recent ones, in women and in men, so that one might be tempted to look upon potass as one of the true antiphlogistics in inflammations of this kind.

The weight felt about the testes, also the scalding and pain on making water, grow milder under its influence, and usually in a week or ten days, often much less, the symptoms are so far subdued that it is very difficult to persuade patients that the same care is necessary as at the first. Speaking at hazard, it may be assumed that at this time three patients out of four bring on a relapse by some imprudence; however, it is seldom necessary to do more than to resume the old treatment. At the same time the patient may as well be warned, that the relapse is generally more difficult to manage than the original disease.

These medicines I have now used for some years without seeing any case resist their influence, except—1. when there was stricture; 2. a tight, irritable state of the urethra; and 3. when the disease was of long standing and strong injections had been used, the patient all the while suffering from a fixed pain in the under part of the urethra, generally near the frœnum, but sometimes obscure as to its true seat. Even many of these cases were materially benefited, but it was necessary also to have recourse to further measures. It should however be thoroughly understood, that I do not speak of them as either infallible, or adequate of themselves to cure the disease.

Their use has been attended with much less chordee, and has not been followed by irritable bladder or swelled testicle in more than a few instances out of all the cases I have treated for many years, whereas, under the old plans, these annoying complications were very frequent.

It is surprising how rapidly these medicines act upon the gonorrhœa; patients have frequently noticed a change within from thirty-six to forty-eight hours, and, so far as I know, every surgeon who has given them a fair trial has admitted their power.[1]

At one time I thought of giving the opinions recorded by those who have spoken favourably of this plan, not for the sake of bolstering up a system, because I would far rather it stood or fell

[1] Langston Parker's *Modern Treatment of Syphilis*; 1860, p. 67.

by its own merits or faults, but simply that any hesitating reader might have chapter and verse to warrant him in making a trial. Farther reflection, however, convinced me that this might be considered bad taste; I therefore restrict myself to saying that such evidence exists, and that is all I can say.

So long as the heat in the penis and scalding trouble the patient, so long should he resort to the frequent use of hot water in the way mentioned in speaking of the abortive treatment.

In most cases this treatment will not succeed unless it be seconded by injections. In order to make the action of these as perfect as possible, care must be taken—1. To select a solution of such a strength as to act on the mucous membrane. 2. *To apply it over the whole of the diseased surface.* 3. To see that it is producing no injury.

Although I have such a very high opinion of the nitrate of silver, still I do not think it is a good plan to trust the patients with it, for they are apt, in their anxiety to hasten the cure, to make over-free use of the remedy, and induce a state of matters very difficult to set right again; generally indicated by a sanious discharge, fixed pain in the under surface of the urethra, and sometimes even an aphthous state of the mucous membrane. Besides this, it stains the patient's hands and linen, the floor, carpet, &c. It requires a complete and rather expensive apparatus, so that, upon the whole, it is best for the surgeon to use it himself.

The stains spoken of may be removed from colourless materials without any injury, but it is very difficult to efface them without discharging colours, especially delicate ones. The shortest way is simply to rub them over, after wetting them, with the cyanogen soap made by Mr. Thomas, of Pall Mall, or to apply a solution of cyanide of potassium. A great outcry was made at one time about the disagreeable results which were said to have followed the use of this salt for such a purpose. The accounts were somewhat vague, and I could not make out whether they arose from neglecting to wash off the cyanide, or whether they arose at all, as they clearly ought to have done in order to make out the case. I never saw anything of the kind ensue.

The nitrate of silver should be used every day till the disease

is almost gone, and then every second day. The safest plan is to begin with a solution of half a grain or a grain to an ounce, according as the patient is known, or seems, to be very sensitive as to pain or not, and raise it gradually to a strength of not less than five or more than ten grains to an ounce. There is one golden rule for deciding how much is to be done at a time. *A slight feeling of heat, for a quarter of an hour or twenty minutes after giving an injection, is all that is requisite.*

When this injection has, from some idiosyncrasy, produced a greater amount of pain than was expected; when the patient has been using too strong injections previous to his first visit; when there is reason to suspect that stricture is coming on; when there is an aphthous state of the urethra, or discharge of blood, or bloody serum from this channel, it is better in all cases to suspend injections, or to use them very sparingly, till these symptoms subside, when they may safely be resumed. Whenever, too, it is observed that distending the urethra by retaining the injection gives pain, this should be at once discontinued, and the fluid should be simply allowed to trickle from behind forwards over the inflamed part.

In conjunction with the nitrate of silver, given by the surgeon, the sulphate of zinc, along with the chloride, may be used by the patient himself, commencing with one to two grains of the former, and a quarter to half a grain of the latter, in an ounce of water, gradually increasing the strength of the solution, so as just to keep up the same amount of action as at first, and no more.

As with the other injections, this should never be carried to the extent of inducing pain; the utmost that is required is a slight sense of heat for ten or fifteen minutes. But if it is to be of any service, this degree of action must be attained, however strong a solution may be required.

The patient should always make water before injecting, and with a little perseverance he will generally be able, after an effort or two, to evacuate some fluid from the bladder. When this precaution is taken, we avoid not only the hazard of the injection being washed out prematurely by the stream of urine, but also of its being prevented by the purulent discharge from coming in

contact with the mucous membrane. Besides, this practice conduces greatly to the patient's comfort, as the passing of the urine over a recently injected surface is often very disagreeable.

The addition of ten or fifteen minims of spirit of camphor to each ounce of the solution has often appeared to increase the efficacy of the injection. How it acts I will not venture to say; I only know that its operation is generally beneficial, which is to my thinking of greater consequence. When the chloride is prescribed, a little mucilage should be added, to prevent flocculence in the solution.

Many surgeons think it necessary to change one injection which is doing no good for another, on the chance that it may be of service, "ringing the changes on them frequently," as one author puts it. Mr. Johnson[1] and Mr. Philip Foster[2] advocate this plan, as did Sir Astley Cooper,[3] and Mr. Noble Smith holds,[4] that the great secret in using injections is to "vary them sufficiently." This may be good practice but it does not tally with the result of my observations, which is, that if the injections just mentioned will not cure the disease, no remedy of this kind will. But supposing the opinion of these gentlemen to be well-founded, what becomes of inductive science here, seeing that the practice is about as purely empirical as anything can well be?

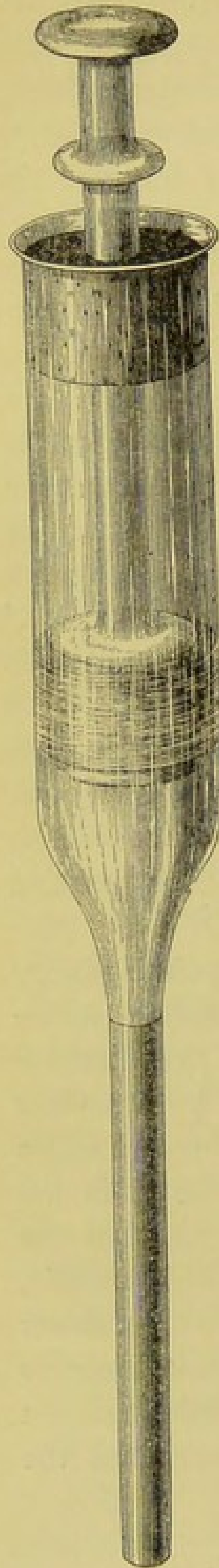
Syringes.—However important it may be to regulate exactly the strength of an injection, it is equally indispensable that the fluid should come into contact with the *whole* of the diseased surface, and that a proper quantity should be injected. To effect this the syringe employed by the surgeon must be furnished with a pipe quite an inch and a-half to two inches long, as shown in the engraving which is the exact size of the instrument. I often use one more than three inches in length. This tube should be made, either of platinum, which is the best of all materials, or of silver drawn solid. If a soldered silver tube be substituted, it becomes in the long run nearly if not quite as costly, as the soldering must be well gilded, and the gilding frequently renewed, otherwise the

[1] *Op. citat.*, p. 96.

[2] *Medical Times and Gazette*; 1873, vol. ii, p. 461.

[3] *Lancet*; vol. iii, p. 200.

[4] *Ibid.*; 1871, vol. i, p. 780.



nitrate will soon act on it. *Unless this precaution, of fitting the syringe with a pipe, be taken, injections may be used* FOR MONTHS *without ever reaching the seat of the discharge.*

All the syringes I have seen are far too long in the barrel, and hence somewhat unmanageable. It is not every person that can stretch his hand so as to reach the knob, or ring, of the piston, and at the same time grasp the cylinder firmly. The consequence is that the instrument is awkwardly held, and perhaps dropped and broken; moreover, the piston often fits badly to the cylinder, so that a great deal of the fluid escapes backwards; and if this be obviated, the patient injects far too great a quantity, thus causing unnecessary pain and distension of the canal, to which perhaps much of the mischief, said to have been caused by injections, might with reason be attributed.

In order to obviate these defects, I had some syringes made expressly for patients and of a totally different construction.[1] The cylinder and piston are not above half the ordinary length, so that a much greater control over the instrument is obtained. The cylinder, when the piston is in, contains about two drachms of fluid, so as to allow for loss and yet leave a sufficient quantity. The pipe is made of silver, two inches long, extremely smooth, and of the diameter of a No. 6 catheter. Britannia metal, or even ivory, will do very well when the syringe is only to be used for zinc injections. The cylinder should always be of glass, even where expense is not an object and more costly material might be considered an advantage, for the patient can then see that it is properly charged

[1] Made by Messrs. Walters and Co., of 29, Moorgate-street, and exhibited before the Medical Society of London, May 28, 1853.

with fluid and not chiefly with air, as I have often known occur with pewter syringes; and in order that no fluid may escape backwards, the piston should be overlaid with worsted or wash-leather, so that it only works very stiffly at first.

With this syringe the patient can inject over the whole of the diseased surface. The penis is grasped at the glans, and drawn into a straight line, the syringe introduced, and the piston is then driven sharply home. As the fluid is forced into the urethra the syringe should be withdrawn, in order that no part of the canal may be immoderately distended; the glans should be kept firmly in contact with the pipe till it is withdrawn, and then compressed at the meatus, till the injection produces the desired effect of inducing a decided feeling of warmth. In some cases accompanied by a very unusual tenderness of the urethra, it is a good plan to dip the syringe in oil for the first day or two.

When, in earlier editions of this work I insisted on the necessity for carrying the injection a good way down the urethra, I was met by very decidedly expressed objections. Since then the principle has been more than once recognized, for in 1867 we find Mr. Grinfield Coxwell recommending[1] syringes with tubes two and a-half inches and six inches long, pierced at both points and sides, as highly useful in gonorrhœa and gleet; Dr. Morgan describing[2] a syringe composed of two tubes and a bottle, the far end of the tube leading to the bottle charged with the injection being taken by the patient between his teeth, so that the fluid may be blown a good way down the urethra; Mr. Durham using[3] an elastic ball with a vulcanite tube quite three or three and a-half inches long, and so on.

Dr. Bumstead recommends,[4] that while the injection is in the urethra, "a finger of the disengaged hand should be run along the under surface of the penis from behind forwards, so as to distend the portion of the canal occupied by the injection and insure the thorough application of the fluid to the whole mucous surface."

[1] *Medical Times and Gazette;* 1867, vol. ii, p. 617.
[2] *Dublin Quarterly Journal;* vol. xlvii, p. 358.
[3] *Guy's Hospital Reports.* 3rd series; vol. xv, p. 475.
[4] *Op. citat.*, p. 76.

It is all-important that the surgeon should satisfy himself whether the patient understands how to use the injection; no directions will ever take the place of this precaution, the want of which has thrown more discredit on injections than even such sequelæ as stricture and orchitis: I have constantly heard patients, especially hospital patients, say they knew how to inject themselves, and make a very lamentable exhibition when they came to show off their skill. The fluid slipped back between the piston and barrel, or flowed out of the urethra as fast as it flowed in, or never flowed in at all, &c.

I trust it is now needless to say, that it is quite unnecessary to compress the urethra behind the scrotum in order to prevent the injection from passing too far into the canal. It is a mystery to me how such a fear as that an injection could get into the bladder, or if it got there, could do the least harm, ever originated; and it is one of the proofs of the anxiety with which men of abilities and information cling to traditions and preconceived theories, which five minutes' use of their own senses would overthrow. Howard tells[1] his readers that the syringe should never have a long tube. Sir Charles Bell actually used leather shields to prevent more than the tip of the syringe entering the urethra;[2] and Sir Astley Cooper recommended a similar precaution, though neither he, strong as he was, nor any one else, could force an injection to the neck of the bladder with the common syringe. The difficulty is to get it in far enough.

A correspondent of the *Medical Circular*,[3] speaking of this paragraph, said that, with a common pewter syringe, he had passed an injection into the bladder more than a hundred times, and Dr. Otis has known three patients able to inject their own bladders with an ordinary syringe.[4] I certainly never tried to force fluid into this viscus, and therefore I ought not, perhaps, to have denied that others may have succeeded in doing so. I have, however, often seen patients employ a good deal of force, and yet fail, and I have used almost daily, for years past, a very long syringe,

[1] *Op. citat.*, vol. iii, p. 138.
[2] *Institutes of Surgery*; vol. i, p. 291.
[3] 1859; vol. ii, p. 218.
[4] *New York Journal of Medicine*; 1870, vol. i, p. 360.

reaching to the membranous part of the urethra; but although the injections given with it are for maladies in which the urethra is much less irritable than in gonorrhœa, yet I generally find that every drop of the injection is expelled so soon as the pressure is taken off.

I have frequently seen a mild injection kept in the canal a minute or two, and then thrown out, sometimes suddenly, at other times slowly. At first I thought these were instances of injections reaching the bladder, but have long doubted it, and fancy the whole affair results from sudden contraction of a segment of the canal; for if an injection enter the bladder and be expelled, *the urine comes with it.* I must say, however, that the writer in question urged his objections against this view in a very fair and temperate spirit. I find however that one gentleman, quite capable of judging, supports the position I have taken up. "It is," says Dr. Bumstead,[1] "absolutely impossible to inject the bladder, however great the amount of force employed, by means of a syringe merely introduced within the meatus;" and what holds good of injecting in this way, is quite applicable when syringes with a tube two inches long are employed.

Dr. Bumstead speaks highly of the syringes made by the American Hard Rubber Company. In these instruments the diameter of the cylinder is in all parts alike, the piston fits with great accuracy, and the material employed is not acted on by any of the substances usually prescribed for injections.

Mr. Thomas Windsor adopts a method which he calls the urethral douche;[2] and which consists in running a stream of cold water through the urethra. He employs for this purpose an enema ball and tube, the ivory end being replaced by a glass cylinder. He also uses a weak solution of permanganate of potass, half a grain to an ounce of water in the same way. Mr. Windsor speaks of the result as being highly satisfactory.

The surgeon should instruct the patient as to the best method of preventing the discharge from marking his linen. All oiled-silk bags, thick wrappings, &c., heat the penis too much and dispose

[1] *Op. citat.*, p. 83.

[2] *The Treatment of Gonorrhœa by the Urethral Douche.* By Thomas Windsor. Reprinted from the *Manchester Medical and Surgical Reports*; 1871.

to chordee. The simplest and lightest application I know of is the following :—When the prepuce is short, a piece of thick lint half an inch long and a third of an inch broad, or a layer of cotton wool, is placed over the orifice of the urethra ; the end of a strip of bandage, a foot long and an inch broad, is then laid on the under surface of the penis, passed over the lint to the upper surface of the penis opposite to where it was first applied, turned on itself, and carried twice round. It may then be secured by a piece of worsted, or a very thin ring of galvanized india-rubber. An old towel or napkin affords excellent material for a bandage, and the lint should be changed every time the patient makes water. When the prepuce is long there is no need for any bandage ; the skin is simply drawn back, the cotton or lint placed underneath it, and it is then drawn forward again. Should the discharge be very profuse, a good plan is to tie an old silk handkerchief round the waist and let it hang down in front.

By the end of six or eight days the running has usually diminished considerably, and the symptoms have a good deal abated. Should the surgeon or patient have any hankering after specifics, this is perhaps, of all times, that at which they can be used with the best success. But whether this be done or not, the preparation of potass may be now safely reduced to a dose daily, and then, three or four days later, be given up altogether. The state of the health should be carefully seen to and the secretions should be properly regulated. Beyond this I believe the patient in most cases requires nothing in the shape of internal treatment. The injections are, of course, continued.

It may be safely laid down as a rule, from which we should never suffer ourselves to depart, that the action of the treatment should be daily gauged, if I may so express myself; that is, *we should never rest satisfied unless daily progress is made towards a cure.*

This is easy enough in most instances, but in more refractory forms of the disorder we are often baffled in our pursuit. Here we must look to attain our object, not by an incessant and aimless change of treatment, under the supposition that the urethra or the system is accustomed to the remedy, that this will no longer act upon the disease and that another will now have a better effect

than if used at first, *but by measures expressly adapted to the case in hand.* When really efficacious means have failed, we may generally rest assured that there is some complication—some faulty point which requires to be ferreted out, at whatever expenditure of time and trouble. To leave the disease to wear itself out,—to recommend change of air with this view, is virtually to abandon the case and confess our inability to cope with it.

If the stomach be deranged and the tongue foul, the use of nitric acid and bark, or tincture of cinnamon and gentian with dilute sulphuric acid, will often relieve these symptoms and hasten the cure; where the bowels or liver are sluggish, mild doses of calomel, or blue pill and rhubarb, may be used. Mr. Johnson says he has cured gonorrhœa with sarsaparilla and iodide of potassium after all the specifics had been used in vain, and that in such cases he has also more than once prescribed with benefit three grains of blue pill and one of ipecacuanha every night, followed by an aperient mixture in the morning, accompanied or succeeded by injections. Whatever the complications may be, they must be treated as if they occurred along with any other disease. The surgeon must use his own discretion, and at the same time bear in mind that the possibility of good arising out of these measures should not exonerate him from the necessity of at once taking further steps. They form but one branch of inquiry—*there may be a long-neglected local mischief.*

When an obstinate case is brought to the surgeon, and it is found that no impression is made upon it by this treatment, fairly kept up for two or three weeks;—when in a recent case, after the same space of time, the disease does not seem to be giving way; —when, after putting on the semblance of a cure, the disease steadily returns, and even grows worse;—when there is a fixed pain on erection,—*the urethra should at once be sounded,* to ascertain with certainty that there is no stricture either formed or commencing. Should this unfortunately prove to be the case, it is scarcely necessary to say that the treatment of the gonorrhœa, at least so far as regards injections and preparations of potass, will have to be given up, at once. However, generally what cures stricture cures also the gonorrhœa.

When the case is complicated with acute inflammation of any

of the structures surrounding the urethra, such as the cellular tissue around the membranous portion, the prostate, &c., a totally different treatment is requisite; and the reader is referred for further details to the chapter on complications. But if, on careful examination, no such complication can be detected, then the case may be removed from the ordinary category and considered as gleet, respecting the special treatment of which, also, full directions will be given.

Patients naturally think that when the discharge has once ceased they are quite safe, and can do as they like. This is a great mistake. The running, after having entirely disappeared, frequently comes back, sometimes in three or four, sometimes in seven or eight days. It has been observed to return at the expiration of a month.[1] This I have not seen, but I feel assured relapses at shorter dates are so frequent, that I think *treatment ought always to be continued, more or less actively, for quite eight days after the last drop of discharge has shown itself.*

Treatment of Gonorrhœa in Women.—In the acute stage, whatever part or parts may be affected, I would advise precisely the same internal means as for the corresponding period of gonorrhœa in the male; that is to say, preparations of potass in almost identical doses, and the aperient pills directed to be taken along with them. Delicate women may require smaller quantities of the former, but I have never yet, in these cases, found the aperient act too strongly. The patient should rest as much as possible, and pain, wherever it may arise, should be combated by means of opiates. The employment of these is never desirable if it can be avoided, and some persons have a superstitious dread of such measures; but the pain is a greater evil than the remedy. At the beginning the best injection is, I think, simple water, but even that should not be employed till the patient can pass the tube of the syringe up the vagina without severe pain. A few days rest will generally secure this point, and I have never seen any harm arise from this brief delay. After two or three days' use of the warm water, a very weak solution of lead or zinc may be thrown up. The hot hip-bath and hot fomentations may be

[1] Hunter; *Treatise on the Venereal Disease;* 1786, p. 94.

ordered, but the full length hot bath as directed for men is, to my thinking, more efficacious in relieving discomfort.

Generally these rules serve all useful purposes. If faithfully carried out, they often cure the disease without anything further being done, and rarely fail to mitigate the severity of the symptoms, while in no single instance have I seen any troublesome complications ensue where they had fair play. But it may just as easily as not happen, that we do not see the patient till the disease has become chronic, and perhaps fastened with great obstinacy on some part. I propose therefore to take this section of the subject rather more in detail.

In chronic *vaginitis* the remedy I prefer to begin with is the liquor potassæ in twenty minim to half-drachm doses. It may be given twice a day in half a tumbler of good milk. Should the appetite be bad, and the patient in low health, as is often enough the case, a full dose of quinine wine may be taken daily once or twice, about half an hour before a meal being, perhaps, the best time ; or from five to ten grains of the citrate of iron and quinine, with just as many minims of the spirit of chloroform, may be prescribed instead.

The state of the bowels should be strictly looked to. Many women so habitually neglect this function that it is surprising they do not suffer more. In such cases purging is generally borne very well indeed, and the pills mentioned previously, of colocynth and hyoscyamus, may be used nearly every night. If the patient should happen to be in a state of great prostration, or liable to suffer severely from giving mercury in any form, the extract of chamomile may be substituted for the blue pill. And, in my opinion, *the worse the patient bears aperients the more does she need them.* A woman, who suffers severely from the use of a mild pill, has a much less chance of recovering quickly than a healthier person; she is in such a state of prostration that tonics will not alone rouse the flagging nutrition and assimilation of the frame. However puzzling this statement may appear, I can confidently offer it, and I think it is just in very bad cases that the surgeon will see the beneficial effects of purgatives in the most marked degree.

A regular crusade should be begun against that baneful habit

of staying so much indoors which some women indulge in. Half these chronic discharges would never be heard of if women would go out every day; in fact, it is out of the question that either mind or body can be in a healthy state under a system of slow poisoning with bad air.

Injections.—In respect to injections a much greater latitude may be given than in men; for often, in the commencement, nothing beyond a stream of warm water can be borne by some women, and in others very strong injections are soon tolerated. It is perhaps better, therefore, to begin with very mild measures. For ordinary cases I have found nothing superior to sulphate of zinc. Very profuse discharges may and do sometimes require stronger measures, and then the decoction of oak-bark may be used with the best effects.

It is particularly requisite that the patient should thoroughly understand how to inject herself, which should always be done in the recumbent position with a pillow under the hips. A good sized india-rubber bag, with two flexible tubes, one hanging in the basin holding the injection, the other, to introduce up the vagina, furnished with a blunt end, is the best instrument I know of. The vagina should be thoroughly washed out previous to the injection being thrown up. Sometimes it answers better to plug the vagina with lint soaked in the zinc solution. But in obstinate vaginal gonorrhœa, after pain has ceased, I should say the application of the nitrate of silver is the best remedy yet discovered. The speculum is introduced, well oiled, as high as it will go, and then, all discharge being first carefully wiped away by means of a piece of lint firmly tied to a stout stilet, a stick of nitrate of silver is applied to the os uteri, the speculum is withdrawn, and the nitrate, quickly rotated, is brought into contact with the whole of the vagina, till the labia are approached, when it is at once withdrawn. Some very alarming accounts have been given[1] of the dangers and suffering which must necessarily arise from such a source, but they are refuted on ample testimony; men who used the nitrate in numbers of cases, such as Dr. Egan,[2] Mr. Henry

[1] *Medical Gazette;* vol. xx, p. 310.
[2] *Dublin Quarterly Journal;* vol. v, p. 312.

Taylor,[1] Dr. Palethorpe,[2] Mr. Thomas Nelson,[3] and many others having given strong evidence in favour of the harmless nature of the practice. Pain, however, I have certainly seen, lasting for a good while, after even a gentle application of the nitrate, and that too, sometimes, in women whom I should not have thought very sensitive. I have observed no other bad effect, though I have applied the nitrate pretty freely to the vagina and os uteri. Dr. Tyler Smith says[4] that loss of uterine substance may be caused by the prolonged use of the salt. I feel rather doubtful about the fact, and have elsewhere given my reasons for thinking, that caustics of this class do not destroy sound tissue, and only act upon what would sooner or later be removed by disease.

For a time at least, it seems as if the property of conveying the infection was extinguished in the vaginal secretion by the nitrate, most probably solely by the chemical action of the salt. I certainly have known, in a pretty large number of cases, that connexion has taken place after using the nitrate while the vagina was in a most unhealthy state, for I speak of cases where I have applied the nitrate myself, and yet no infection has ensued.

Many years ago Sir J. Simpson introduced pessaries, which were inserted into the vagina.[5] They were composed of zinc, lead, &c., white wax and lard. Each weighed about a quarter of an ounce, and was coated by dipping it into an ointment of wax and resin kept liquid by heat. Since then they have been introduced more and more into practice, and numerous other ingredients have been tried. Some of the leading American physicians make use of them. For instance, Dr. John Black, of Philadelphia Hospital, finds[6] suppositories very useful in vaginal gonorrhœa, those containing twelve drops of the liquor of persulphate of iron affecting a cure in the shortest time, an average of nine days, being a remarkable contrast to the experience of M. Ricord as to the time required for the removal of the complaint. He considers suppositories far superior to either injec-

[1] *Medical Gazette*, vol. xxi, p. 63.
[2] *Ibid.*, vol. xx, p. 256.
[3] *Report of the Committee on the Venereal Disease*; 1868, p. 113.
[4] *Op. citat.*, p. 203.
[5] *Edinburgh Monthly Journal*; 1848, p. 886.
[6] *American Journal of Med. Sciences*, vol. l, p. 65.

tions or plugging. Dr. Gaillard Thomas also employs suppositories,[1] applying them to the cervix uteri by means of a hard rubber tube, in the mouth of which the apex of the cone of the suppository is fixed, where it adheres with sufficient tenacity for the required purpose.

My trials, however, with suppositories were unsatisfactory, and I have not seen valid reason for preferring them to the nitrate, especially when assisted by the medicines recommended, and occasional blistering, from which I have observed good results, with proper diet. Indeed these measures have generally seemed to me quite sufficient to remove vaginitis, and with the disappearance of this, any affection of the urethra, if present, and of the mucous membrane of the vulva, has also yielded; nor have I as yet seen the disease, when thus treated, extend to the womb and ovaries, or to the bladder. There are, however, some complications which may require farther steps, and which, unsystematically enough, I have preferred to take here, so as not to break the thread of discussion, and to leave the ground open for the more lengthy examination required of complications in the male.

Foremost among these stands *the affection of the canal of the cervix*, shown usually by the formation of the stringy plug of mucus mentioned in the first chapter, often enough accompanied by an unhealthy state of the lips of the uterus. The plug should be removed, and then the nitrate may be gently applied to as much of the surface secreting it as can well be reached. When the appearances indicate ulceration, or rather epithelial denudation, I believe one of the best remedies, certainly that which I myself prefer, is the caustic soda very lightly applied by means of the speculum. At the Lock Hospital they first secure coagulation of the discharge from the womb, by means of a strong astringent like alum, and then remove it, after which a strong solution of nitrate of silver is brushed over the cleansed surface. Connexion had better be abstained from, even when the disease seems dying out, but only too often this recommendation is not attended to. Rollet says,[2] that connexion will bring on relapse after relapse in

[1] *A Practical Treatise on the Diseases of Women*; Philadelphia; 1875, p. 160.
[2] *Annales de Dermatologie*; tome i, p. 110.

blennorrhagia affecting the neck of the womb, till even the parenchyma of the organ becomes involved.

As to the treatment of *discharges from the womb itself*, about the frequent occurrence of which, so far as concerns their gonorrhœal nature, I am somewhat sceptical, I must at once say that I do not feel at all convinced of the necessity for the employment of solid caustics, while direct applications, in a liquid form, to the interior of this organ, are apt to be followed by nervous symptoms of a rather alarming nature. I therefore advize that treatment should be confined to the means pointed out.

But the substance, appendages and investing membrane of the uterus are liable to become affected by a very serious form of inflammation from gonorrhœa. Dr. West holds,[1] that when acute inflammation is set up in the unimpregnated uterus by gonorrhœa, it begins in the interior of the viscus and extends outwards; and that, though it may involve the muscular substance of this organ, it does so to a much less extent than the lining membrane. He considers that such inflammations should be attacked energetically, as, if not, they naturally pass into a chronic state, in which, if the patient's danger be lessened, the chances of recovery are also lessened. He therefore always advizes local, and sometimes also moderate general, depletion, followed up by hip-baths, anodynes, and poultices with laudanum. If pain in either iliac region, and still more if any distinct swelling in this part, point to involvement of the ovary, he applies small blisters. Disposition to pass into a chronic form he meets by a mild mercurial course.

The treatment advized, generally, for this group of cases by Dr. Noeggerath, of whose extreme views I have already spoken, is as new to me as his theory, and consists in giving quinine to the extent of ten to fifteen grains every eight hours. When great pain is present, and the disease proceeds too rapidly to admit of being treated with quinine, he orders tincture of opium, twenty to eighty minims at a dose. If opium be not well borne, we may prescribe codeia, and apply ice bags to the abdomen.

Ovaritis I have only met with in the sub-acute form, and in all the cases I have seen, the affection had either begun before the patient came under my care, or showed itself within a short

[1] *Lectures on the Diseases of Women*; 1864, p. 96.

time after the first visit; being always, so far as I could make out, due in some measure to neglect, over-work, too much exercize, improper diet and so on. Mercury and opium in pretty full doses, hot bathing, rest, and low diet have usually proved sufficient, though in one or two cases I have thought it as well to employ the chlorate of potass in addition. Subsequently blistering is often of service.

Mr. de Méric quotes[1] from Mercier a case of acute ovaritis from this disease. The patient was suddenly cut off by typhoid fever. Post-mortem examination showed that the gonorrhœal inflammation had extended to the uterus and along the Fallopian tubes, the fimbriated extremity of the left tube being destroyed, and the canal obliterated. Mr. de Méric also gives three carefully recorded cases from his own practice. In the first the patient was a woman, thirty-two years of age, infected with gonorrhœa by her husband. She was feverish, and the pain was severe enough to confine her to bed. The disorder yielded pretty quickly to fomentations, a gentle purgative, an antimonial mixture, low diet, rest, and counter-irritation. In the second case the patient was also infected by her husband. The skin was hot and the pulse hard; there was severe pain in the left iliac region, and a profuse vaginal discharge. Fomentations, followed by large linseed poultices to the part, and warm poppy-water injections into the vagina, gave relief. Rest and cooling medicines were also ordered, and subsequently injections with counter-irritation over the ovary by means of blisters. In the third case there was high inflammation of the vulva and vagina, and the discharge, which was accompanied by considerable hæmorrhage, was very profuse. This patient, moreover, suffered from pain about the right iliac region, running up to the crest of the ilium, which seemed to be of a rheumatic nature and of a most distressing character. Rest, poppy-water fomentations and injections, warm hip-baths, gentle purgatives, antimonials, subsequently narcotic frictions over the seat of pain, injections of alum and zinc, and full doses of opium were employed; but the symptoms yielded very slowly, a full month elapsing before there was any great im-

[1] *On Gonorrhœal Ovaritis.* By Victor de Méric, Esq. *Lancet;* 1862, vol. i, p. 628.

provement; whereas in the first case the patient was able to resume her household duties in about three weeks; and in the second, although the discharge had not ceased at the end of a similar time, the pain had yielded previously.

Mr. de Méric calls attention to the fact, that in all these cases the ovaritis arose in the early stage of gonorrhœa, indeed within a very few days after it commenced. He considers that this circumstance, and the absence of any hard deposit in the ovary like that in the epididymis after orchitis, militate against the analogy which has been thought to exist between the swelled testicle of gonorrhœa and gonorrhœal ovaritis. I do not think any weight can well be assigned to the latter; different tissues are in this respect differently affected by the same inflammation.

Mr. John Taylor also communicated two cases to the *Lancet*.[1] In one the symptoms were very severe; throbbing, agonizing pain extending to the back, small and frequent pulse, hot and dry skin, loss of appetite, sleeplessness, and pain on defœcation and micturition. All this, however, yielded pretty quickly to rest, hot fomentations, calomel and opium, and saline aperients. Dr. Tanner, who was extensively consulted on such matters, held that, as a rule, full doses of iodide of potassium, with chlorate of potass, will be found more beneficial here than any mercurial. In a case of gonorrhœa affecting a girl of fifteen, followed by endo-metritis, ovarian congestion and ovarian neuralgia, Dr. E. T. Williams relieved the latter symptom with hypodermic injections.[2]

Dr. Tanner says[3] it is doubtful whether ovaritis is due to disease, or to its treatment by astringent injections, copaiba, &c. I do not wish to pursue any writer into the remote and fanciful speculations, which constitute a great deal of what is called pathology, but here the opinion of this indefatigable observer seems to me tinged with some want of reflexion. The action of copaiba, unless it be considered *plus* the disease, must count for nothing, as it is constantly given for bronchitis without evoking the least trace of any such symptom; united with the disease it must go for little, seeing that ovaritis happens where it has not

[1] 1862, vol ii, p. 51.
[2] *British Med. Journal*; 1874, vol. ii, p. 32.
[3] *Op. citat.*, vol. ii, p. 356.

been employed. The same may be said of injections. I could not trace ovaritis in a single case to their employment. Two of the patients had not employed them, and they do not seem to have had any share in bringing on the mischief in the five cases of acute ovaritis just mentioned. On the other hand there is good reason to think, that a tendency to this complication manifests itself, in a certain proportion of patients, irrespective of any treatment whatever, just as, in the opposite sex, a disposition to irritability of the bladder, &c., shows itself, in a percentage of cases, and that this tendency is rendered more powerful by want of rest, errors of diet and so on. To these points, then, the attention of the practitioner may be beneficially directed.

Some of the french surgeons cauterize the *urethra in* the female when it is the seat of purulent discharge, and give no specifics at all. The results are spoken of as most encouraging. Personally I have no experience of the nitrate here, but I see no particular objection to it if employed with discretion. Dr. Bumstead injects the urethra when the case is obstinate.

Duverney's glands sometimes become affected in the course of this disease, and it would really seem that their ducts participate in the extension of the gonorrhœa. Tiedemann was, I believe, the first who noticed the former of these facts, having derived the hint from Fricke of Hamburg.[1] Dr. Matthews Duncan published, in the *Edinburgh Medical Journal*,[2] a case of gonorrhœa occurring in a girl of seventeen where these bodies were involved, being hard and tender. Pressure upon the affected part, on the right side, caused about a drachm of gelatinous, blood-stained fluid to exude. The disease seemed to be quickly removed by bathing, first with hot water and then with liquor plumbi. These bodies, the ducts of which open on the inner aspect of the nymphæ, outside the hymen or carunculæ myrtiformes[3] are, I suppose, the bodies described by M. Huguier as vulvo-vaginal glands, the orifices of which open at this site, although there are exceptions to this, which sometimes make it difficult to find their mouths.

[1] *British and Foreign Medical Review*, vol. xvi, p. 156; Holmes's *System of Surgery;* second edition, vol. v, p. 214.

[2] Vol. xviii, p. 277.

[3] Quain's *Anatomy;* 1876, vol. ii, p. 458.

M. Salmon communicated,[1] to the Academy of Medicine, some cases of gonorrhœa affecting these ducts; a malady pointed out by M. Huguier, not easily detected, but for all that capable of conveying infection. It may be the only sign of disease, and its existence is detected by pressing from behind forwards, in the direction from the ischium to the carunculæ. It is most frequently met with in the young, and on the left side, M. Salmon having found it there six times in eight cases. Injection of nitrate of silver with Anel's syringe, and cauterization with tincture of iodine by means of a fine bougie, or with solid nitrate, proved useful.

Some women manifest a tendency to *abscess in the labia majora.* Like all other complications of the same kind, the vigorous use of tartar emetic and hot bathing, as recommended in the treatment of perinæal abscess, is, so far as my experience goes, the only treatment to be relied upon. When once the abscess points, I believe authors are agreed that it should be opened, and that if allowed to burst the case may prove very obstinate.[2] Of the *inflammation of the erectile tissue of the vagina* described by Mr. Johnson I have no experience. Indeed he only saw one case, and that proved extremely obstinate.

When *excessive menstruation* is present, I believe the exhausting drain will almost always be arrested by the use of oxide of silver, as recommended by Sir James Eyre, the infusion of digitalis in the doses advised by Mr. Howship Dickinson,[3] or what is, perhaps the best of all, tannin; a remedy which not only stays the bleeding, but is even powerful enough to produce a beneficial change in the purulent secretion of tuberculosis. The oxide must, however, be employed with great discretion, and not continued for any great length of time, as I have shown[4] that the use of it may be followed by permanent discoloration of the skin. Tannin may be prescribed as follows. Ten to twenty grains should be dissolved in a breakfast-cupful of cold tea, without milk, and slightly sweetened. This quantity is taken daily, the patient drinking a little from time to time as suits her taste and convenience. More however may be given if

[1] *Union Medicale;* tome viii, p. 582.
[2] Durkee, *Op. citat.*, p. 181.
[3] *Med. Chir. Trans.;* 1856, p. 1.
[4] *Journal of Cutaneous Medicine;* vol. ii, p. 42.

thought desirable, but as a rule I have not usually seen reason for going much beyond this quantity, though occasionally as high as a drachm daily has been reached. The time for taking it is generally restricted to two days, beginning with the first dose on the third day of the catamenial flow. The tannin lozenges are a more elegant method of administering the drug, but from the smallness of the dose, it becomes a tedious matter to take the requisite quantity.

The persistent *pain* in the back, loins, sucrum, and coccyx, from which some women suffer, is generally relieved by rest, hot bathing, diffusible stimulants, and strict attention to the health.

There remain one or two points of treatment, the considera-tion of which I have reserved till now, both because they are partly local and partly general, and because the remarks to be passed upon them apply to their action in all varieties of gonor-rhœa. These points are the use of the cold hip bath, of specifics, and of tonics, and the reader is to understand that what I have to say refers solely to their power over the running.

From the first of these I never saw the least benefit, while I have known it increase both pain and weakness. The process is exhausting, and, while conceding everything in its favour on the score of cleanliness, I think its action ought to be carefully watched. A strong solution of alum, used in this way, has been recommended; I tried it carefully, but saw no particular benefit from its use.

In opposition to the opinion of very good observers, I believe that specifics, such as copaiba, do exert some influence on vaginal gonorrhœa, as they do over most forms of profuse mucous flux. Those who contend for their purely local action, and for the limitation of this to parts over which the urine flows, seem to ignore that they act beneficially where no such explanation can be accepted, as for instance in profuse expec-toration. M. Ricord's oft quoted cases of artificial opening in the penis, where the copaiba only dried up the discharge in the part of the canal traversed by the urine, go for nothing here, and the occurrence might, perhaps, be due to deficient blood supply to the distal part of the organ. But I believe that the disadvantages of giving specifics in such cases outweigh the benefits. They are

rarely called for, and often fail in all varieties of gonorrhœa, except the urethral, which will get well without them, while the proposal, to employ urine charged with their specific principles, as an injection, which has been more than once advocated,[1] is too revolting in its nature to need discussion.

It may be laid down as a principle, that all disorder of the health should, as far as possible, be set right. Consequently tonics are not unfrequently called for, because many of these patients suffer from exhaustion and loss of appetite. Such symptoms they will often relieve, but I believe their power of arresting discharge is very slight, if indeed they possess any virtue of this kind.

Diet.—As to the diet best suited to gonorrhœa during the acute stage, whether in the male or female, there is, I believe, now but one opinion, namely, that it should be as light as possible, and that beer, wine, and ardent spirits should, as far as is practicable, be prohibited. Now and then a little sherry or claret-and-water or gin-and-water, may be allowed as the *ultima Thule* of indulgence. This refers however essentially to the acute and early stage. Later on a moderate amount of wine can be very well added to the bill of fare.

But though a rigorous exclusion of such articles of diet, as are only calculated to do injury, may be justly considered one of the most essential points of treatment, it is at the same time advizable not to curb the patient in too strongly, lest he should turn restive, and break through all restraints; especially if he happen to be one of those erratic mortals who seek to escape from such restrictions by any loophole. The more simple and easy to observe the directions are, the more readily will they be followed out, both in spirit and letter. Moreover, the greater number of cases do not require such strict dieting; and instances where patients have recovered from severe gonorrhœa while actually overstepping all limits, have tended to beget a spirit of scepticism, not only among them but also among medical men, as to their value in cases which really require restriction.

I have myself no great faith in vexatious regulations of any kind; I always fear they will prove too onerous to be practicable;

[1] *Union Medicale*; tome v, p. 112.

indeed, I rather incline to the side of the Ettrick Shepherd, who gave it as his opinion, that "there's something varra auld-wife-ish in writing buiks to teach folk how to eat their victuals." Even the mildest system must occasionally be relaxed, and now and then a good chop and a pint of claret will do a weakly man more good than any starving.

The surgeon, then, I think, will do wisely in interdicting all spirits (except now and then a very little hollands or gin), strong malt liquors, pork, beef, curries, *et similia*—in admitting as little meat and wine as possible, and in recommending tea, fish, arrow-root, tapioca, &c. But it will not do to compromise too much; and if the patient will not submit to moderate restriction, the blame rests with him and not with the surgeon. The progress of science may one day reveal to us some substance capable of exercising more complete control over inflammations of the mucous membranes, something as potent, perhaps, as tartar emetic in inflammations of the cellular tissue; then, indeed, we may free our patients from this burdensome watching; but *till then* we must combat the disease with such remedies as we possess—and one of these certainly is a moderately low diet.

If it be necessary to enforce these rules at the commencement, it is equally necessary to observe them to the end; for a gleet which is just dying out, is, so long as the microscope shows pus in the secretion, easily converted into a gonorrhœa by a sudden return to stimulating food, and therefore the safest rule is to go on as at the very beginning till the discharge has entirely ceased for some days. I do not mean that the patient should starve himself to the very last hour, indeed, he should never reduce his strength by too low a diet; but I do assert that he ought not to indulge in stimulants, a little wine, perhaps, excepted, and not revert to that excessive consumption of meat and beer which is so much the rule of life in England.

As to the diet of women little farther need be said. I believe it cannot be too light and plain; and as to the use of stout, jellies, soup, and food of a similar nature, constantly suggested by some over-kind friend or relative, it cannot be too strongly deprecated. The persistent use of what would try a ploughman's digestion is a step in the wrong direction, while of jelly we may be

permitted to doubt whether it really contains any nourishing matter capable of assimilation beyond the wine used in making it, which is often of the worst kind. Besides, it is quite a mistake to think that excessive feeding is ever requisite in such cases.

In the chapter on scalding, I have stated my belief of the utter uselessness of *diet drinks*, and their inadequacy to relieve, even if they do not aggravate, scalding. The inference to be drawn from the arguments there used may be applied here. If the patient be very thirsty, the best diluent is water.

Smoking.—Men often ask whether smoking is injurious. I should have said that in moderation it could not be, and even in excess I have never traced any relapse or aggravation of the symptoms, though it makes the patient low and nervous. Dr. Bumstead, however, thinks[1] it is hurtful. "I believe," he says, "that either smoking or chewing, especially in excess, relaxes the genital organs, and tends to keep up a urethral discharge."

I now proceed to examine the complications of gonorrhœa. As some of these, when judiciously handled at any rate, do not interfere with the treatment of the parent disease, while others must be overcome before we can hope to effect a cure, I thought it would be best, in a work devoted in great part to therapeutics, to adopt a purely arbitrary classification, and separate these symptoms into two groups: one comprising those which may be taken in hand at the same time, that is to say, complications which do not interfere with treatment; and another containing those which at an early period acquire such an importance as to require the particular attention of the surgeon, and which, in consequence, really do interfere with treatment. Such an arrangement is, I at once admit, highly unscientific, but I know of no better.

[1] *Op. citat.*, p. 83.

CHAPTER IV.

TREATMENT OF GONORRHŒA—(CONTINUED).

COMPLICATIONS WHICH DO NOT INTERFERE WITH THE CURE OF GONORRHŒA.—1. SCALDING :—*Remedies usually advized.*—After carefully reading every work and paper to which I could obtain access, I have not been able to obtain any information as to the best method of treating this and some other symptoms, which proved, when reduced to practice, of value. Numerous remedies, it is true, are indicated, but their effects did not quite correspond with the expectations, which the accounts of them were calculated to raise. In order therefore to ascertain, as far as I could, their precise action, I first of all divided them into the four following classes :—1. Anodynes—as laudanum, morphia, belladonna, &c. ; 2. Demulcents—as linseed-tea, barley-water, gum arabic; 3. Diuretics—as nitrate of potass, sweet spirit of nitre; 4. Alkaline remedies—as soda, potass, and magnesia.

With a view of avoiding every source of fallacy, these four classes were tried successively on great numbers of patients; every symptom connected with the advance or decline of the scalding in each particular case was registered in the blank forms already spoken of; and the patients were for the most part examined every morning. At the same time nothing was omitted that seemed likely to hasten the cure, so that, as far as they go, the results obtained may be fairly viewed as a summing up of the action of these remedies on the symptom in question. The results were as follows :—

1. *Anodynes.*—The effects of these were most unsatisfactory. They were used in the form of

Laudanum.—In some cases, where there was severe pain from other causes, this remedy was pushed to the extent of a hundred drops in a day, yet even in such large quantities it only produced temporary relief of the scalding; and in doses of this magnitude, even if it removed the symptom it was given for, the constipation

and headache it brings on sooner or later would be sufficient objections to its use. *Morphia* in small doses was inefficient, and in large quantities objectionable, for the same reasons as opium. *Dover's powder* yielded the same results. In aching, however, of the urethra, perinæum, and testicles, a moderate dose of opium or morphia is often productive of the best results.

Hyoscyamus alone, or combined with salines, appeared in some cases to hasten the disappearance of scalding when injections were used; but on trying it singly it was found to produce no effect, so that the first impression must have been illusory. Applied externally it had no very marked action, and made a filthy mess—an inconvenience to which patients suffering under these complaints object most seriously. *Veratrin* and *atropin* applied in ointment produced torpor of the part, but no permanent relief of the scalding. Of the alkaline sedatives, such as bromide of potassium, highly praised for this purpose by some writers,[1] I have little experience, and that little is not very favourable.

2. *Demulcents* exerted but very slight effect, though the patients, in some instances, drank as much as a quart of thick linseed-tea in a day. These remedies have been recommended by many writers, although not one of them seems to have ever examined their properties in such a manner as can alone justify a man in speaking positively about a point of this kind. From numerous observations, I am disposed to doubt whether they possess any of the virtues attributed to them, and whether they are not simply a relic of the old drenching system—a waste of time, labour, and patience; water, especially if pure, will, I believe, effect the same purpose much more cheaply and conveniently! They may possess a certain amount of negative value, *e.g.*, when a patient will not drink water, and the medical attendant finds himself compelled to order something, then he may direct barley-water, because it is less heating than coffee or any kind of wine, &c., but active beneficial power I do not believe them to be endowed with. Yet to judge from what some writers say,[2] it would seem that the most certain and pleasant mode of curing gonorrhœa, and

[1] *Practitioner;* vol. xii, p. 101.

[2] Note sur l'efficacité d'un nouveau mode de traitement de la blenorrhagie. Par le docteur Levrat-Perroton. *Union Medicale;* tome ix, p. 122.

averting such results as stricture, is to give plenty of demulcents internally, and to apply them freely enough directly.

As to the old explanation that they sheathe the inflamed mucous membrane and thus prevent the acridity of the urine from acting on it, or envelope the urine itself (!) it sounds very like Cullen's wonderful theory of the acrimonious spiculæ in tabes venenata being sheathed by the oil absorbed, for this express purpose, from the cells of the cellular membrane into the blood. Perhaps the reader will say, why pursue with arguments an old doctrine which has well nigh died out of itself? But the truth is that it is anything but in a moribund state, and that it is virtually upheld by every man who asks us to believe that the mucilage, whether of the acacia tree or flax plant, passes unchanged through the capillaries of the stomach and the epithelial structure of the kidneys, which it must do to justify prescribing it in scalding.

3. *Diuretics* seemed to have some slight effect, and the solution of *nitrate of potass* in barley-water, half an ounce to a pint, appeared to relieve the scalding in many cases, just as *spirit of nitre*, gin-and-water, and tea do, namely, by producing an increased secretion of water from the kidneys. It had no power of materially benefiting this symptom so long as the diseased state of the urinary passage remained unabated. These remedies, however, are perhaps the most efficacious that have as yet been tried, and are perfectly harmless in anything like moderation. The patient should not use more than half an ounce a day of the nitrate of potass, as it is apt to induce sickness in larger quantities, and, except in cases of great thirst or a taste for such kinds of drink, it can be dispensed with altogether.

4. *Alkalies.*—Of these, *the carbonate of soda*, *potass*, and *magnesia*, and the *liquor potassæ* were tried, both alone and combined with some of the other remedies. I was induced to use these from almost always finding the urine acid in gonorrhœa, especially as I had been repeatedly told that they were the best remedies for this symptom, and I was naturally enough rather anxious to find in some of these medicines a remedy against a symptom of which patients complain a good deal, and which, if not very important, is annoying; but the attempt was as unsuccessful as those made with the demulcents and sedatives. The following

results were obtained from the observations made respecting their action :—

1. The urine became alkaline in some cases, but the acidity returned even when the alkaline remedies were continued.

2. This change was not accompanied by a relàtive change in the scalding.

3. This change ensued in some cases where no antacid remedies were used.

4. The scalding was relieved without the acidity of the urine being affected.

5. When the patients were seen but once a week, these remedies were used during periods varying from two or three weeks to as many months, without in some cases relieving the scalding, which, however, began to disappear so soon as the condition of the urethra improved.

6. In some cases, in the latter part of the acute stage, alkalies were of service when combined with other means, as injections ; but of less value in the early part of this stage, in which diuretics gave more relief.

7. In the scalding which sometimes very suddenly attacks those recovering from gonorrhœa, alkalies were often productive of positive harm, and tended to exasperate it.

8. Again ; though the urine was acid in this stage (the decline), nitric acid was apparently often productive of relief. I say *apparently, because this scalding will sometimes come and go in forty-eight hours ; and therefore it is extremely difficult to say what it is that carries it off.*

9. That scalding will sometimes occur in patients, who have been treated, all along, with the preparation of potass which I have recommended for gonorrhœa.

10. That the presence of scalding need not delay the cure of gonorrhœa for an hour, and that its removal does not in any way promote or retard the influence of treatment, the question being one which simply affects the comfort of the patient.

After stating the results of my own observations, I think it only just to say that the late Mr. Weeden Cooke came to very different conclusions. He tells us[1] that scalding is the result of

[1] *Lancet ;* 1860, vol. i, p. 90.

the acid urine passing over the highly inflamed surface of the urethra, and that this symptom should be remedied by the administration of alkaline carbonates, with the view of neutralizing the acidity of the urine, *and thus removing the principal cause of the continuance of the inflammation.*

It is often very difficult to make the urine alkaline, though this *may be* accomplished by overwhelming doses of alkalies. Thus Wagner[1] found that two drachms of carbonate of soda rendered it alkaline in three quarters of an hour, which, however, could be only a transient state unless the action were maintained by fresh supplies. Indeed, the alkaline reaction in this case only lasted three days, while two drachms of acetate of potass only made the urine alkaline for sixteen hours. According to my own observations, neither small nor large doses effect this change in many cases so readily and easily as might have been expected.

Sir Henry Thompson says[2], "By giving alkalies you can make the urine neutral or alkaline to any extent you please." In that case either my observations or his must be at fault, or else the statement must be taken in a restricted sense.

The following short cases will, I hope, tend to substantiate all I have stated.

Thomas R—— took ℥j. of sulph. of soda daily in barley-water. The first morning the urine was acid, the scalding gone; but, on careful examination, it was found to have been nearly gone the day preceding, and it returned again.

Thomas J—— took, Aug. 1, ℥j. of sulph. of soda. On the 2nd (16 hours after), the urine was found alkaline, the scalding had gone; its disappearance was traced to the use of a warm bath. On the 3rd it had returned, and a warm bath again relieved it.

George P—— took ʒj. of carb. of soda and ℥j. of phosphate of soda in barley-water. He did not experience much benefit from them, the scalding having, in fact, gone from taking a warm bath. Eighteen hours after the urine was acid, and, on standing, deposited a thick flour-like sediment; the scalding returned.

[1] *Handbuch der Physiologie;* B. 2. Art. *Harn.*

[2] *Diseases of the Urinary Organs;* 1873, p. 200.

Charles H—— took ℥j. of the phosphate of soda in barley-water. Next morning the scalding was worse; the urine not examined.

George T—— took ʒj. of nitrate of potass and ℈ss. of pulv. ipecac. c. in barley-water. Next day the urine was neutral, and the scalding not so severe; he repeated the dose, and the day after the urine was strongly acid, and the scalding as severe as ever.

Henry B—— had had scalding for fourteen days. By taking ℥ivss. of nitrate of potass and ʒiss. of pulv. antim., in eight days he was relieved, the disease having given way at the same time.

James B—— took between the 30th of May and the 1st of July, ℥iss. of carb. of soda and ℥j. of pulv. jalap, in small doses three times a day; the scalding gradually diminished, the disease going at the same time. During the first fourteen days he had no diminution of the scalding.

Thomas R—— took ℥j. of nitrate of potass and gr. xxiv. of pulv. antim. in six days. The scalding, which was going away, diminished under the use of this remedy.

Henry H—— has, July 2nd, acid urine and scalding. To take liquor potassæ ʒss. ter die.

July 9th.—The urine acid; scalding still continues. To take the dilute nitric acid in decoct. of pareira brava.

July 16th.—The scalding gone, the urine still acid.

Samuel E——, July 9th, while taking liquor potass., was suddenly attacked by scalding; urine acid, sp. gr. 1028.

J. H. W., April 16th, has scalding from gonorrhœa. To take a scruple of nitrate of potass and ʒss. of gum Arabic thrice a day, with Dover's powder every night and injections thrice a day.

20th.—The scalding much relieved, and in a few days disappeared.

Thomas R——, July 23rd, had had scalding from gonorrhœa two months. To take carbonate of soda, gr. viij., and opium gr. $\frac{1}{4}$ twice a day.

25th.—The bowels confined; scalding much the same. Carb. of soda gr. xij. and pulv. jalap. gr. xij. twice a day; injection three times a day.

Aug. 1st.—Relieved; to go on.

8th.—The scalding has disappeared. Here the alkali was

clearly of some use, as he had been using the same injection for two months, with mild aperients.

Two patients, with a slight clap of long standing and some scalding, were put, one on the soda and opium powder, the other on the soda and jalap. At the end of nine days they were examined again, having in that time taken each ℥ss. of the alkali. The patient who had taken opium and soda had lost the scalding, and with it the discharge. In the other, who had, however, taken some beer, it continued unabated.

Charles C—— had had scalding from gonorrhœa in a very severe form for some days. He was ordered a mild saline purgative, his bowels being confined, and to be injected three times a day. The scalding disappeared in a few days, and did not return.

G. W., Esq., had very severe scalding from gonorrhœa. He took, July 7, one drachm of soda in water, and was injected. When seen on the morning of the 8th, the scalding had diminished, and the urine was alkaline. On the evening of the same day he took a drachm of the carbonate and was again injected.

July 9th.—The urine is acid; the scalding has diminished.

Joseph M—— had scalding, for which he was ordered a combination of soda with jalap powder. After thirty-five days' continuance of this, in the course of which time he had taken four ounces and a half of carbonate of soda, the scalding was still present, though slight.

Charles L—— has been for some days using nitrate of potass for gonorrhœa and scalding. He began, May 10, to take carbonate of soda, ten grains three times a day. He was also injected.

13th.—The scalding is better, the urine neutral. To go on.

15th.—The scalding lessens, the urine is neutral. To continue the alkali and injection.

16th.—Urine acid, the scalding giving way; the discharge has diminished to a gleet. Inject again and continue the soda.

17th.—He has caught a cold; the scalding has returned as bad as ever.

I could fill pages with such notes, but it seems needless to pursue the point farther. It appears to me that enough has been said to

show that none of these substances can really be depended on for the removal of the scalding. I will only stop to add that benzöic acid was tried, with a view of converting the uric into hippuric acid, and that, like the rest, it had no material effect. In all these cases the urine selected for examination was either that passed on rising, or the first voided after breakfast; most usually the latter.

It was while examining these points that I remarked, that those patients who took a warm bath every day, a remedy in which I have great faith as a source of comfort, suffered much less from scalding than those who did not use it. Struck by the fact, I followed it up, and subsequently examined with great care the effects of abstinence, water-drinking, &c. on the urine. The observations made were far too extensive for insertion here, and therefore I only give the results in as compressed a form as possible. They were,—

1. The action of the warm bath proved much more potent than that of any other remedy, therapeutic or hygienic; but that it only lasted an indefinite time.

2. That it was powerfully seconded by great moderation in the use of meat and a proper kind of diet, and that the best palliatives for scalding are water and mild diuretics, such as tea.

Animal Chemistry.—As it is most desirable that all statements relative to such a conjectural art as medicine should rest on the broadest possible basis, I shall now proceed to examine what light organic chemistry throws upon the subject. One chemist tells us that "we can, by a judicious choice of food, bring the urine into any state that can be wished for." Mr. Durham pretty nearly endorses this. He says[1] it is easy to deprive the urine of its irritating acidity "by proper regulation of the diet and the free use of alkaline medicines." As observed in reference to Sir Henry Thompson's statement, this view must, I submit, be accepted with some reservation, for the influence of these means, though considerable at times, is not unfailing.

The first point inquired into in my observations was, whether scalding depends upon the presence of any particular ingredient in the urine, derived from the gonorrhœa, because if any such

[1] *Guy's Hosp. Reports.* Third series; vol. xv, p. 470.

could be detected some remedy might be found; but this I could not learn. However, I may have overlooked the right source, as organic chemistry is acquiring such dimensions that, at no very distant date, it will require a lifetime to master the works pertaining to the subject. Within the last fifteen or twenty years alone the contributions have been so vast, that any person who is not a pure chemist and nothing else, finds himself, when once entangled in such a complicated matter, in the dilemma of a traveller who has fairly lost his way in some trackless waste.

However, I will try to make the best of the difficulty, and begin by giving the only specific information I have been able to meet with. It is taken from the carefully-prepared work of M. Alfred Becquerel,[1] who says, "The existence of a simple blennorrhagia, whether acute or chronic, only produces in the urine a small quantity of muco-pus, rarely enough in quantity to render the urine alkaline. When the running is very great, it sometimes happens that the urine passed in the morning, on rising, contains more muco-pus than that passed at other periods of the day, that there is little albumen in it, and that it is less acid than usual." As this statement throws little light on the special subject of research, let us take the general state of the urine, and examine if any of its component parts will offer a clue to the enigma.

Dr. Golding Bird considers[2] it probable that the uric acid, just as it is separated from the blood, comes in contact with the double phosphate of soda and ammonia evolving phosphoric acid, which thus produces the *natural acid reactions of urine*, and Sir Thomas Watson says[3] "Modern chemistry teaches that the acid reaction of healthy urine is due to the acid phosphate of soda." This view is endorsed and enlarged by Dr. Harley, who says,[4] that "the acidity of urine depends on the united presence of acid phosphate of soda, uric (hippuric) and lactic acids." Dr. Hassall says[5] "The acidity of the urine is principally due to the presence of acid phosphates; but, in some cases, lactic and carbonic acids

[1] *Séméiotique des Urines.* Par Alfred Becquerel. Paris, 1841, p. 475.
[2] *On Urinary Deposits.* Fifth edition, p. 95.
[3] *Op. citat.*, vol. ii, p. 627.
[4] *The Urine and its Derangements*; 1872, p. 10.
[5] *The Urine in Health and Disease*; 1859, p. 23.

contribute to the acidity." Dr. Beale says,[1] "The cause of the acid reaction of urine is obscure, and probably does not always depend upon the presence of the same substance. Sometimes the reaction may depend upon carbonic acid, which is present in greater or less proportion in all the animal fluids." . . . . "A fixed acid reaction may be due to the presence of the acid phosphate of soda—a salt which exhibits an acid reaction without the presence of any free acid." He admits, however, that traces of free organic acids are found, and it is pretty certain, from what follows, that these acids are the lactic and hippuric. According to Dr. Roberts,[2] "healthy urine is generally acid. This arises chiefly from the presence of a number of acid salts—phosphates and urates; partly also from free acids—lactic, oxalic acids &c."

Most likely then, so far as the scalding depends on the composition of the urine, its origin must be traced to the action of these causes of acidity, and its remedy be sought for in agents which counteract them. Uric acid, especially if in excess, may play some part here, as superabundance of it in the urine is sometimes accompanied by scalding. Sir Benjamin Brodie has not hesitated to say[3] that, combined with ammonia, it is the cause of acidity. Assuming, now, that the balance of power is to be divided between it and the acid phosphate of soda, I suppose it must be accepted, that organic chemistry does not show us how we are to prevent their appearance. Harley says[4] that the amount of uric acid in the urine is materially lessened by a vegetable diet, but it will show itself even when no food is taken. Lassaigne detected it in the urine of a maniac who had fasted fourteen days, and Wagner observed that it was found in larger quantity after fasting than when vegetable diet, or food freed from carbonaceous matter, was used. A similar statement has been made by Prout[5] with respect to its ammonia compound. Port wine and beer are said to increase the elimination of uric acid; tea and coffee to diminish it, and I may remark, as a fact to be afterwards

[1] *Kidney Diseases, &c.:* 1869, p. 118.
[2] *On Urinary and Renal Diseases;* 1876, p. 48.
[3] *Works;* vol. ii, p. 539.
[4] *Op. citat.*, p. 65. [5] *On Urinary Diseases.* London, 1840, p. 81.

weighed, that I have several times had good reason to think, that coffee aggravated the scalding. The action of medicines is also here somewhat opposed to experience. Phosphate of soda, liquor and bicarbonate of potass increase the elimination of uric acid from the system; while acetate of potass, quinine, cod-liver oil and colchicum lessen the amount; yet practical men profess to have seen relief of the scalding from the use of both liquor potassæ and bicarbonate of potass, and, as I have just said, this symptom will come on while the patient is under the influence of the acetate.

We become involved in a similar contradiction with respect to hippuric acid which, according to Harley, possibly contributes in a great measure to the acidity of normal urine, and this author informs us that the largest amount of hippuric acid passed in the twenty-four hours is found to follow a purely vegetable diet, and Dr. Hassall says that "its presence, in most cases, is obviously connected with the free use of vegetable or other substances rich in carbon, as milk." Setting this against the action of different kinds of food on uric acid, the conclusion we must come to is, that what we do with one hand we to a great extent undo with the other; and I am not aware that there is any remedy, in the shape of medicine, which controls the elimination of hippuric acid. It may be remarked, too, that a light diet, in which milk usually plays a great part, contributes to the relief and prevention of scalding.

The lactic acid of the urine cannot, I think be accepted as a factor, except in so far as it contributes its quota; that is to say, I believe it has never been shown, that undue excess of it causes greater acidity than usual, and it is with this part of the matter alone that we have to deal. The other constituents of the urine, the acids which still remain, the salts, urea, uro-hæmatin, need not detain us, as there does not appear to be any evidence that, individually or combined, they exert, or are calculated to exert, any influence on the symptom in question.

I must now ask the reader's particular attention for one point in this question. Some years ago, Dr. Bence Jones asserted that the urine lessens in acidity, and even becomes alkaline in some cases, for two or three hours after breakfast and dinner.

Roberts, Harley and Beale have all discussed this statement. The first named author supports it in the most unqualified manner. Dr. Harley says he has been unable to verify it in perfectly healthy persons, but sees nothing improbable in it, "if the person experimented on has partaken largely of vegetable food;" certainly an unusual condition, in the shape of excess, with respect to breakfast. Dr. Beale says, that Beneke made upwards of a hundred observations without being able to confirm Dr. Jones's statement. In only one case did he find the urine alkaline. Sometimes the acidity was lessened, but this was not invariably the case. He found that the acidity of the whole amount of urine passed varied considerably, but could not discover the cause. "It seemed to be independent of the quantity passed and was not affected by exercise or food." With such discrepancy among very able observers and on so simple a thing too, we may well pause before we accept sweeping assertions about the control of food over the reaction of the urine, or give up the lessons of experience in favour of those issuing from the laboratory.

Probable Explanation and Treatment.—What then can we glean from these disjointed observations? Simply, I fear, the conviction that empirical practice must guide us till chemistry has made farther progress; and on this assumption I shall conclude by stating what deductions I think may be drawn from the materials brought together.

1. We have good reason to suppose that in gonorrhœa there is augmented action and more rapid development of epithelium; that this augmented action (or inflammation) soon casts off the flattened scales which form the outer surface of the epithelial covering in a state of health, and exposes the yet tender and unflattened cells, gifted perhaps with a much greater power of endosmosis than those which are firm and compressed, to the action of the urine. This is very probably the reason why the canal is so swollen in severe gonorrhœa; and it may happen that when a block of such cells is suddenly detached, a sore place ensues in the membrane, or the unsupported vessels give way and bleeding ensues.

2. That the scalding is owing, not so much to the action of

the acids of the urine or their salts on this abnormally tender membrane, as to this abnormal state itself.

3. That the ardor urinæ is possibly, so far as it is dependent on the presence of an acid at all, due to the phosphate of soda acid, though it may in some cases and to some extent be aggravated by the presence of lithic acid, as an excess of this salt will produce the symptom mentioned in certain disorders, as cold, influenza, rheumatism, gout, &c.

4. That the best remedy for scalding is the free use of the hot bath, and hot bathing to the penis and bladder; moderate abstinence, and the use of no drink but water, tea, and very mild diuretics; while at the same time we must steadily act upon the disease, and look chiefly for success to subduing it.

2. CHORDEE:—*Divisions and Pathology.*—Chordee is the first link in that chain of sympathetic irritations set up by gonorrhœa, which from their resemblance to inflammatory phenomena have been treated antiphlogistically by many practitioners—I allude to swelled testicle, irritable bladder, &c. Probably the affections of the glands, denominated sympathetic bubo, mumps, and gonorrhœal rheumatism, the two former of which bear a strong resemblance to orchitis, are closely allied but more distant phases of this chain of actions. Violent pain, spasm, indeed *all the symptoms of the first phase of inflammation, unable to pass into the suppurative stage,* are characteristic marks of these affections; the analogues, perhaps, of the cough and soreness which attend the acme and decay of some disorders of the mucous membranes, such as cold and influenza.

Chordee has been divided by common consent into inflammatory and spasmodic; but while the origin of the latter has been silently conceded to muscular contraction or orgasm of the erectile tissue, that of the former has been rather freely contested.

Mr. Hunter says:—"When the inflammation is not confined merely to the surface of the urethra and its glands, but goes deeper, and attacks the reticular membrane, it produces in it extravasation of coagulable lymph as in the adhesive inflammation, which, uniting the cells together, destroys the power of distension of the corpus spongiosum urethræ, and makes it unequal in this respect to the corpora cavernosa penis, and therefore a curve on that side takes place in the time of erection."

Sir Charles Bell says: "The chordee is caused by erection when the membrane of the urethra is already inflamed, and has consequently lost its elasticity: being powerfully stretched, it cracks, and you have hæmorrhage. It is obvious that if you do not subdue this you lay the foundation of stricture."

Robert adds to this inflammation of the glands of the urethra, so that, except the skin, nearly all the structures composing the penis have been considered as involved in this symptom.

Mr. Wallace says, after alluding to the explanation of this symptom by supposing an effusion of coagulable lymph into the cells of the corpus spongiosum, "This explanation is, however, seldom, perhaps, if ever, correct; for as soon as the inflammation and irritability of the urethra and the disposition to these painful erections have subsided, the penis ceases to be preternaturally curved during priapism; and this could hardly happen if the spongy cells had been agglutinated by lymph, for such agglutination would be most probably persistent, at least for some time after inflammation, &c., had subsided. How, then, is the unnatural curve of the penis which attends chordee to be explained? I answer, that it is owing to the spongy body losing, from inflammation, its extensibility, and that the corpora cavernosa are not affected in this way, the proof being that the curve takes place in the direction in which the want of extensibility of the corpus spongiosum would act on the corpora cavernosa."

Dr. Durkee considers that there is infiltration of plastic lymph into the cells, "whereby the canal loses its elasticity, and cannot expand in due proportion with the extension of the erectile apparatus." But the reader will ask, how can it lose this extensibility from inflammation, unless the cells be glued together by coagulable lymph?"

Mr. Berkeley Hill thinks[1] that the erections and chordee "consist of imperfect distension of the corpora cavernosa and spongiosum, excited by the irritation in the inflamed urethra." According to Messrs. Handfield Jones and Sieveking,[2] when the inflammation extends to the fibrous structure of the corpus spongiosum, exudation of fibrine sometimes takes place in the

[1] *Op. citat.*, p. 393. [2] *Op. citat.*, p. 711.

venous sinuses, thus occasioning bending of the penis towards the affected part.

However ingenious and philosophical these explanations may be, and however strongly they may bear upon them the impress of truth, there is not one that can be admitted as absolutely proven; and in defence of this assertion I would ask—

1. Is there on record a single case in which it was shown, on post-mortem examination, that the corpus spongiosum was in the state supposed—that is, containing effused lymph?

2. Is there one which proves that this took place without effusion into the upper surface of the urethra, or the corpora cavernosa penis?

3. If Sir Charles Bell's explanation be admitted, how comes it that we can bend the glans penis downwards, and thus relieve the chordee? If the mucous membrane had lost its elasticity, so that it could not be inclined upwards without pain, how could it be thus bent, not merely without inducing suffering but with positive relief to it?

4. Is not the cause of the erection itself a disputed point?

5. And finally, is it not the case that, when adhesive inflammation attacks the corpus spongiosum, very intractable and totally different symptoms and results, such as abscesses opening into the urethra and permanent adhesions, are met with?

But, admitting any one of these reasons to be true,—admitting that the under part of the urethra has lost its elasticity, that lymph is effused into the corpus spongiosum, and not into the corpora cavernosa, so as to chain down the urethra—this would only prevent the extension of the penis. In ordinary erection, that part of the urethra which is the seat of chordee is carried upwards, nearly unaltered in direction, the greatest curvature taking place beyond the specific seat of gonorrhœa. Mere effusion of lymph could not bend the urethra. Besides, supposing such effusion to have really taken place, how is it possible that both the bending, and the pain which it occasions, are so quickly relieved by the application of scalding hot water; and I might well ask, whether pathology can show another such instance of a sudden change in a part affected with adhesive inflammation?

Moreover, I have never been able by manipulation to detect the effusion of lymph in the living subject. The only alteration I have ever remarked was a certain hardness in the middle portion of the urethra; but this was towards the close of the complaint, and *more likely to be a consequence than a cause of chordee.* Indeed, I feel sure that, without some strange neglect on the part either of the patient or surgeon, adhesive or suppurative inflammation of the spongy body could hardly take place.

On the other hand, there are certain facts which suggest the idea of its being due to muscular action.

The first is, that the erection of the penis is designed for the emission of semen, and is, therefore, one stage in an act of the animal economy, obviously performed by the mixed agency of voluntary and organic muscles.

The second, that painful erections, which are but one step removed from spasmodic chordee, can scarcely be caused by anything but the cause of healthy erections.

The third, that even the supporters of inflammatory chordee admit that there is a spasmodic chordee.

The fourth, that the form which the penis assumes in chordee is much more like that which it would take on if the urethra were acted upon by longitudinal muscular fibres seated on its under surface, than that resulting from a solid deposit of lymph, which could scarcely be always so regularly effused as to give the penis the same form in every case.

The fifth, that the observations made by Mr. Bauer and Sir Everard Home,[1] the investigations of M. Kölliker and others, and the discovery by Mr. Hancock of the prolongation of the muscular coat of the bladder over the urethra, prove, as far as such facts can, that this canal may be acted upon by spasm, and the specific seat of gonorrhœa is certainly comprised within the region in which this spasm might ensue.

Dissection of the penis reveals, in connection with this part, a cellular layer uniting the corpus spongiosum to the corpora cavernosa above and the skin below. The corpus spongiosum, which appears thicker along the under than on the upper surface of the urethra, is invested by its own fibrous sheath and invests

[1] *Practical Observations on Stricture;* 1821, p. 28.

the urethra. It contains fibres which, when examined under the microscope, have a strong resemblance to those of inorganic muscle, and differ widely from those of the fibrous sheath of the corpus cavernosum : these fibres grow fewer and less characteristically marked as the corpus spongiosum expands to form the glans penis. I am not sufficiently versed in the use of the microscope to say with certainty whether they are muscular or not; but my friend the late Mr. S. F. Lane, of Hornsey, who kindly assisted me in these investigations, and who was quite competent to form an opinion, thought they bore a strong resemblance to muscular fibre. Even if no such reasons as these existed, the fact previously mentioned, of the urethra easily expelling a long strip of calico shows, that it possesses a muscular power, if not furnished with muscular fibre, which is most assuredly not absolutely necessary for such actions, as the anatomy of the smaller animals might show.

The sixth reason is, that several concomitant and similar complications of gonorrhœa, such as irritability of the bladder, swelled testicle, abscess of the perinæum, and sympathetic bubo, which are so closely connected with chordee, are clearly, at all events in the early stages, much more like spasmodic action than inflammation. Irritability of the bladder is spasm, as evidently as anything can be ; swelled testicle never reaches the suppurative stage ; for though now and then abscess may follow orchitis, yet it is quite a different affair from pure suppurative inflammation, and is probably induced, like the swelling in sympathetic bubo, by the secretion of the gland, locked up by spasm of the efferent duct, acting in an unhealthy constitution like a foreign body.

Dr. Bumstead says,[1] "Milton's explanation is opposed by the fact that bending the penis so as to increase the curve of the arc, affords partial ease to the pain of the chordee, and I am not convinced that the generally received opinion should thus be laid aside, though it is highly probable that spasmodic muscular action plays some part in the production of the frequent erections and chordee which take place in gonorrhœa."

Treatment usually adopted.—One might have thought that such obvious facts would have induced men to depart from a practice

[1] *Op. citat.*, p. 61.

which was founded on the theory that they had a true inflammation to deal with; but, till quite a recent date, we scarcely find a single writer who does not inculcate antiphlogistic treatment in some form or other, as will be evident from the most cursory survey of their statements. For a long series of years the staple remedies were bleeding, and applications to the part, which at any rate were called, and intended to be, soothing; sedatives, now so much relied on, playing a very subordinate part. How far this system was successful is a point I leave to be decided by those who made the *experimentum crucis* under the old *régime*, when it was not at all unusual for a patient to lose half a pint of blood at a time from bleeding after chordee. But let us do the men of that time justice. Their treatment had two features to recommend it, straightforwardness and energy; bleeding from the arm, lavements, and leeches to the urethra, two or three times repeated, as recommended by Lagneau and others, were a style of proceeding calculated to give the antiphlogistic doctrine a fair chance at any rate.

In former editions of this work I have given a summary of the treatment laid down by several of the older writers. It might perhaps be considered pedantic if I were to repeat it now, and therefore I propose confining all remarks to the views of living authors, who restrict their means chiefly to sedatives.

M. Ricord recommends gr. iiss. of camphor, and gr. ss. of opium, in a pill, of which two or three may be taken every night. He also suggests the employment of the extract of lettuce in doses of eight to twelve grains with an equal weight of camphor. But the bulk is objectionable; these quantities make from four to six large pills, or else a bolus, and most persons dislike such large doses of solids. Mr. Johnson says, "opium, in some form, can rarely be dispensed with;" he thinks the "Dover's powder is as good a preparation as any," and "was never thoroughly convinced that the camphor had much to do with any benefits obtained. However, on such matters surgeons have their whims." Dr. Bumstead gives lupulin and camphor. Durkee strongly recommends lupulin; he considers it far preferable to camphor, as it does not disagree with the stomach. Camphor, when prescribed, should, he thinks, be taken in sweetened milk. Against

the agreeable qualities of lupulin must be set its inferior power, even when prepared from the best golden hops and by most careful and experienced chemists. Mr. Berkeley Hill tells us,[1] that strychnine, recommended for this symptom by Mr. Henry Lee, sometimes acts very beneficially and in other cases fails entirely. Mr. Lee, however, does not mention strychnia in his article on gonorrhœa in Holmes's System of Surgery. He recommends camphor, and bathing with hot water to faintness before going to bed; but considers that, perhaps, the most efficacious remedy is a suppository containing a grain of opium and three of camphor. Dr. Parona seems[2] to have had great success in removing chordee, sensibility of the urethra, scalding and weight in the perinæum, by means of daily injections of hydrate of chloral, one to one and half per cent. of the salt in water.

Proposed Plan of Treatment.—Having now given the general outlines of treatment as we find it laid down in works devoted to the subject, I must call attention to the fact, that the possibility of allaying chordee merely by the use of antispasmodics does not seem to have been entertained before the first edition of this work appeared. It is, however, precisely this part of the subject which has most of all occupied my attention; and I trust I have substituted a simple remedy for complicated methods. I will not stop to point out the inutility of antiphlogistic treatment, as any one versed in the disease must have noticed cases where chordee came on though the disease had been treated most heroically. Sedatives are objectionable unless there be pain in the testicle or perinæum, as they disorder the stomach, and produce headache and languor, with constipation of the bowels; a state of matters often followed by exacerbation of the disorder; while the chordee is not so speedily checked as by a remedy which acts on the spasm, and often returns as soon as sedatives are no longer given.

After having tried almost every antispasmodic, including æther, chloroform, and sumbul, I can safely say that I have found nothing equal to camphor in the fluid form, as recommended by me, long ago, in the first edition of this work. In the solid state it does not act so rapidly; and, in fact, a remedy in a liquid form—as it must from its extremely fine state of division act more rapidly—is

[1] *Op. citat.*, p. 394.

[2] *Giorn. Ital.*; 1873, an. viii, p. 279.

more suited for spasm. The spirit of camphor offers all the advan tages sought for, and given in drachm doses is equally energetic and rapid in its action.

The old essence of camphor, a patent preparation, which is perfectly miscible with water, is a much more agreeable medicine, but more expensive and weaker. What is now made by chemists, under this name, seems to possess no particular advantage over the spirit.

Chordee cannot be cured too quickly, and Boerhaave showed what a sound physician he was when he said, that he who was most successful in preventing priapism will be most successful in the cure of the disease. As in many other cases, the chain of morbid action should be broken or checked at once, and this is much more effectually done by giving two or three full doses, at short intervals without the least remission, than by small quantities, however long continued and regularly taken. The surgeon may therefore safely adopt the following plan :—

Half a teaspoonful to a teaspoonful of the spirit is to be taken at night in water before going to bed, and every time the patient wakes with the chordee, let him at once rise and repeat the dose. In mild cases, one dose for a night or two is generally enough : and even in more severe cases the spasm is usually very much alleviated by the third or fourth night. So long as the gonorrhœa remains very bad, which will not often be more than five or six nights, if the patient be reasonably attentive, he may take a dose before going to bed. This remedy also answers well in the bearing-down pains to which women are sometimes subject in gonorrhœa ; but as these pains are generally worst in the daytime, the medicine may be given then : and here it is really a matter of convenience to use the essence of camphor, as it mixes well with any medicine they may happen to be taking.

In both cases, however, it must be given in full doses. A smaller quantity than half a teaspoonful of either essence or spirit is of little service ; generally a teaspoonful is required, and as this quantity is perfectly safe, it is best to insure success at once. In a few instances it has produced slight sickness. This, however, has not occurred very often, and the sickness was of very little moment, so that I only allude to the fact, lest any one might be

discouraged by the appearance of this symptom from giving so valuable a remedy as the camphor really is. The patient should be directed to keep the camphor in a tightly-corked bottle, and to have it at night by his bedside ready to take. It is best taken in plenty of cold water.

I believe few who have given camphor in this form a fair trial have come to a different conclusion from myself. Irrespective of communications I have received on the subject, I know from the prescriptions I have seen that it is now constantly used by many surgeons. Dr. Bumstead[1] and Mr. Henry Lee[2] distinctly testify to its value. As to the objection raised by the late Mr. Weeden Cooke, that both opium and camphor disturb the brain and stomach, it does not here, as a rule, affect the giving of the latter. The disturbing influence of opium I am quite prepared to admit, but, generally speaking, camphor is pretty well borne for the short time required to subdue chordee, and even for the much longer period during which spermatorrhœa patients have to take it. No doubt, as has just been said, some persons do not support it well, but they are, even if numerous, exceptions, whereas opium in full doses generally disagrees here. In orchitis, on the other hand, it has usually appeared to me that at the first outset we could hardly give too much opium. The pain of chordee seems dependent on a kind of spasm, a state often not acted on by sedatives; in orchitis the nature of this symptom more nearly approaches that of true inflammation, on which opiates sometimes act very beneficially. When camphor does disagree it generally brings on a feeling of heat in the throat and stomach, with sickness.

Bromide of potassium seems to have been very serviceable in the hands of some observers,[3] especially in obstinate priapism following gonorrhœa. Dr. Soresina gave it with great success in a case[4] which had resisted every remedy for eight months. I have not tried it in this form, but from what I observed of its action in chordee, I should not feel inclined to prefer it to camphor. Occasionally, when the patient has not liked camphor alone, I have

[1] *New York Journal of Medicine;* 1859, vol. ii, p. 223.
[2] Holmes's *System of Surgery*, second edition, vol. v, p. 208.
[3] *Practitioner;* vol. xii, p. 103.
[4] *Appendice sifilitica della Gazett. Med. Lombard.* Ago. 1862.

prescribed, with success, a draught with ten grains of bromide of potassium, the same of bromide of ammonium, and some syrup, with a little spirit or essence of camphor.

3. Sympathetic Bubo.—It is not necessary to dwell on this symptom, which rarely attains such severity as to justify any interruption in the treatment. Hot bathing will generally relieve it so quickly, that the surgeon need scarcely trouble himself to prescribe any local remedies. I therefore leave it to pass to another more severe complication.

4. Irritable Bladder.—I am afraid of being charged with exaggeration for saying, that if the treatment recommended for gonorrhœa in the earlier part of this work be enforced, irritable bladder will rarely, if ever, occur to such an extent as to cause the patient any material inconvenience. Such, however, is the fact.

But it frequently happens that we do not see the patient till this complication has set in, and then the surgeon will often exhaust all his resources in vain, while on the other hand he *may* relieve the patient with the first remedy he selects. I have experimented with every form of sedative and antispasmodic, including hydrocyanic acid, valerian, steel, bismuth, sumbul, and galbanum, without finding any remedy upon which I could rely, so that I have been compelled to return to the preparations of opium; not that they are certain remedies, but that, *cæteris paribus*, they are the best.

There are also sundry remedies which I have not employed, such as laudanum frictions, lavements containing Sydenham's laudanum, recommended by M. Ricord,[1] antiphlogistic treatment and the free use of leeches, advised by Mr. Skey and other writers. Indeed, it is very difficult to procure a fair trial of these means, for the simple reason that the greater part of patients in private life will not submit to such treatment for a slight and passing annoyance. Quite recently I have tried opium suppositories, but the results were not of a nature to induce a continuance of the practice.

In the irritable bladder which results from extension of the inflammation of gonorrhœa Sir Henry Thompson advises[2] the use

[1] *Traité Pratique*, p. 724. [2] *Lancet*; 1861, vol. ii, p. 345.

of the triticum repens or couch grass, as superior in certain cases even to the buchu. It is given in the form of infusion, an ounce of the underground stem to a pint of boiling water : he advizes that the stem should be gathered in spring before the leaves appear, and dried slowly without heat. It is mild, and by no means unpleasant, so that a pint of the infusion may be given in the course of the day. Sir Henry now says[1] that the remedy still maintains its credit. Mr. John Simon, in sympathetic irritation of the bladder, that is where the inflammation has not travelled so far as the viscus, recommends[2] a bougie, "smeared with nitrate of silver," to be applied to the first two or three inches of the urethra. In the other form relief, he tells us, is given by the hipbath, recumbent position and opiate clysters. Mr. Teevan considers that in all cases of irritable bladder there is incipient stricture, but the way in which I would put the proposition is this, that when the gonorrhœal inflammation extends backwards with severity enough to set up stricture, it often enough spreads as far as the neck of the bladder and makes this organ irritable. I am sure that the incipient stage, spoken of by Mr. Teevan, very often comes to nothing, for I have, months and even years after, passed the bougie and found the passage quite free.

5. ORCHITIS.—*Results.*—Amongst the results of orchitis are enumerated death, neuralgia of the organ as also of the pudendal plexus,[3] intense tenderness, setting up a fixed desire to have the gland removed,[4] tuberculous deposit, cancer[5], abscess, suppuration in the sac of the vaginal tunic,[6] destruction of the seminiferous tubes[7], wasting of the testis, and impotence. Mr. Syme is, I think, the only author who mentions death as a consequence of this affection, so that it must be very rare. I quite concur in what Rokitansky says as to neuralgia being a rare result. I have often

1 *Clinical Lectures on Diseases of the Urinary Organs;* p. 199.

2 *Lancet;* 1850, vol. i, p. 289.

3 *Zeissl; Allgem. Wiener Med. Zeit.;* 1870. Quoted in the *Archiv für Dermatologie;* B. 3, S. 413.

4 *The Lectures of Sir Astley Cooper;* 1825, vol. ii, p. 155.

5 Robert, *Op. citat.* p. 221 ; Phillips, *Op. citat.*, p. 120.

6 Johnson, *Op. citat.*, p. 193.

7 *The Structure and Diseases of the Testis.* By Sir Astley Cooper ; 1830, Part II, p. 23.

seen a good deal of weary aching and pain in the testicles follow gonorrhœa, and still more frequently if complicated by a sudden outbreak of spermatorrhœa, but I never saw orchitis end in what I should call genuine neuralgia of the testis. The connection of the two is, indeed, in no way established : and as to carcinoma, we may almost class it with the prejudices of a bygone age. If such an occurrence had been at all common, we ought to have had some proofs of it before now. The absorbent vessels of the penis and scrotum, we are told, may become inflamed on such occasions. I have not seen this.

The real results to dread are obliteration of larger or smaller portions of the seminal tubes, owing to deposit of fibrine; effusion of serum; hardening of the epididymis; wasting of the testicle, and suppuration in it or the scrotum.

That hardening of the epididymis, especially if it affect both testicles, may lead to impotence, is a general and apparently well-founded opinion. Mr. Curling mentions[1] several cases of absence of semen after orchitis of both testicles, and I have seen the same thing. Suppuration of the testicle and deposit of fibrine among the convolutions of the epididymis may go on to a considerable extent without interfering with the functions of the gland.

There can be little doubt that authors are right in assuming, that impotence does not follow so long as the disease is only confined to one gland or limited to mere hardening. But this hardening is also apt to be accompanied or followed by contraction of the sole channel for the expulsion of the semen. Mr. Holmes Coote told me that he had often found induration accompanied by obstruction of the epididymis. M. Gosselin's observations, and those of M. Marcé and M. Charles Robin, confirm this view, and my own are quite in accordance with it. Indeed, when a delicate mucous membrane is converted into a rigid contracted tube, we can hardly expect that it will execute its normal functions. M. Robert, however, has seen,[2] at the expiration of five or six months, a return of the animalculæ after double epididymitis, at first in small numbers, but subsequently as numerous as if there had never been a pathological change in the organs.

[1] *On the Diseases of the Testis;* 1866, p. 439.
[2] *Op. citat.*, p. 233.

Pathology.—This affection has been supposed to arise from metastasis,[1] erratic disposition of the gonorrhœal inflammation, sympathy, and continuous spreading of the disease along the urethra. Nearly all modern authors admit the two last varieties. But the doctrine of sympathy rests on mere conviction; it is unsupported by either analogy or proof. After a careful search, I have only been able to dig out one little morsel of evidence in its favour,—and that is an isolated case of the same form of action in the ear[2]—even it is imperfect. Moreover, we do not see anything of the kind in other affections of the mucous membranes, and it is not in accordance with any of the three forms of sympathy described by Hunter, unless we strain the point so far as to include it in the class which this great surgeon called the "remote." Even those who admit this view are obliged to confess that *sometimes* the inflammation spreads along the urethra; a surmise proved by the cases which Cooper, Ricord, Gay, and others have placed upon record. But several symptoms concur to make it almost certain that this is always the fact. Tenderness at different parts of the urethra, as far back as the prostate, is constantly being detected in such cases. Pain in the perinæum and tenderness in the vas deferens very frequently, spasmodic stricture and great irritability of the bladder not unfrequently, precede swelling of the testicle, and orchitis often follows from irritation of these parts, as when it occurs from stricture or stone. No doubt at the beginning, and in mild cases, the first inch and a half may be looked upon as the seat of gonorrhœal inflammation, or rather the part to which it is mainly confined; but later on and in irritable constitutions, the circumstances under which we encounter orchitis, the case is very different.

It is not at all uncommon for gonorrhœa, even in cases unaccompanied by orchitis, to extend at least five or six inches down the urethra and even quite to the bladder. It is true that the history of the case may reveal nothing which points to this conclusion; sensation is often so dull in the posterior portion of the spongy part that in many persons, after a bougie has passed the first two inches or so, they cannot tell within an inch where

[1] Brodie; *Works;* vol. ii, p. 262.

[2] Toynbee, *Medical Times and Gazette*, May 14, 1853.

the point is; but a very simple experiment will often show, that though the sensation may reveal nothing, the inflammation has reached as far as I have said. The surgeon has only, in a few bad cases of obstinate gonorrhœa or gleet, to syringe out the urethra with cold water up to the posterior end of the so-called specific seat of the disease, and then direct the patient to make water; in a certain proportion of these cases a shred or two of muco-pus will be expelled with the urine. Again, if a bougie be passed down the urethra for two or three inches, withdrawn, wiped clean, and passed down to the membranous or prostatic portion of the urethra, a shred or two of the kind spoken of will often be found adhering to it when withdrawn the second time. In obstinate gleet the bougie, when passing over the posterior portion of the urethra, often encounters tender spots; with the removal of this tenderness the gleet ceases. Injecting over the posterior part of the urethra will often cure gleets which injections of every kind, applied only to the anterior part of the same canal, have totally failed to touch. Lastly, Dr. Bumstead tells us[1] that "after the disease has lasted several weeks we may evacuate the whole of the spongy portion by pressure from behind forwards in front of the scrotum, and then when no farther discharge can be made to appear, we can still produce it by the exercise of similar pressure on the perinæum," and even at a very early period of the disease I have now and then, in persons of an excitable disposition, detected signs of irritation spreading along the posterior part of the urethra, and even reaching the neck of the bladder.

In short we see in all the phenomena of orchitis the disease passing along continuous and through contiguous structures, just as in other parts; we see phenomena explicable by Hunter's law, but nothing which tells us that the two extreme points of the membrane are inflamed, and the tract between them sound. The probability is that the sympathetic variety described by Ricord, Curling, Egan, and others, is simply a *mild* form of extension of the inflammation; those parts which intervene being, from their low organization, incapable of active disease of this kind; it being well known to surgeons that the portion of the

[1] *Op. citat.*, p. 63.

urethra between the specific seat of gonorrhœa and the membranous tract is much less sensitive than these regions.

The older surgeons knew this as well as modern writers. Indeed Sir Astley Cooper described orchitis as beginning with irritation of the membranous or prostatic portion of the canal, and tenderness of the spermatic cord.[1] Mr. Hunter alludes to similar facts. Swediaur maintained[2] that orchitis was due to the "poison" reaching the mouths of the "excretory ducts," and Bell and Civiale pointed out the affection of the cord. Johnson gives an analysis of fifty-nine cases, in twelve of which the symptoms of urethritis were entirely gone before the orchitis came on; so that in one-fifth of the entire number there was no sympathy.

Most authors seem to have overlooked the fact that inflammation of the testicle rarely occurs in the first week or two of gonorrhœa, when these symptoms are most severe, and most likely to occasion sympathy, while it never ensues till a sufficient interval has elapsed to allow of such an active disorder spreading backwards over so short a space. To call attention so often to this may seem very needless repetition, but where a wide spread, and what is thought to be a wrong, belief exists, the question is, not what is the most scientific, but what is the most effectual, mode of dealing with it.

To resume, Dr. Bumstead says most authorities admit that swelled testicle may be excited through sympathy alone, and that the subsidence of the swelling in one testicle and its subsequent appearance in the other, as occasionally happens, render this view probable. It is not often that I find myself in direct opposition to this careful observer, but I do here. My reply is, firstly, that authorities are often wrong, and secondly, that inflammation may clearly reach both testicles by the same road as it reaches one.

Balanitis is said by Ricord never to give rise to orchitis. I have seen one instance of it from this source; the patient, however, admitted that he had practised masturbation. The case was a very bad one; the prepuce was of a violet colour, and so swollen that an accurate examination could not be made. The patient wore a most unhealthy appearance. In forty-eight hours after

1 *On the Structure and Diseases of the Testis.* Part II, p. 8.

2 *Op. citat.*, p. 73.

commencing attendance for balanitis, swelled testicle came on; no trace of gonorrhœa was detected during the time I saw him.

While in this affection we have every sign of active inflammation, pain, heat, redness, &c., it has been actually doubted by some authors whether the testicle is really inflamed. The epididymis is to be considered the head-quarters of the disease, which is to be named accordingly; and we are to look upon the affection of the testicle as a mere subordinate affair, for no other reason, that I can learn, than because the pain and swelling begin at the epididymis. But this seems simply due to the inflammation having in its progress again reached a susceptible point. From the tone in which this doctrine is urged by some writers, it might be looked upon as a modern discovery. It was however upheld, by Swediaur,[1] at any rate as regards the outset of the complaint, and where it had not been improperly treated, while Howard contested it,[2] and Hunter refuted it[3] long ago. M. Salleron, in a thoroughly practical memoir on orchitis,[4] strongly opposes M. Ricord's doctrine of the inflammation being forty-nine times out of fifty limited to the epididymis, and states, emphatically, that he has very rarely seen it thus restricted; besides it seems to me, that the relief afforded in many cases by puncture of the body of the testicle, and the application of æther and ammonia to this part, is of itself enough to show that there must have been some error in M. Ricord's observations.

It is certainly quite probable that the epididymis is the part most severely affected and that the body of the testicle is not often highly inflamed, but the extreme tenderness of the gland, the great prostration, and other symptoms, render it, I think, almost certain that, in every severe case, the whole organ is invaded, and that it seldom escapes in the mildest.

Causes.—With respect to the action of injections in producing orchitis, I must refer the reader to the section on injections. As to the influence of specifics, I can scarcely be expected to give an unprejudiced opinion, as I use these medicines so little. I must

[1] *Op. citat.*, p. 74.
[2] *Op. citat.*, vol. i, p. 215.
[3] *Treatise on the Venereal Disease;* 1786, p. 55.
[4] *Arch. generales de Medicine;* 1870, vol. xv, p. 174.

leave the task to others, and the sooner some one undertakes it the better. Mr. Johnson blames cupebs, copaiba, and injections indiscriminately. Mr. Curling defends the two former and grants the demerits of injections used improperly. Broughton defends cubebs; Sir B. Brodie, cubebs and injections. Swediaur admits irritating and astringent injections as causes; Wallace and Robert take up the cudgels in favour of all the three; Hunter and Sir Astley Cooper thought irritating injections might induce swelled testicle; Egan admits the injudicious, but not the judicious, use of injections as the *origo mali*. Dr. Frazer, a most careful observer, says he has never seen any reason to connect the occurrence of orchitis with injections; Dr. Durkee thinks[1] strong injections frequently produce orchitis, but that those of moderate strength do not. Ricord, taking his stand on statistics, declares that he found only one orchitic patient in twenty that had been taking gonorrhœal remedies; Chelius gives cubebs when orchitis is present; and Mr. Skey, who gives two or three of these specifics together, has evidently little fear of them. M. le Fort, analyzing an enormous number of cases, as I understand him, denies the influence of treatment, especially in respect to injections. Now if any person can draw a conclusion from this mass of contradiction, I should be glad to know what solution of the difficulty he has to offer.

The influence of cold, wet weather has also been advanced as a cause of orchitis.[2] Being anxious to investigate this point, and considering that the experience of one person could not suffice to determine it, I examined the entries in the casualty and out-patients' books in three hospitals,[3] two of which are amongst the largest in London. The years 1852 and 1853 were selected, simply because they coincided with the period at which some other observations were made. The number of cases obtained will, it is hoped, be large enough to prevent the deductions being vitiated by accidental causes. Some of them are necessarily imperfect, and occasionally entries were met with which rendered it doubtful if they referred to cases of genuine orchitis, but in our present

[1] *Op. citat.*, p. 83.

[2] Acton, *Op. citat.*, p. 198. Ridge, *Medical Times and Gaz.*; 1871, vol. ii, p. 274.

[3] St. Bartholomew's, St. Thomas's, and the Metropolitan Free.

state of knowledge the same objections might be raised against all statistics of this kind.

In making these researches I was most kindly and courteously assisted by the authorities, to whom I applied for leave to search the case books, &c., as well as by the assistant surgeons and house surgeons; indeed without their aid I could not possibly have drawn up these tables. Dr. Farr, too, very courteously gave me every facility for searching the returns of the Registrar-General preserved at Somerset House.

The returns in the third, fourth, and fifth columns, it will be observed, contain the numbers of cases of orchitis occurring at each hospital; that in the sixth column, the total in all the hospitals for the week. The reasons for arranging the number of cases according to the weeks, and for beginning with the 4th of January instead of the 1st, is, that the hospital returns might tally with those of the Registrar-General.

TABLE IX.

Statistics of Orchitis.

1852. Week ending	Date.	St. Bartholomew's Hospital.	St. Thomas's Hospital.	Metropolitan Free Hospital.	Total Number.	Mean highest Temperature in the Week.	Mean lowest Temperature in the Week.	General Direction of Wind.	Sum of Rainfall in inches.
Jan. 10 ...	4	2	...	...	8	46·0	34·7	S.W.	0·12
	5	...	1	...					
	8	...	1	...					
	9	2	...	...					
	10	...	...	2					
Jan. 17 ...	12	2	1	...	9	51·8	41·5	S.W.	1·76
	13	1	...	...					
	14	...	2	1					
	15	1	...	...					
Jan. 24 ...	21	1	...	...	1	45·2	35·9	S.W.	0·44
Jan. 31 ...	26	...	1	...	5	49·0	36·1	S.W.	0·54
	27	1	1	...					
	28	1	...	...					
	31	1	...	...					
Feb. 7 ...	2	2	...	...	5	53·2	41·9	W.S.W.	0·32
	3	1	...	...					
	5	...	...	1					
	7	...	1	...					

1852. Week ending	Date.	St. Bartholomew's Hospital.	St. Thomas's Hospital.	Metropolitan Free Hospital.	Total Number.	Mean highest Temperature in the Week.	Mean lowest Temperature in the Week.	General Direction of Wind.	Sum of Rainfall in inches.
Feb. 14 ...	9	3	...	1	10	46·4	33·3	N. and S., S.E.	0·22
	10	2	1	...					
	12	2	...	...					
	13	...	1	...					
Feb. 21 ...	16	1	1	...	4	46·1	33·8	W. and N.	0·03
	19	...	2	...					
Feb. 28 ...	23	2	...	...	5	45·1	32·7	N.E.	0·16
	26	2	1	...					
March 6...	1	1	...	...	3	45·6	28·3	N. and E.	0·02
	3	...	1	...					
	6	1	...	...					
March 13	8	...	1	...	9	49·9	32·3	N.E.	0·00
	10	2	1	...					
	12	1	...	1					
	13	1	1	1					
March 20	16	1	...	...	4	48·7	33·2	N.E.	0·00
	17	3	...	...					
	18	...	...	...					
	20	...	...	...					
March 27	22	1	...	...	6	56·4	32·4	S.E. and N.E.	0·00
	23	...	1	...					
	24	1	1	...					
	25	1	...	...					
	26	1	...	...					
April 3 ...	1	...	3	...	4	52·7	34·5	E., N., E.	0·12
	2	...	1	...					
April 10	8	2	...	...	2	56·3	33·3	E. and N.E.	0·00
April 17...	12	3	...	1	5	60·0	33·4	E. and N.E.	0·00
	14	...	...	1					
April 24...	19	3	...	...	5	57·9	34·9	N.E. and E.	0·00
	21	...	1	...					
	23	1	...	...					
May 1 ...	26	2	...	...	3	60·8	38·0	(1)	0·52
	29	...	1	...					
May 8 ...	4	2	...	...	4	60·1	35·0	N.E. and S.W.	0·00
	6	...	1	...					
	8	1	...	...					
May 15 ...	11	...	1	...	2	63·6	45·7	S.W.	0·30
	13	...	1	...					
May 22 ...	16	...	1	...	7	66·3	47·3	(2)	0·84
	17	1	1	1					
	19	1	...	...					
	21	...	...	2					

(1) Generally calm; most prevalent direction E. and N.
(2) E. and N. prevailing.

1852. Week ending	Date.	St. Bartholomew's Hospital.	St. Thomas's Hospital.	Metropolitan Free Hospital.	Total Number.	Mean highest Temperature in the Week.	Mean lowest Temperature in the Week.	General Direction of Wind.	Sum of Rainfall in inches.
May 29 ...	24	...	1	1	8	58·7	46·3	N.	0·87
	25	...	1	1					
	28	2	...	...					
	29	2	...	...					
June 5 ...	31	1	...	...	5	63·7	43·4	S.W. and S.	0·20
	1	2	...	...					
	5	1	...	1					
June 12 ...	7	1	...	...	1	62·8	49·6	S.E. and S.W.	2·63
June 19 ...	14	1	...	...	4	66·4	49·0	S.W. and S.S.E.	1·09
	15	...	1	...					
	17	...	...	1					
	19	1	...	...					
June 26 ...	21	1	1	...	4	69·5	50·4	S. and S.W.	0·54
	22	1	...	...					
	24	1	...	...					
July 3 ...	28	...	1	...	2	(1) 10·7	52·0	S.W.	0·09
	30	...	1	...					
July 10 ...	5	1	...	...	1	86·2	57·3	S.E.	0·00
July 19 ...	12	4	...	...	6	81·9	57·3	N.E.	0·27
	13	1	...	...					
	15	1	...	...					
July 24 ...	19	...	1	...	2	79·3	54·7	(2)	0·01
	22	...	1	...					
July 31 ...	26	...	...	1	7	78·5	55·6	N.E. and N.	2·04
	27	3	...	...					
	29	2	...	...					
	31	1	...	...					
August 7	3	5	...	...	8	74·4	53·4	S.	1·01
	4	1	1	...					
	5	1	...	...					
August 14	9	1	...	...	4	70·2	52·7	S.W.	4·48
	10	1	...	...					
	11	1	...	1					
August 21	16	2	...	...	5	70·9	56·6	(3)	1·91
	18	1	...	...					
	19	1	1	...					
August 28	27	...	1	...	2	75·3	57·1	N., N.E., and S.W.	0·10
	28	1	...	...					
Sept. 4 ...	30	...	...	1	6	73·9	51·9	S.W. and S.E.	0·00
	31	1	...	...					
	2	1	...	...					
	3	2	1	...					

(1) The correctness of these entries is doubtful.
(2) Variable; S. and W. prevailing.
(3) Variable; much calm; N. and W. prevailing.

1852. Week ending	Date.	St. Bartholomew's Hospital.	St Thomas's Hospital.	Metropolitan Free Hospital.	Total Number.	Mean highest Temperature in the Week.	Mean lowest Temperature in the Week.	General Direction of Wind.	Sum of Rainfall in inches.
Sept. 11...	6	...	...	1	9	69·2	55·9	N.	1·40
	8	2	1	...					
	9	1	...	...					
	10	2	...	...					
	11	2	...	...					
Sept. 18...	14	1	...	...	3	64·5	45·8	(1)	0·85
	15	1	...	...					
	16	...	1	...					
Sept. 25...	20	...	1	...	4	64·0	46·5	S.W.	0·00
	23	1	1	...					
	24	1	...	...					
Oct. 2 ...	27	2	...	1	14	61·8	43·4	N.E. and S.W.	1·31
	29	1	...	...					
	30	3	...	(2)					
	1	1	...	...					
	2	4	1	...					
Oct. 9 ...	4	3	1	...	8	53·4	41·3	S.W. and N.W.	1·09
	5	2	...	...					
	6	2	...	...					
Oct. 16 ...	11	1	...	...	4	55·7	41·2	N.E.	0·03
	12	1	...	...					
	15	...	1	...					
	16	1	...	...					
Oct. 23 ...	18	2	..	...	12	59·6	39·9	N.E. and S.W.	0·42
	19	1	...	...					
	20	1	...	...					
	21	4	...	...					
	22	2	...	1					
	23	1	...	...					
Oct. 30 ...	25	3	...	...	13	52·0	40·5	S.W. and N.W.	2·01
	26	2	...	1					
	28	3	...	...					
	29	2	1	...					
	30	...	1	...					
Nov. 6 ...	1	2	...	...	10?	60·7	48·0	S.W.	0·84
	2	2	...	2					
	3	...	1	...					
	4	1	(3)	...					
	5	1		...					
	6	1		...					

(1) Calm; W. prevailing.

(2) One of these is said to have occurred from stricture.

(3) These entries are uncertain; the MS. by my amanuensis not being very reliable in this part.

1852. Week ending	Date.	St. Bartholomew's Hospital.	St. Thomas's Hospital.	Metropolitan Free Hospital.	Total Number.	Mean highest Temperature in the Week.	Mean lowest Temperature in the Week.	General Direction of Wind.	Sum of Rainfall in inches.
Nov. 13...	8	1	1	...	9	49·2	43·0	S.W. and N.E.	1·30
	10	2	...	...					
	11	3	...	...					
	12	1	...	...					
	13	1	...	...					
Nov. 20...	15	2	...	...	9	55·0	45·1	S.W.	1·77
	16	2	...	...					
	17	3	1	...					
	19	...	1	...					
Nov. 27...	21	2	...	...	8	51·0	40·6	N. and S.W.	1·46
	22	1	...	1					
	24	2	...	...					
	25	1	...	...					
	27	1	...	...					
Dec. 4 ...	29	1	...	1	14	47·0	37·5	S.W.	0·33
	30	...	1	...					
	1	1	2	...					
	3	2	1	1					
	4	3	2	...					
Dec. 11 ...	5	6	...	...	17	53·1	46·3	S.W.	0·61
	6	...	1	...					
	7	2	...	1					
	8	3	...	...					
	11	3	1	...					
Dec. 18 ...	14	3	1	...	8	53·1	43·8	S. and S.W.	0·59
	15	1	...	...					
	16	...	1	...					
	17	...	...	1					
	18	1	...	...					
Dec. 25 ...	20	1	...	...	2	(1) 51·9	40·5	(2)	0·05
	21	...	1	...					
1853. Jan. 1 ...	27	1	...	...	8	51·7	41·8	S.W.	0·43
	28	2	...	...					
	29	2	...	...					
	30	1	...	...					
	31	1	...	...					
	1	1	...	...					

(1) For these last five weeks, no electricity shown by any instruments. For the next three weeks no record given, the electrical apparatus having been injured by a gale, which I regret, as the sudden rise might have been compared with the results.

(2) Much calm; S. and W. prevailing.

1853. Week ending	Date.	St. Bartholomew's Hospital.	St. Thomas's Hospital.	Metropolitan Free Hospital.	Total Number.	Mean highest Temperature in the Week.	Mean lowest Temperature in the Week.	General Direction of Wind.	Sum of Rainfall in inches.
Jan. 8 ...	2	1	...	...	14	51·2	39·1	S.W.	0·71
	3	3	...	...					
	4	3	1	1					
	5	3	...	...					
	6	...	1	...					
	7	1	...	...					
Jan. 15 ...	10	1	...	...	13	50·5	39·8	S.W.	0·45
	12	1	...	1					
	13	1	2	...					
	14	...	1	...					
	15	2	4	...					
Jan. 22 ...	17	2	...	...	8	47·2	36·1	N.W. and S.W.	0·59
	18	1	1	...					
	19	2	...	...					
	20	1	...	...					
	22	1	...	...					
Jan. 29 ...	24	2	...	...	8	41·7	34·6	N.E.	0·007
	25	...	1	...					
	26	...	1	...					
	27	2	...	...					
	28	1	...	...					
	29	...	1	...					
Feb. 5 ...	31	2	...	...	7	42·3	32·0	(1)	0·20
	2	1	...	...					
	4	1	1	...					
	5	1	...	1					
Feb. 12 ...	7	1	...	...	9	39·5	31·5	S.E. and N.N.E.	0·06
	8	2	...	...					
	9	3	...	...					
	11	1	...	1					
	12	1	...	...					
Feb. 19 ...	14	2	1	...	13	35·5	26·1	N.	0·33
	15	2	1	1					
	16	2	...	...					
	18	1	2	...					
	19	1	...	...					
Feb. 26 ...	21	1	1	2	17	39·8	28·0	N.	0·39
	22	2	...	...					
	23	...	1	1					
	24	1	...	...					
	25	3	4	...					
	26	...	1	...					

(1) Much calm; N. and E. prevailing.

1853. Week ending	Date.	St. Bartholomew's Hospital.	St. Thomas's Hospital.	Metropolitan Free Hospital.	Total Number.	Mean highest Temperature in the Week.	Mean lowest Temperature in the Week.	General Direction of Wind.	Sum of Rainfall in inches.
	28	2	...	...					
	1	1	1	...					
March 5 ...	2	1	...	2	11	42·8 (2)	29·7	(1)	0·68
	3	1	1	...					
	4	1	...	...					
	5	1	...	...					
	8	2	...	...					
March 12	9	...	...	1	4	53·8	37·1	(3)	0·17
	10	...	1	...					
	13	2	...	...					
	14	...	1	...					
March 19	15	...	1	...	9	44·7	31·0	N.E.	0·51
	17	3	...	...					
	18	...	1	...					
	19	1	...	...					
	21	...	1	...					
March 26	22	1	1	1	5	41·7	26·0	N.E.	0·10
	26	...	2	...					
	28	...	3	...					
	29	1	2	...					
April 2 ...	30	1	...	...	13	53·5	34·3	Variable	0·44
	31	...	1	1					
	1	...	1	...					
	2	2	1	...					
	4	1	2	...					
	5	...	1	...					
April 9 ...	6	...	1	...	9	55·9	43·3	W.	0·44
	7	2	1	...					
	9	...	1	...					
	11	3	3	...					
	12	...	1	...					
April 16...	13	...	...	...	11	52·9	38·0	N.E. and N.W.	0·02
	14	1	2	...					
	16	...	1	...					
	18	4	1	...					
	19	...	1	...	(4)				
April 23...	20	1	...	...	11	54·5	41·3	Variable	0·90
	21	2	...	...					
	23	2	...	...					

(1) Variable; from all points of the compass.

(2) Electricity was only shown once this week and once the week before. The week before that there was none.

(3) Almost always calm.

(4) Up to this time, ever since the last note, the electrical apparatus was undergoing repair.

1853. Week ending	Date.	St. Bartholomew's Hospital.	St. Thomas's Hospital.	Metropolitan Free Hospital.	Total Number.	Mean highest Temperature in the Week.	Mean lowest Temperature in the Week.	General Direction of Wind.	Sum of Rainfall in inches.
April 30...	25	1	...	...	(1) 4	51·7	36·0	Variable	1·32
	27	...	...	1					
	28	1	...	...					
	29	1	...	...					
May 7 ...	2	1	...	1	9	57·2	41·4	E., S.E., and N.E.	0·84
	4	...	1	1					
	5	4	...	...					
	6	...	...	1					
May 14 ...	9	2	...	...	8	56·0	37·1	Variable	0·37
	11	...	1	1					
	12	1	1	...					
	13	...	1	...					
	14	...	1	...					
May 21 ...	16	3	...	...	8	67·1	43·8	N.E.	0·00
	19	1	2	...					
	20	2	...	...					
May 28 ...	23	1	1	...	9	72·6	46·4	N.E.	0·13
	24	1	1	...					
	25	...	...	2					
	26	1	1	...					
	28	...	1	...					
June 4 ...	31	1	...	1	8	62·1	46·1	N.	0·42
	2	...	2	...					
	3	...	2	...					
	4	1	...	1					
June 11 ...	6	2	1	...	12	73·3	49·2	S.W. and S.E.	0·24
	7	1	...	1					
	8	1	1	...					
	9	1	...	...					
	10	1	3	...					
June 18 ...	14	2	1	...	7	69·3	51·2	N. and S.W.	1·30
	16	2	...	...					
	18	2	...	...					
June 25 ...	20	...	...	2	11	67·7	48·9	Variable	0·55
	23	3	1	...					
	24	1	2	...					
	25	1	1	...					
July 2 ...	27	...	2	...	16 (3)	68·3	53·2	S.W.	0·89
	28	3(2)	...	...					
	29	2	...	...					
	30	2	1	...					

(1) Electricity strong, negative and positive, during four days.

(2) One of these from stricture.

(3) Positive and negative electricity, with strong tension, has been shown during

1853. Week ending	Date.	St. Bartholomew's Hospital.	St. Thomas's Hospital.	Metropolitan Free Hospital.	Total Number.	Mean highest Temperature in the Week.	Mean lowest Temperature in the Week.	General Direction of Wind.	Sum of Rainfall in inches.
July 9 ...	1	3	...	2	22	75·2	55·6	S.W. and S.	0·88
	2	...	1	...					
	4	4	2	1					
	5	...	1	1					
	6	1	2	1					
	7	...	3	...					
	8	...	2	...					
	9	2	1	1					
July 16 ...	11	1	1	...	9	68·3	52·2	S.W.	3·14
	12	...	1	...					
	15	...	2	...					
	16	4	...	...					
July 23 ...	18	1	3	1	14	69·6 (1)	53·2	S.W.	0·29
	19	1	2	1					
	20	1	...	...					
	21	1	...	1					
	22	...	...	1					
	23	1	...	...					
July 30 ...	25	1	1	...	9	70·2	54·8	S.W.	1·39
	27	2	...	1					
	29	2	1	...					
	30	...	1	...					
August 6	1	1	2	...	11 (2)	73·3	52·3	S.W. and calm.	0·01
	2	2	2	...					
	4	1	...	...					
	5	...	1	...					
	6	...	2	...					
August 13	8	2	1	...	8	73·5	51·4	(3)	0·00
	9	1	...	...					
	10	1	...	...					
	11	...	1	...					
	12	...	1	...					
	13	1	...	...					
August 20	15	1	...	...	6	70·4	53·8	N. and S.W.	0·59
	16	1	1	...					
	17	2	...	...					
	20	1	...	...					

the week, at times when rain fell. The next week the electrometer, as was commonly the case of late, was out of repair till the last day (9th), when it showed negative and very active.

(1) No electricity for three days; three days positive and weak; one day negative and active.

(2) Electricity mostly positive, and tension weak or moderate.

(3) Principally E.

1853. Week ending	Date.	St. Bartholomew's Hospital.	St. Thomas's Hospital.	Metropolitan Free Hospital.	Total Number.	Mean highest Temperature in the Week.	Mean lowest Temperature in the Week.	General Direction of Wind.	Sum of Rainfall in inches.
August 27	21	1	...	...	6	67·8	51·3	S.W. and N.	1·50
	22	...	1	...					
	23	...	...	3					
	27	...	...	1					
Sept. 3 ...	29	2	...	...	4	(1) 65·6	48·4	S.W.	1·03
	30	2	(2)	...					
Sept. 10...	5	...	2	...	15	65·9	(3) 49·6	N.	0·22
	6	1	...	1					
	7	1	1	...					
	9	4	1	1					
	10	3	...	...					
Sept. 17...	12	2	...	...	9	67·7	48·7	(4)	0·57
	13	...	1	...					
	14	1	1	...					
	15	1	...	...					
	16	...	1	1					
	17	...	1	...					
Sept. 24...	19	1	1	...	8	65·9	44·9	W.	0·19
	20	1	...	...					
	21	...	1	...					
	22	...	1	...					
	23	...	...	1					
	24	1	...	1					
Oct. 1 ...	26	3	1	...	11 (5)	62·1	44·1	S.W.	0·69
	27	2	...	...					
	28	...	1	1					
	29	...	1	...					
	1	2	...	...					
Oct. 8 ...	3	2	2	...	10	56·3	41·3	Calm	1·03
	4	1	...	1					
	5	1	...	...					
	7	1	...	...					
	8	1	1	...					
Oct. 15 ...	10	1	3	...		(6)			

(1) Both this week and last the electricity was much more active, both positive and negative. Tension strong or moderate.

(2) These are called "swelled testicle" in the book.

(3) Electricity always positive; tension mostly moderate, sometimes very strong.

(4) Much calm; E. rather prevailing.

(5) With the exception of a small amount of positive electricity at 3 a.m. on Saturday, none was shown throughout the week.

(6) No electricity was shown during the preceding week, or during the first days of this week, after which the apparatus is again reported "under repair."

1853. Week ending	Date.	St. Bartholomew's Hospital.	St. Thomas's Hospital.	Metropolitan Free Hospital.	Total Number.	Mean highest Temperature in the Week.	Mean lowest Temperature in the Week.	General Direction of Wind.	Sum of Rainfall in inches.
Oct. 15 ...	11	1	...	2	13	60·9	45·2	Calm and N.E.	0·94
	13	1	...	...					
	14	2	1	1					
	15	1	...	...					
Oct. 22 ...	17	1	...	1	8	57·3	41·7	S.W.	1·10
	18	...	2	...					
	19	1	...	...					
	20	1	...	...					
	22	1	1	...					
Oct. 29 ...	24	3	...	...	10	62·9	49·4	... ...	1·46
	25	1	...	...					
	27	1	1	...					
	28	...	...	1					
	29	2	1	...					
Nov. 5 ...	31	1	...	...	17	56·1 (1)	42·8	S.E.	0·03
	1	2	2	...					
	2	2	...	...					
	3	4	1	...					
	4	2	...	...					
	5	1	2	...					
Nov. 12 ...	7	...	2	1	15	52·7	39·2	Calm	0·06
	10	3	2	...					
	11	3	1	...					
	12	1	2	...					
Nov. 19 ...	13	1	...	...	10	48·8	31·8	Calm and variable	0·00
	14	2	...	...					
	15	...	1	1					
	16	1	...	1					
	17	1	1	...					
	18	1	...	...					
Nov. 26 ...	22	2	...	...	7	43·9	30·8	Calm	1·25
	23	1	1	...					
	24	...	1	...					
	25	...	1	...					
	26	...	1	...					
Dec. 3 ...	28	...	2	...	10	45·7	34·7	(2)	1·05
	29	...	1	...					
	30	...	1	...					
	1	1	1	1					
	2	1	...	...					
	3	1	1	...					

(1) During four days of this week, and three days of the week preceding, the electrical apparatus was out of repair. On every other day, and during the whole of the week ending November 12, it showed positive electricity, the tension being strong towards the close of this time.

(2) Much calm; E. prevailing.

1853. Week ending	Date.	St. Bartholomew's Hospital.	St. Thomas's Hospital.	Metropolitan Free Hospital.	Total Number.	Mean highest Temperature in the Week.	Mean lowest Temperature in the Week.	General Direction of Wind.	Sum of Rainfall in inches.
Dec. 10 ...	5	1	1	...	12	(1) 43·6	35·9	... ...	0·13
	6	1	1	...					
	7	3	2	1					
	9	1	...	1					
Dec. 17 ...	11	1	...	...	8	(2) 37·8	27·6	N.E.	0·12
	12	2	1	1					
	13	...	1	...					
	14	1	...	...					
	16	...	1	...					
Dec. 24 ...	18	1	...	...	10	35·9	29·8	N.E.	0·10
	19	1	1	...					
	20	...	2	...					
	21	...	1	1					
	22	...	1	...					
	24	...	2	...					
Dec. 31 ...	26	1	...	...	10	35·1	23·6	... ...	0·16
	27	...	2	1					
	28	...	1	...					
	29	1	...	...					
	30	1	2	...					
	31	...	1	...					

(1) Positive and tension very strong during last three weeks; declines this week.
(2) Electricity positive and strong.

The entire number of cases then, obtained in 1852 was 300; and for 1853, 509. On consulting the table for 1852, it will be found that there was a slight but steady rise up to the end of the third quarter of the year, when the proportion increased so rapidly that in October there were nearly twice as many cases as in the highest of the preceding months. The greatest number in any one week occurred in the first week of November, and the next greatest number in December. From October, the number again declined till the end of the year. The minimum of cases ensued in June, July, April, and January.

In 1853 the maximum was attained in July,—which, it will be seen, yields 60 cases; next to this stand December and October, which give 51. The lowest number is met with in March, May, June, and August, which possess an average of less than 32; while January, April, and November show about half as much again. Along with this table the reader will find one of the weather for those two years, and will thus have an opportunity of forming his opinion *from facts*.

Whether changes in the electric state of the air have anything to do with the prevalence of orchitis, is more than I know. I certainly suspect they have, far more so at any rate than heat or cold, the influence of which in producing disorders is, to my thinking, quite over-rated. In the present instance it will be seen that, during the greater part of the first eight months of 1852, the number of cases is exceedingly small. Now during far the greater part of this time, week after week, the electricity is reported as *positive* with *moderate tension*, the number of days on which *negative electricity* was shown *being very few indeed*. In the second week of September, the number of cases is greater than had been noted for a long time, and the electricity is reported *negative* and *very active*. Immediately after this there is a fall in the number, and the electricity is again marked *positive* and *active*. Then, after a slight wavering, a great increase in the number of cases will be found for many weeks after, and from this time till Christmas the reports give "no electricity at all." But here, unfortunately, the clue of the investigation is lost, for the electrical apparatus was so damaged by a gale of wind that a long time elapsed before it could be set to work again.

An opinion that gonorrhœa is more liable to relapse at certain times of the year than at others, has been advanced by some authors; M. Robert says that the spring seems greatly to favour relapses, and I have fancied I detected something of the tendency myself during the prevalence of cold, dry, east winds. The question, however, is difficult to settle till we have much better data. If the mere revolution of seasons influenced the number of cases, we might expect a regularly recurring increase in spring, and of this I have not as yet seen any proof worth notice.

We do not possess such full information as might be wished with respect to the proportion of gonorrhœa patients attacked by orchitis. M. Le Fort gives it at 129 to 914, the latter being all cases of first infections, but this is very much higher than anything I have seen.

Treatment usually adopted.—We are generally recommended to treat this affection by antiphlogistics. The plan of combating it by emetics, so greatly patronized by many of the older writers, has apparently died a natural death in England, except, perhaps, at King's College, where, according to Mr. Smith, its ghost still lingers; a relic of faith in this treatment may, however, also be traced in the nauseating doses of antimony prescribed by some writers. Dr. Bumstead still gives emetics till free vomiting has been excited, and Dr. Durkee prescribes antimony in combination with colchicum and sulphate of magnesia.

The recommendation to use antiphlogistic means is only consistent with the theory of those who consider that inflammation is not to be exorcised but by measures which reduce the patient's health: those who hold such a view ought to stand by the axiom that we can only banish the intrusive demon *secundum artem*. But I am inclined to suspect that the system now lives only by sufferance, and that no one of its supporters, if put to the test, could prove it to be called for. Bleeding, considered by M. Robert, indispensable when the body of the testicle is affected, owes its tenure of existence, if indeed it do exist at all, to a long and most respectable descent, to ancestral prestige in fact; but I suppose we may look upon it as gone for good, whatever affection of the organ may seem to call for it. Leeches, calomel, antimony, salines, &c., often leave the pain unrelieved for eight or ten days, and so long as this

lasts the inflammation is not subdued. Still less can we assume that it is even quelled by these means, seeing that if the patient remain in bed and restrict himself in respect to diet, he will be cured just as quickly. *Leeches indeed can only diminish to a fractional extent the quantity of blood driven towards any inflamed part*, whereas the object of the surgeon should be, *not to abstract blood, but to check the action which impels it in an abnormal direction.* The congestion of this fluid offers a check to the process; by relieving this arrest we set it going again *pleno rivo*.

Mr. Judd narrates[1] a case of orchitis in which twenty leeches were applied to the testicle, with the effect of removing the pain. The day after this is stated, we find that the gland is larger, more tender and re-inflaming, and the day after this again, we are told that the patient is still suffering from a good deal of swelling and pain in the part, "although the leech-bites bled until he fainted!" Again, M. Salleron gives[2] one where the patient was bled freely, and where, two days after, the pain was worse than ever. Thirty leeches were then applied, and, then thirty more, without any good being effected.

Mr. Johnson, who used to lay the patient up, order leeches, and give calomel, opium, and antimony, occasionally adding salinesand colchicum, says, "It is a very severe attack indeed which, *in less than a week of this treatment*, has not lapsed into a milder form." And again: "I believe that the average duration of an acute attack, treated in the manner I have recommended, is between two and three weeks. When relapses take place *they may protract it to a month, or six weeks, or longer.*

As to the inconveniences said to result occasionally from the use of leeches, such as erysipelas, they would not deter me from employing a remedy from which I could expect aid. I believe them to be imaginary, and I am compelled to state, that the diametrically opposite evidence on this point in England, leads me, and indeed would lead any one else, to surmise that conjecture, respect for authority, and conviction have had more to do with the matter than observation and analysis.

With regard to some other parts of the treatment such as

[1] *Op. citat.*, p. 52.

[2] *Arch. Generales de Medecine;* 1870, vol. xv, p. 165.

puncture of the scrotal veins, cupping on the loins, &c., the reader must judge for himself. I have had little experience of them, and that little leads to the belief that they are entirely useless, although not harmless, as one patient died from a vein in the scrotum being opened; a catastrophe which perhaps induced the surgeon to alter his views on the subject.[1] Puncturing of the scrotum on M. Velpeau's method, whatever it may be, for he merely speaks[2] of it as "puncture of the tumour," seems to have been almost as unfortunate. M. Demarquay saw wasting of the testicle in three cases, and, including one of orchitis from stricture, four cases where it was trusted to, but in one of these cases, if not in all, the tunica albuginea was opened; and M. Montanier noticed serious bleeding after it, although the incisions were mere pricks (mouchetures).[3] My experience of tartar emetic, calomel, and other items of antiphlogistic treatment, is not more favourable, or, in plain terms, I believe them to be perfectly useless. Tartar emetic is a most potent remedy in controlling inflammation of the cellular tissue, but has little influence over those of mucous membranes, and *in orchitis I have generally found that it produced no change whatever.* It occasionally checks the formation of abscess in the scrotum, but I am not aware of any other good that results from using it.

I suppose we or our descendants will some day be treated to a dissolving view of those doctrines; but in the mean time, as arguments will never work conviction, I will take the liberty of putting the rather awkward question—whether any of those who recommend leeches, &c., have ever taken the pains to ascertain if there are justifiable grounds for putting patients to such expense and weakening their health, for these are two almost unfailing results of antiphlogistic treatment. Except Mr. Curling, all those authors who fix a time at all, *give a week* as necessary to subdue the more severe symptoms of orchitis, and thirty or thirty-five days as the requisite period for a cure. Now as any case of orchitis *will get well as fast as this if the patient only remain in bed*, it becomes more than doubtful whether the treatment recom-

[1] Johnson; *Op. citat.*, p. 204.
[2] *Leçons orales de Clinique Chirurgicale;* 1841, tome iii, p. 461.
[3] *Bull. de Therap.;* tome lv, p. 550.

mended on such respectable authority really has the slightest influence upon it.

Sedatives.—The greatest improvement in the treatment of orchitis was made by Mr. John Gay, who showed that this affection could be cured in half the usual time by simply using large doses of hyoscyamus, a sharp purgative, and suspension of the testicles. On analyzing a report drawn up by Mr. T. C. Jackson[1] of several cases treated in this way, I found that on an average the pain was relieved *in less than five days*, while the patients were discharged cured *in from three to seventeen days* or *an average of seven days and a half*,—a rather striking contrast to the results of antiphlogistic treatment.

As none of the writers on these subjects ever mention this plan, one might be tempted to think that it was one of those untried novelties which the journals are always bringing forth, or that Mr. Gay had kept it to himself. On the contrary, it was published many years ago,[2] and all reasonable publicity was given to it. Yet, with the exception of a note in Mr. Acton's work, recording an unfavourable experience of the method, I believe almost the only notice taken of it was in former editions of the work now before the reader. Mr. Pitt, in a communication to the *Lancet*[3] on this very method of treating orchitis, does not mention Mr. Gay's name; in the section on this affection in *Holmes's System of Surgery*, a book justly ranked among the "classics" of medicine, it is likewise ignored; and Mr. James Rouse, in his account[4] of the treatment of orchitis with opium, seems not to have had any idea that Mr. Gay and myself had recommended much the same plan years before.

The originality of the mode has been contested, but to my thinking on very insufficient grounds, and I say distinctly, that I consider the *merit of the discovery belongs to Mr. Gay, and to him alone.* None of the old authors, who have been spoken of as preceding him in this path, ever had the most remote idea of mastering the disorder by means of sedatives only, although even as far back as the time of Astruc their value as adjuncts was

[1] *Lancet*; 1848, vol. ii, p. 338. [2] *Ibid.*; 1844, vol. i, p. 602.
[3] 1870; vol. i, p. 429.
[4] *St. George's Hospital Reports*; 1869, p. 251.

known. Swediaur, indeed, seems to have relied on opium as a medicine,[1] but his great object was to bring back the "retropulsed" discharge, retropulsion being, in his day, something like what blood poisoning is in ours; an ever busy demon which required all the physician's skill and watchfulness to keep it in subjection; a skeleton which not only enjoyed a prescriptive right to a seat in his, consulting room, but rode out with him in his carriage, and stood with him at the patient's bedside.

Mr. Payne, of Wallingford, states[2] that in orchitis he paints the scrotum with solution of iodine, one drachm to three ounces of spirit. On one occasion he painted the whole of one side of the scrotum every day with a strong tincture of iodine. The cure of the orchitis was so rapid in this instance, that by the fifth day the patient was quite well and able to resume his employment. Generally Mr. Payne finds four or five applications enough. According to Dr. Assadorian,[3] the constant application of sulphuric æther will remove the enlargement and pain of epididymitis in two or three days. I believe the announcement to be well worth investigation, as I have, myself, seen most satisfactory results from the use of ammonia and æther. But any achievements in this way are left quite in the background by the discovery of Mr. Furneaux Jordan, who tells us,[4] that the application of a strong solution of nitrate of silver to the scrotum will remove the pain, swelling and tenderness of orchitis in twelve hours.

M. Bonnafont was almost as fortunate with the application of collodion,[5] having treated fifty-six cases successfully in this way, the inflammatory symptoms sometimes disappearing in half-an-hour, and the cure being complete in two to three days; and all this without having in one instance seen anything which contra-indicated its employment, or diminished his confidence in its powers. The pain from it never lasted more than two minutes. M. Costes gave[6] almost as glowing an account. But M. Richet

[1] *Op. citat.*, p. 80. [2] *Lancet;* 1863, vol. i, p. 131.
[3] *American Journal of Syphilography, &c.;* vol. i, p. 216.
[4] *British Medical Journal;* 1868, vol. ii, p. 202.
[5] *Union Medicale;* tome viii, p. 222.
[6] *Ibid.*, p. 242.

saw[1] frightful pain and great excoriation in a case, where M. Bonnafont himself applied the collodion in M. Richet's presence; and M. Venot found the pain set up by collodion intolerable, while the cure was so slow that he abandoned the method as useless.[2] Lastly, M. Ricord reported[3] that the pain, though not o any great duration, was generally severe, that he never witnessed the rapid diminution in the volume of the gland spoken of by M. Bonnafont, and that the results obtained were not of a nature to warrant any recommendation of the method.

Puncture of the Tunica albuginea.—Mr. Henry Smith[4] incises the tunica albuginea in severe cases of orchitis, for which variety principally he reserves the operation. He makes a deep and free incision through the tunic, with the effect of letting out several drachms of blood and serum. Nothing else is done beyond prescribing a little "white mixture" (a saline aperient, I presume, containing magnesia) and the ordinary lead lotion of the hospital. He was led to adopt the practice from having opened a testicle under the impression that suppuration had occurred in it, whereas it was only inflamed. The relief was, however, so great, that Mr. Smith was induced to try opening the tunica in the next severe case that presented itself,—and did it with the most gratifying results.

Mr. Smith describes the effect as highly satisfactory. The relief to the pain is so decided that the patient feels it has given way before he leaves the room, and the change for the better which takes place within the first forty-eight hours is so great as to attract general notice. This he justly attributes, not to the loss of blood, but to the removal of the constriction exerted by the fibrous envelope. He has never seen the operation followed by any disagreeable symptoms but twice. In one case, puncture of the testicle in a middle-aged man brought on rapid effusion of serum into the tunica vaginalis; but this was speedily relieved. In the other case the incision was made much deeper than necessary, the point of the knife being carried nearly to the back of the organ. The only results, however, were a little faintness and the

[1] *Union Medicale;* tome viii, p. 249. [2] *Ibid.*, p. 311.
[3] *Ibid.*, p. 449.
[4] *On the Treatment of Acute Orchitis. Lancet;* 1864, vol. ii, p. 149.

loss of about ten ounces of blood. The relief given in this case was more speedy and effectual than usual.

The practice has been long in vogue in Paris; it was recommended by Jean Louis Petit, was extensively adopted by the late M. Vidal de Cassis, who punctured to the extent of a centimetre and a half, and received the high sanction of M. Ricord; Pirogoff too, Mr. Smith tells us in a later communication, punctured as far back as 1852, but he (Mr. Smith) informs us that it was quite new to him, and that he was his own teacher. It is instructive to find a writer, who for the most part sedulously avoids saying anything that can give pain, telling us, as Mr. Smith does in this paper, how ready his friends and pupils were, in this matter, to hamper his observations by prophesying all sorts of ills as the results of such rashness. "Of course," he says, "several of my friends and pupils have urged objections against this plan of treatment, and suggested serious results in the form of suppuration of the organ, impairment of its function, hernia testis and fistulous sinuses; but none of these have I witnessed." The "of course" in this paragraph, the regarding it as quite inevitable that some men must reason, not according to facts, but in conformity with their own prejudices, is highly suggestive.

Mr. Smith further tells us, that in the practice which comes under his cognizance swelled testicle is treated in the most heroic way, all the barbarities of the old school being combined with the worst features of modern treatment. Emetics, purgatives, leeches, strapping, are still in full play. For fear any of my readers may think I am here overstating the case, I will quote Mr. Smith's own words.

"We all know," he says, "what a terrible ordeal of violent remedies a patient with acute inflammation of the testicle has to undergo. In the first place, he is obliged to lie in bed for several days; a large number of leeches, or the constant application of ice, are necessary to relieve the pain; and at the same time the unfortunate wretch is compelled to undergo the process of *severe purging* and *continued nausea*, by repeated doses of salts and tartar emetic, before any decided mitigation of his symptoms ensues; and two or three days must elapse before he recovers from the depressing influence of these several remedies. Lastly,

the unfortunate organ has to be submitted to the tender mercies of a dresser, who, however skilful he may be, cannot help putting the owner of it to *severe* and *prolonged torture*, whilst he is obeying the injunctions of his superior to 'strap testicle.'" I have no means of learning whether this system still prevails at King's College, but I suppose most persons will agree that, even as far back as eleven years ago, it was high time to change it.

Most of my readers are, no doubt, well aware that quite recently a sharp discussion has been going on between Mr. Smith and Mr. Timothy Holmes as to the merits of the operation. I suppose, from the high position of the two combatants, that this wrangle is to be taken as a specimen of the way in which scientific questions are decided; startling assertions of success being met by something like flat denial; the value of an operation contested, not so much on the evidence of trials and experiments, as on that of authority and possibility; and finally both disputants, though perhaps with their own convictions a little modified, claiming a complete victory. The proceeding seemed to excite a good deal of amusement, but I confess that I read the various letters with a widely different feeling.

Mr. Smith says that he has performed the operation about a thousand times, reserving it for the more severe forms. Supposing the latter to amount to one in four of all the cases, this will give us about four thousand in eleven or twelve years. To those who remember that the *entire* number of orchitis cases in three of our hospitals, two of them among the largest in London, was, *for two years*, only eight hundred and nine, and that these have to be divided among ten assistant surgeons, the number operated on by Mr. Smith seems enormous. This gentleman appeals, not only to the success of his own practice, but to that of others whose testimony he quotes. One of those, however, who are exhorted to bear evidence, gives it against the operation, but Mr. Smith disposes of his objections by saying, substantially, that when he knows more he will know better.

While according due weight to the opinion of the gentleman whose authority Mr. Holmes quotes against the operation, and whose opinion I should be one of the last persons to contest, I yet quite agree with Mr. Smith, that the question is one to be

decided, not by authority and conviction but by trial of the method; and I think that he has here the advantage over his opponent. Mr. Holmes says he cannot see how the operation is to do good, and speaks of it as splitting the tunica; the immediate answer to which is that it has done good, and that the testicle is simply pierced by means of a bistoury, from one-eighth to a sixth of an inch broad, to a depth of half or three-quarters of an inch, immediately after which the blade is withdrawn, so that Mr. Smith has modified his earlier views.

Mr. Holmes goes so far as to say, that a large proportion of those patients cited as having been so promptly relieved by incision, are precisely those whose sufferings we need in no way particularly regret. Whether students or costermongers, they belong to a class whose absence, when confined to their bedrooms by orchitis, society is the least likely to lament. I trust my readers will agree with me in thinking, that it is not desirable to follow Mr. Holmes into this part of the argument, which may be strictly correct, looked at from a social point of view, but which seems to me a mistake in a medical paper, and one the more to be regretted, because his deserved eminence placed him above the necessity for going out of his way.

It is just possible that in some few cases incision may be a good, or even the best, remedy. Thus, for instance, Mr. Nunn had under him[1] a case of swelled testicle, where suppuration from the same complaint in the fellow-gland had previously given a great deal of trouble. In the attack for which the patient was admitted under Mr. Nunn, a third of a grain of morphia three times a-day had, at the end of four days, effected no improvement, yet the operation proved quite successful. In undescended testicle too, when affected by orchitis, it may turn out to be useful, having been successfully employed here by Mr. Johnson Smith, who punctured, with " a deep stab,"[2] a testicle thus affected, and lying between the external and internal ring of the left side.

But I believe that, as a general rule of treatment, it will not hold its ground. There seems no doubt that in some cases it did not afford the relief expected from it. The operation has been given up by some of those who saw it fairly tried and tried

[1] *Lancet;* 1870, vol. i, p. 158. [2] *Ibid.;* 1872, vol. i, p. 468.

it fairly themselves. Taking the average results on Mr. Smith's own showing, they are not more satisfactory than those of Mr. Gay's cases, or of my own practice. The bulk of patients will always shrink from operations of such a nature, and will rather risk mischief than face the remedy. There seems little doubt that harm has resulted in some cases from the practice, and we know that an operation, however safe when skilfully performed, will find bungling imitators and will then do mischief.

Mr. Spencer Watson, in a communication to be presently noticed, said that he had heard of one case, though he had not seen it, where atrophy followed incision into the testis, but he hesitates about ascribing this result to the operation; I think, however, there can be little doubt that it was the cause of atrophy in two cases where M. Salleron tried it,[1] as also in two mentioned by M. Diday.[2] In the *Giornale italiano* for 1871[3] there is a very short account, taken from the *Lyons medical*, of a case in which the operation was followed by abscess, gangrene and hernia of the gland; and in the following case it was, whether skilfully performed or not, attended by consequences to all appearance of a most lamentable nature.

In the summer of 1873 a gentleman consulted me for what he called spermatorrhœa, of which he gave the following account. More than two years previously he had contracted gonorrhœa while at college. He could not tell me much about the treatment, which seemed to have consisted chiefly of specifics. Before he had quite recovered, he was prevailed on by some friends to run a foot-race; almost directly after he had done so the right testicle swelled badly, for which the surgeon, who attended him, made a free incision. This gave relief, a quantity of blood was lost and the swelling slowly subsided. Some time afterwards, with gonorrhœa still uncured, he was foolish enough to indulge in some very hard rowing, whereupon the other testicle swelled and was similarly treated by the surgeon. This time, however, the patient suffered a good deal from pain in the loins, followed, at a later date, by obstinate and serious abscess near the right tuber ischii.

[1] *Archives generales de Medicine*; 1870. Quoted in *American Journal of Syphilography*, vol. i, p. 261.

[2] *Annales de Dermatologie*; 1869, p. 23.

[3] An., vi, p. 240.

At the time when the patient called on me, he complained of great and increasing decline in sexual desire, though he was quite a young man. I endeavoured to get some of the semen for examination, but he said that he scarcely thought now of attempting connexion, though previously his passions had been very strong; and that he never had any emissions, so that no supply could be obtained. I could not discover with certainty in what direction the incisions had taken effect; the traces of them were faint and the patient did not seem to have noticed much about the matter; but, as well as I could make out, there had been in each case, a long cut, dividing great part of the lower end of the testicle, and possibly part of the cauda epididymis.

Puncture of the Tunica Vaginalis.—This operation has been recommended as superior to the other by Mr. Spencer Watson. In a careful report[1] of his practice we learn that, after an experience of about twenty cases, he finds it well adapted to instances marked by effusion into the cavity, but not to those where the epididymis is alone or principally affected. Mr. Richmond however, in a paper read before the King's College Medical Society,[2] had previously borne testimony to the relief, afforded by puncturing this membrane, being quite as great as when the testicle is cut into. But the results do not tally with those of Messrs. Ragazzoni and Appiani, who found[3] that, in twelve cases of orchitis, puncture of the tunic put an end to the affection, but that it required twelve days to do it in, and my experience is that mere rest would have effected as much good. The strongest condemnation, however, passed upon it is by Mr. Watson himself, who has abandoned the operation, except when there is much effusion into the tunica vaginalis, being "inclined to think" that opium and antimony give relief as quickly. I need scarcely say that this looks very much like giving the method up altogether.

As to the treatment of orchitis by means of tartar emetic in friction, I can only say, from what I have read, that it appears to

1 *Medical Times and Gazette;* 1866, vol. i, p. 520, and 1867, vol. i, p. 390.

2 *Ibid.;* 1864, vol. ii, p. 479.

3 *Giornale italiano;* 1870. Quoted in *Archiv für Dermatologie;* B. 3, S. 57.

unite in itself all the disadvantages which can possibly attend any method. One of the medical men who writes in praise of it, warns his readers, that they should guard against the pustules coming out too thickly, as this state may be followed by "vicious" cicatrices and gangrene of the tissues! Seeing that these undesirable results only accompany a very moderate success in the way of cure, it is difficult to see what possible reason there can be for giving the method a trial.

Proposed Plan of Treatment.—The plan of treatment now to be described was worked out in the same manner as the other divisions of the subject; that is, one remedy at a time was used till its value was ascertained.

The surgeon's first object is to arrest the *pain; with this the inflammation stops.* Nothing effects this so well as sedatives; and provided the dose *is only large enough*, the choice is not of so much moment. I prefer morphia myself, or Battley's liquor opii in the brandy mixture of the Pharmacopeia, the latter being particularly useful when there is a disposition to nausea. The morphia may be given in doses of a quarter to half a grain two or three times a day; in very severe cases three-quarters of a grain may be given once or twice in succession. To prescribe the twentieth of a grain is simply to trifle with the matter. Similarly I should never think of giving less than fifteen to twenty minims of Battley's solution every three or four hours, and I should in no way hesitate to use much larger doses. If there be much prostration, ammonia may be added to either of these sedatives, and the solution of the acetate seems to suit very well with the morphia when there is any feverishness.

In the way of external applications, I long used nothing but hot water, my own experiments having inspired me with very little faith in most of the prescriptions which I essayed. Latterly, however, some trials with acetate of ammonia and æther have given much more satisfactory results, and I think that, if the reader will employ the lotion given[1] below, he will be as much

[1] ℞ Liq. ammon. acetatis ℥i.
Spir. ætheris ℥iss.
Mist. camph. ℥iiiss.
ft lotio. Signe; To be applied by means of a single fold of linen, which is to be continuously wetted with the fluid.

pleased with its effects as I have been. One patient, who had been taking sedatives without much effect for two days, assured me that he felt decided relief in the first half hour after using the lotion, and that he was, comparatively speaking, well the next day, but at the end of four days I could still feel some enlargement and considerable hardness, both of the testicle and epididymis. The longest time I have known to elapse, before relief was perceived, was something under three hours. I must, however, be understood as speaking merely of what I have seen, and of being quite alive to the possibility, that the very next case might show a different result. But however beneficially the lotion may act, I would not advize entire abandonment of the sedative; and whether this be given or not, the patient is always the better for a pretty free use of warm aperients, such as senna mixture with excess of tincture of cardamoms, infusion of rhubarb and coriander with sulphate of potass, and so on. A light warm diet is advizable, starvation being useless as well as hurtful; and the patient should therefore be allowed to make himself comfortable on a good basin of mutton or chicken broth, and a little arrowroot with a glass of old port in it—nay, I have known many patients to be all the better next morning for a glass of good whisky and hot water over-night. I therefore always suggest a fair amount of such stimulants for the first night or two.

I wish it to be understood that I do not recommend the above method either as infallible, or as possessed of any marvellous efficacy. So far, and especially as regards the use of ammonia and æther, it has not failed in my hands, and I consider experience warrants me in saying, that it has answered better than any method which I have seen tried, but I do not go beyond this.

Should any enthusiastic reader wish to go a little farther in this direction, and decide to make any experiments with freezing the testicle, I would advize great care in the first essays. True, I have never heard of actual harm arising from the practice, but the entire disuse of it in at least one hospital where it was formerly in favour suggests caution, and it is to be remembered that both the testicle and scrotum are delicate parts easily acted on by cold. I saw a pretty large piece of the scrotum slough out

under its agency, and I once witnessed fatal results from freezing an inflamed breast. It turned almost black, and sloughed right out, the patient of course dying from the shock. M. Diday advocates ice with his usual enthusiasm, putting one bladderful below and another above the testicle. The method is infallible, and relieves the pain in an hour; the only drawback seems to be, that sometimes the application must be continued for from eighteen to forty-eight hours, and even four or five days.

When the patient has been using injections, it will be as well to suspend the employment of them, not for fear of making the swelled testicle worse, but because this disorder renders many persons languid, weary, and averse to anything which occasions the least trouble. Some people also still labour under the opinion that the injections bring on the swelling; and as the loss of three or four days is not of much moment, while absolute rest is a great boon to such patients, it is best to indulge them in it.

As to the monstrous proposal of attempting to remove orchitis by restoring the discharge, which to my amazement I heard upheld but a few years ago in the Medical Society of London, it is not merely useless in practice, but false even in theory; for swelling of the testicle does not check the discharge—nay, the same agency which brings on the orchitis often increases the running, probably in much the same way as anything does which disturbs the health, such as a cold, or an attack of influenza, cold, dry, dusty winds, the over-free use of stimulants, &c.

I can safely say that I never saw an unequivocal instance of gonorrhœa arrested by swelled testicle coming on. The patient often thinks so, but one glance is generally enough to show that it is present; and when the two events really occur at the same time, they are simply a coincidence, not cause and result. In the worst case of orchitis I ever had under my care, first the right testicle swelled and then the left. I was not called in till the latter gland was affected, and then I found, not only considerable tenderness, swelling and hardness of the right testis still remaining, but very evident symptoms of what might fairly be called most severe inflammation in the other, accompanied by visible swelling over the lower part of the spermatic cord. The patient, a strong young fellow, complained of such excruciating pain, especially over the

cord, that I could hardly help fancying he exaggerated; but his mother and sisters assured me, that he had been delirious from the pain, and that such a condition could not, in his case, be due, either to stimulants or medicines, for he had done nothing but apply hot linseed poultices and was extremely temperate. Here I satisfied myself by examination, that the discharge from the urethra was still profuse, and the patient said it had been so all through. The reader will find, further on, another case of double orchitis accompanied by discharge.

If any of my readers appeal to authority, and say that in a simple matter of fact like this it is impossible so many excellent observers—numbering among them Brodie, Swediaur, Cooper, Larrey, Wallace, and many others[1]—could have deceived themselves, I meet the objection, first, by asking them to use their own eyes and ears, and secondly, by referring them to Curling and Ricord, who, basing their conclusions on an immense number of cases, have decided against the old doctrine. M. Ricord says[2] that if arrest of the gonorrhœal discharge take place, it is not above once in two hundred times; and Mr. Curling[3] speaking of its suppression, or rather, strictly speaking, metastasis to the testicle, says, it is very questionable whether anything of the kind happens in genuine orchitis. M. Robert, in thirty-eight cases, found the discharge pretty abundant in twenty-six, while it could be detected in every one of the remaining twelve. It may, however, be, and often is, diminished, but that is a different question.

Blistering the Scrotum.—When the swelling and pain continue very obstinate, the surgeon may, at the end of a few days, blister the scrotum. Very alarming pictures of the results to be expected have been drawn; but as I have never met with them, although I believe I have employed more blisters in these cases than any surgeon living, and have even given them a fair trial in some of the worst subjects possible, I rather object to giving up the teachings of experience for the sake of conforming to theoretical objections. I have seen a blister check or limit an abscess of the scrotum when it was almost pointing, and hold such testimony of

[1] *Medical Times and Gazette*; 1871, vol. ii, p. 271.

[2] *Traite pratique*, p. 754.

[3] *Op. citat.*, p. 243.

the action of cantharides to be better evidence than the fears of inexperience.

Several years ago, one of the physicians, at the Infirmary of Bishopwearmouth, ordered a blister to be applied to the epigastric region of a patient suffering under great pain in that part of his animal economy. The patient, being told to put the blister upon the epigastric region, and thinking this was only a jocular term for the organs of generation, actually cut a hole in the blister, pulled the penis through, and carefully fastened the vesicant on the scrotum. Two days afterwards his landlady came to the infirmary to say that the man was dreadfully ill; and, sure enough, when the surgeon went he was in woful plight, having kept the blister on all this time; but the serious symptoms which some authors profess to expect from three or four hours' blistering had not ensued at all!

Regarding the treatment of the blistered surface, I must refer my reader to the chapter on gleet, where he will find full directions.

Strapping the Testicle.—Although we may still occasionally stumble upon a recommendation to put this once favourite plan of treatment in force, yet I fancy the advice is rather a matter of tradition than of actual practice; more the offspring of a desire, and a very proper one, to make the author's work complete, than a practical exposition of the benefits observed to flow from the operation. It seems to be still in vogue at King's College Hospital, but to the best of my knowledge that is the only institution where it flourishes. Be this as it may, I am compelled to surmize that the method is falling into desuetude, and I certainly think that surgery will not suffer much from its doing so. After a fair trial, I feel safe in describing it as dirty, painful, and, generally speaking, uncalled for; and as gangrene has been known[1], though I admit very rarely, to follow the employment of it, the inconveniences of the practice must, in my judgment, be held to outweigh the advantages.

[1] *Medical Gazette*; vol. xli, p. 976. Mr. J. R. A. Douglas has devized what promises to be an improvement on the old plan of strapping. He employs small pyramidal india-rubber bags, which apply the pressure more certainly and continuously, while they do not excoriate.—*Lancet*; 1863, vol. ii, p. 556. The bags are made by Millikin & Lawley.

The testicle should however be well supported. Dr. John Morgan recommends[1] for this purpose, as also for varicocele, a suspender which seems theoretically to meet the object in view. It assists the venous flow, he tells us, by drawing the upper end of the testicle and scrotum above the inguinal ring, the impetus of the arterial current being checked at the same time and by the same means. The apparatus consists of a piece of webbing four and a half inches long, which surrounds the testicle lengthwise, being four inches wide at one end and three and a half at the other. In this the testicle lies. The fastening over the organ is effected by having hooks at each side, much the same as for shooting boots, into which the lace, which is of soft india-rubber, can easily be made to slip, while unpleasant pressure is averted by means of a tongue of soft chamois leather. Purchase, in order to lift the testicle, is secured by fixing at the lower and narrow end a flat, thick lead wire. When the suspender is laced up this wire projects an inch over on each side, a modification of the original plan in which the wires only just met, apparently taken from a suggestion by Dr. Humphreys of Louisville, who recommended it in the "American Practitioner" for December 1870. By means of two tapes the testicle, thus laced, is raised towards a belt worn round the waist. The apparatus is best put on before the patient rises, and discretion must be used as to wearing it too long at first. For orchitis the testis is first wrapped in lint steeped in laudanum. The plan did not answer in my hands. Messrs. Walters and Co. have for a considerable time made a bandage, which, while supporting the testicle to all appearance as effectually as that of Dr. Morgan, possesses the advantage of doing away with the belt round the waist, a strap and a button fastened to the shirt being substituted.

Subsequent Treatment.—So soon as ever the symptoms of active inflammation are checked, the surgeon may attempt to remove the induration and swelling. I know of no better means than iodide of potassium and liquor potassæ, which may be given separately or combined in any bitter aromatic tincture. A small quantity of mercury and chalk every second night will often assist

[1] *The Nature and Treatment of the Contagious Disease;* 1872, p. 247.

the action of these remedies.[1] I suppose it would now be fighting with a shadow to attack the doctrine that the use of iodide of potassium may lead to wasting of the testis; but it may be as well to observe that the credulity with which this doctrine was at once received, and the *ex cathedrâ* style in which it was taught for years, *without one person being found to undertake the task of really looking into the subject*, ought, if experience could ever do so, to make men more cautious about adopting tenets on such evidence, or rather on no evidence at all.

Most of the cases treated in this way have been thoroughly cured; indeed, so far as has been ascertained, success always followed a fair trial, and none of the patients suffered from a relapse;—most encouraging results, when we consider how often authors have told us of the tendency this disorder has to return under any form of treatment.[2] I do not however say it is infallible; I only say it has succeeded in my hands much better than any other.

6. Inflammation of the Spermatic Cord, without affection of the corresponding testicle, as described by Bergh,[3] Wahrmann and Kohn,[4] I have not met with. In the case of double orchitis previously mentioned this symptom was evidently present in one cord, and, from the patient's account, had occurred in the other. He complained however so much of the tenderness in the affected parts that I could not make a proper examination, and he was admitted as in-patient into another hospital three or four days after my first seeing him. My experience therefore of the affection is valueless. I need scarcely remark that great pain near the

[1] ℞ Potassii iodidi ʒj.
Potassæ liquoris ʒiij.
Syrupi flor. aurant. ʒiv.
Tinct. cinnam. co. ad ℥iv. ℳ.
Capiat coch. min. ij. ter quotidie ex aquæ cyatho vin.
℞ Hydrargyri cum cretâ gr. xij.
Pulv. cinnam. compos. gr. viij. ℳ.
et divide in pulv. vj. Sumat j. omni nocte.

[2] Johnson *On the Genito-Urinary Organs*, p. 194.

[3] *Hospitals-Tidende*; No. 49, Dec. 1848. Quoted in the *Archiv für Dermatologie*; B. 1, S. 605.

[4] *Weiner Med. Presse*; 1870, 17. Quoted in the *Archiv für Dermatologie*; B. 3, S. 58.

external ring is nothing very uncommon. The symptoms in the case described by Kohn were very severe. A case, which seems identical with those above, is mentioned by Hunter.[1]

7. PHIMOSIS AND PARAPHIMOSIS.—The treatment of these complications may be summed up in a very few words. Phimosis seldom calls for more than suspension of the penis, which may be easily effected by any person possessed of the most ordinary mechanical skill. In the more severe cases, such as are occasionally seen when ineffective attempts have been made to check the disorder with specific medicines, and which never ensue when injections are properly employed, evaporating lotions containing æther and acetate of ammonia may be used: I have never seen a recent case which required more than these. The treatment may be continued just the same as if there were no phimosis, so soon as ever the prepuce can be drawn back far enough to admit the syringe. It is quite a mistake to imagine that this complication proves the presence of an amount of inflammation which would render the use of injections dangerous. In some long-standing cases it is necessary to act with decision, as I have seen nearly the whole prepuce ulcerated or adhering to the glans. The affair is however so simple as scarcely to require any rules at all, and I should not have done more than merely allude to it, had not such an unnecessary amount of words been expended on what every apprentice ought to be able to manage.

When division of the foreskin is necessary the director should be passed under it in the mesial line, and when the point will reach no farther, the skin is drawn well towards the root of the penis. The skin and mucous membrane are then cut clean through to the point. One necessary precaution is not to introduce the director into the urethra and slit up the glans. The reader may think this caution superfluous, but I have known a very good surgeon make the mistake. Mr. Johnson has also seen it happen.[2] Any warty growths found inside may be touched with a strong astringent, such as glucial acetic acid, &c.

Dr. Durkee tells us that phimosis will sometimes yield to gradual distension with a sponge tent, and a very ingenious friend of mine invented an expanding ring which he assured me never

[1] *On the Venereal;* 1786, p. 54. [2] *Op. citat.*, p. 136.

failed to remove the constriction. Mr. Travers also speaks of a dilating instrument invented by Trew. But I apprehend that such measures as these are, like circumcision, suited more for cases in which there is no gonorrhœa to complicate them. There is one complication which I shall advert to presently, in which I think it highly advizable to divide the prepuce at the least.

As to *paraphimosis* little need be said. The surgeon should carefully cleanse the penis, and then attempt the reduction of the strangulated part, in which with a little perseverance he will generally succeed. Some authors, Fricke among the number, profess to have never failed. I have not been so fortunate, and I have seen much better surgeons than myself make the attempt ineffectually.[1] This, however, is not of much importance, as in gonorrhœa, if properly treated, the strangulation, when not neglected, is never severe and rarely attains such severity as to require cutting of the constricting band. If it should the evil is easily met.[2]

Dr. Mason Good tells us that in this "variety, amputation of a larger or smaller portion of the penis may be necessary" (!).[3] I must say this is a consolatory view to take of the matter, and the reader, if he ever suffer from paraphimosis, may thank Heaven that Dr. Good is not alive and likely to attend him. Why in the very worst cases it would be far better not to meddle with the affair, as, when gangrene ensues, the utmost that can happen is that the loose part of the prepuce is thrown off. Even this, I apprehend, must be extremely rare. Dr. Durkee speaks

[1] Rollet, p. 548.

[2] In the good old times of Musitanus, once a great authority in those matters, the doctors seem to have made sharp work with the swelling from paraphimosis. The plan was to "humble the crystalline [the swelling] with sublimate," and then touch the affected part with tincture of tobacco, which was "to be done when the patient is lying, lest the Violence of the Pain, because of the violent operation of the Tincture, should make him drop down in convulsions"!—Cockburn, *Op. citat.*, p. 246.

[3] When gonorrhœa was considered to be syphilis, the removal of the organ seems to have frequently been a *dernier ressort.* "Amputation of the penis," says Cockburn (p. 224), "has been often the last remedy for the sharp matter of the gonorrhœa."

[4] *Op. citat.*, p. 78.

of it as a fact, "which the medical attendant sometimes witnesses." I have not myself seen it from gonorrhœa.

8. BALANITIS is one of the most easy complications to deal with, although some attempts have been made to bring it within the category of complaints requiring extraordinary means. M. Ricord advizes cauterization, and if the patient be quite indifferent as to the amount of pain he may suffer, or perhaps rather prefer it, it will answer as well as mild lotions of sulphate of zinc in camphor mixture, four grains to an ounce, or sulphate of copper in rose-water of the same strength, syringed under the foreskin two or three times daily, when this is tight, and applied, when the foreskin can be drawn back, by means of a strip of thin linen soaked in the solution used and laid between the prepuce and glans; but according to my experience no better.

Mr. Acton[1] speaks of gangrene as though it was not an unfrequent result of balanitis, and tells us that, though it generally attacks the prepuce it may destroy the whole penis. M. Robert seems quite familiar with gangrene of the loose fold of the prepuce from this cause. Although for years I saw quite twice weekly specimens of the worst class of cases in the Metropolitan and Royal Free Hospitals, I never observed an instance of this.

The occurrence seems to have been common enough when men did not discriminate carefully between syphilis and gonorrhœa[2], but I should think it must be almost unknown now in good practice. It will, I trust, be unnecessary to say anything about the treatment of posthitis, the erection of which into a separate sub-division seems to me rather a refinement.

9. INFLAMMATORY SWELLING OF THE PENIS.—I should scarcely have been inclined to look upon œdematous swelling of the organ, even accompanied by balanitis, as a very serious affair, and have been disposed to think that rest in bed for a day or two, a sedative and the free use of tincture of steel, with spirit lotions, were all that is requisite. Some of the french surgeons, however, evidently view it as a symptom of sufficient importance to require the most heroic treatment.

[1] *Op. citat.*, p. 71.

[2] Swediaur; *Op. citat.*, p. 130; *Surgical Essays.* By Sir Astley Cooper and Mr. Benjamin Travers; 1818. Part i, p. 151.

The parts, says M. Melchior Robert, are to be enveloped in linen steeped in marsh-mallow water, elder-flower water, or any other emollient fluid. If there be no reaction, it is not necessary to do more than apply leeches to the groins or perinæum; but if the system be seriously affected, blood is to be taken once or twice from the arm. Constipation is to be removed by purgative salines, such as seidlitz powders, sulphate of soda and citrate of magnesia. Along with these we may use warm baths, but not fomentations or cataplasms. The seat of the discharge is to be frequently cleansed with emollient lotions or injections, almost cold, to prevent painful erections. Pills and *enemata* of camphor may be given, and conversation or reading calculated to inspire lascivious ideas (!) is to be strictly excluded. In order to avert gangrene, solution of opium may be injected into the cavity between the glans and the prepuce. All this however and several other remedies to boot, such as decoction of mulberry-leaves, do not, it appears, always prevent part of the penis from being destroyed by mortification.

I certainly should not think injecting opium was very likely to stay gangrene, but how this accident occurs at all is more than I can make out. I have seen and treated some rather bad cases of œdematous swelling of the penis, but I cannot call to mind such results as sphacelus, and should not feel very well satisfied if they occurred when under my care. Such a complication as erysipelas of the penis and scrotum, which must, I fancy, be very rare, should be met with large doses of tincture of the sesqui-chloride of iron every three hours, and the application of any innocuous fatty substance, such as suet or lard, applied melted, all over the affected part. When it attacks the dartos, free incision is recommended by some authors.[1]

10. Inflammation of the Spongy and Cavernous Bodies. The reader will find a very good, and rather amusing, account of these affections in Mr. Johnson's work on the genito-urinary organs. The are both intractable enough. but it can hardly be said that they interfere with the cure of gonorrhœa, as they rarely if ever show themselves except when the patient has

[1] The merit of first noticing this affection, and suggesting incision for it, has been ascribed to Mr. Liston, but I believe it is due to Mr. Johnson.

thoroughly neglected his complaint, and indeed are rather results than complications. They are extremely uncommon, and inflammation of the cavernous bodies is perhaps the most rare of all the sequelæ of gonorrhœa. One gentleman, who consulted Mr. Johnson for it, suffered lancinating pains on erection, and his penis twisted like "a pig's curly tail." It resisted the most energetic treatment, and when last heard of the patient was little if any better.

Death occurred from an acute affection of this kind in the practice of Dr. Villeneuve of Marseilles,[1] the mischief beginning with the forming of a slough over the summit of the arch caused by the chordee. M. Robert, whose account of induration of the corpora cavernosa[2] is very clear and concise, gives an unfavourable prognosis. Having no experience of these complaints, I can say nothing worth the reader's attention.

[1] *Gazette Hebdomadaire;* 1873, p. 210. [2] *Op. citat.*, p. 167.

Chapter V.

TREATMENT OF GONORRHŒA—(continued).

Complications which interfere with the Cure of Gonorrhœa.—We now arrive at the consideration of those symptoms which are more calculated to fetter the surgeon's hands. From their importance I have been led to illustrate them by a few carefully selected cases, for which I solicit the reader's earnest attention.

Under this head I propose to place all those affections which directly or indirectly interfere with the exhibition of proper remedies. They consist of—

1. Fainting from the use of Injections.—In speaking of a strong tendency to faint from the use of injections, I allude, not to the mere sense of faintness felt on passing the tube of the syringe down the urethra for the first time, as that is quite a common affair, but to that form where the disposition is so strong and recurs so constantly as to constitute an idiosyncracy. I have seen it in very strong men.

An acrobat who had contracted a discharge came under my care. He was a healthy, temperate man, a solid mass of bone and muscle. His energetic method of gaining his livelihood was practised "*sub Jove*," and had developed his powerful frame to the highest pitch of health and strength it was capable of. Yet this man fainted so suddenly on my attempting to insert a short syringe into the urethra, that he fell like a stone. The insensibility was very prolonged, and he felt so ill after it that he refused to have any more injections.

A gentleman consulted me for gonorrhœa. He was a remarkably strong man, exceedingly well-made, and wore the appearance of being in very high health; he was fifty years of age, and told me that he had never taken a dose of physic since he was a child, and never remembered having experienced the feeling of being out of health. He had never had a cold, he said, or a headache.

The introduction, however, of only the tip of the syringe produced such an effect upon him that he begged of me to withdraw it, as otherwise he should faint on the spot, and immediately after broke out into such a cold perspiration that I saw it would be useless to continue the attempt.

A cavalry officer, a strongly built, hard featured, resolute looking man, consulted me for slight occasional discharge from the urethra, and great irritability of the passage for about half an inch down. I wished to give him two or three injections, and, according to my regular custom, asked him before using the first one if he thought it was at all likely that he would suffer in this way. He seemed quite satisfied that he should not do anything of the kind, but the event showed he was widely mistaken, and that if I had been imprudent enough to repose faith in his assurances he might have been hurt; for I had scarcely got the tip of the syringe into the urethra before he suddenly exclaimed that he was going to faint, and it was as much as I could do to save him from falling heavily. He remained perfectly blanched, sick and prostrate for a considerable time after.

Some time ago, I was beginning to inject a gentleman, a strong, finely grown, healthy looking young fellow. Almost in an instant, as the instrument had just entered the urethra, he turned pale and fell almost like a corpse, but, as I have learned to expect this kind of thing, I was enabled to break his fall. The pulse at the radial artery stopped completely. On coming to himself he discharged the contents of his stomach almost at a single gush, and it was a long time before he so far recovered as to be able to leave the room.

In my opinion the surgeon, unless he happen to know the constitution of his patient, should always be prepared for such a contingency. The plan in such cases is to give the injection to the patient in a sitting or lying posture. This will overcome the most obstinate disposition to fainting, as the following instance, among many others, may show.

A very tall, delicate young gentleman applied to me with gonorrhœa. About eighteen months previously he had suffered from an attack, which with all possible care was not subdued with copaiba and salines in less than nine months; ever since then the

urethra had remained extremely tender, and whenever he had a cold, a drop of pus was seen at the meatus on rising. On inserting the syringe he immediately fainted, and as soon as ammonia was applied to his nostrils the contents of his stomach were thrown off; but the impression made upon the disease was so evident that the patient willingly continued the injections, which were given sitting. At the end of eleven days the discharge was so far diminished that they were given only every second day, and then every third till the twenty-fifth, which was the last, no discharge having been seen for eight days. The faintness was present to the last.

Some months later, during an excursion in Austria, he again contracted the disorder; he was treated with specifics and derived almost as little benefit from them as before. Soon after his return to England he contracted a fresh infection, and six months subsequently he had another attack. On both these occasions the complaint was removed within a week by means of injections, but the tendency to faint was still as strong as ever when beginning with them. After the last gonorrhœa I recommended the use of a gum-elastic bougie twice a week. To the very last day of using it he always averted his sight from the instrument, feeling sure that he would swoon if he looked at it. This treatment I may observe answered the end in view: the patient, though he was soon as imprudent as ever, contracted no more gonorrhœas.

2. Great Natural or induced Weakness.——By this is meant not so much great physical exhaustion, as a weak, irritable state of the system. The patient is gloomy and weary; sometimes prostrated with sick headaches, at other times scarcely able to rise from mere lassitude. A cold confines him for a week; his bowels are costive, his tongue coated, his enjoyment of all comforts is lost, and he broods and frets over even a slight persistence of his malady.

These cases are often exceedingly difficult to manage. Specifics and potass are sometimes badly borne, and the operation of such remedies, as seem suited to the health, is unsatisfactory as regards the gonorrhœa. Tonics can only be taken for a little while, as the discharge is apt to become exasperated when their action is kept up for a long time. Many patients of this class

can hardly be induced to take aperients, though positively required; and they are so sensitive to pain, that they shrink from injections which are indispensable. It is impossible to lay down any rules for a system of treatment generally adapted to these cases, as so very much will depend on the complications that arise; but I may briefly state, that the remedies which have succeeded best in my hands are gentle aperients continuously used, tonics, the occasional resort to stimulants and sedatives when there is much prostration and pain, and the persevering employment of injections, which must often, at first, be extremely mild and be aided by blisters. Perhaps however the history of a case or two will exemplify the rules of treatment better than any description, and I therefore give two; one in which the disposition to this state seemed to be constitutional, and another in which it appeared to have been chiefly induced by large doses of copaiba.

F. H. Esq., a delicate-looking man about twenty-five years old, who had suffered a good deal from spermatorrhœa and nervousness, consulted me in the middle of August, 1872, for what he called a slight discharge, which, however, on examination, was evidently enough the beginning of a pretty severe gonorrhœa. His account was that he had had it some little time, but had found scarcely any inconvenience till a few days previously, when a hard pull on the Thames and some pale ale thoroughly developed the complaint. As he was of a highly excitable temperament, acutely susceptible to pain, and already depressed by long continued emissions and great irritability of the urethra, I restricted the treatment almost entirely to gentle aperients, moderate doses of the acetate of potass mixture and very mild injections. This treatment had nearly subdued the disease, when he imprudently went down to the seaside, took a long walk, and indulged in other ways, the consequence of which was an immediate and severe relapse. As the gonorrhœa did not seem now to be influenced by the same remedies as before, I tried the santal-wood oil, in doses of thirty, gradually raised to forty-five and then sixty minims a day, which was as much as he could bear. At the end of three weeks he was no better as regarded the discharge, while his health seemed to be decidedly worse, and he was much

plagued with the emissions. Tincture of the sesquichloride of iron in full doses was ordered, the strength of the injections was somewhat increased, and a longer syringe was used. The discharge very slowly diminished, and in order to remove it thoroughly, I applied the solid nitrate very gently to the back part of the urethra and blistered the penis. These steps brought on a profuse discharge, and great irritability of the bladder; but after a few days the symptoms declined, and there seemed a prospect of his getting quit of his tormenting complaint, when unfortunately one evening early in December, on alighting from a railway carriage while the station was almost in total darkness, he slipped and violently strained the perinæum. He immediately felt that he was badly hurt, and though he attempted for two or three days to continue his duties, he was obliged to take to his bed.

I found him December 14th with an irregularly intermittent pulse, coated tongue, total loss of appetite, irritable bladder, profuse urethral discharge, and great swelling of the left testicle, which was also intensely painful and sensitive. His complexion was almost the colour of a primrose, his whole frame was bedewed with perspiration, and he seemed extremely agitated; he was also suffering greatly from indigestion and flatulence. He was put on a diet of slops, and ordered at least three glasses of port wine daily, with a glass of hollands at bedtime. Sedatives with stimulants were prescribed, to be accompanied occasionally by a gentle aperient; but his stomach rejected every sedative that I tried, and I was compelled to give these remedies up. Under the influence, however, of the diet mentioned, rest, and carminatives, followed by nitric acid and bitters, his health improved; mild injections were given occasionally almost from the first day, and apparently with benefit. The urine, which at first contained a surprizing amount of urates, and a great deal of mucus, had returned to its normal state, the irritability of the bladder had subsided, and the testicle had lessened considerably.

While he was thus progressing he decided to return to his work. I totally refused to sanction such a step, as the weather was raw and cold. In less than a week, January 26th, I was again called to him and found a complete relapse. The other testicle was swelled and very painful; there was great pain in the

perinæum and bladder on making water; the pulse was intermittent, the tongue coated, the stomach rejected food; he was sleepless and excited, and suffered occasionally from headache, which was described as "frightful." Sedatives were again tried, bimeconate of morphia, hydrochlorate of morphia, solid opium, hyoscyamus and chlorodyne being ordered in succession, but none of them agreed with him. The same treatment as before was therefore substituted and the injections were resumed, the fluid being carried to the neck of the bladder. The membranous part of the urethra was intensely sensitive; otherwise he bore the injections very well. Having just then received a communication from a patient in India, stating that he had been cured of an obstinate gleet by painting the perinæum with tincture of iodine, and taking small doses of iodide of potassium, I determined to try these remedies in the present case, though I had, years ago, used them several times without any benefit. Here, too, they failed to produce any impression on the discharge, and the patient begged me to desist from employing them, as it seemed to him sheer waste of time. The iodide was however continued, but in tolerably large doses and in conjunction with the liquor potassæ and bitters, while the injections with the long syringe were kept up. He rapidly improved, and on the 8th of March he returned to work, having been for some days quite free from every symptom, except a slight hardening of each epididymis and the occasional appearance of small shreds in the urine, for which he was directed to pass a soft bougie twice a week. As the nocturnal emissions still plagued him occasionally, I prescribed the tincture of the sesquichloride of iron. On the 20th of March he called to report that there had been no return of the discharge and that his health continued to improve.

In another case the patient was a member of the medical profession, who placed himself under my care, after having made a most unsatisfactory attempt to treat his own complaint.

I found him low, weak, and dejected; he was suffering under enlarged prostate, with a painful bearing-down, as if the rectum were coming out, so that when walking he constantly felt an urgent desire to keep his hand pressed upon the anus. There was a moderate amount of discharge, with no great pain in making water or during erections. The tongue was brown, furred, tremu-

lous, and indented by the teeth—the breath was foul—his face looked coarse and dusky—he said he had lost all his colour along with his appetite and strength. Great part of his sufferings he attributed to the amount of copaiba he had taken; and as according to his own estimate he had for some time past managed to get down five ounces a week, the supposition was very feasible. The use of these preposterous doses was always followed by nausea and loose stools. To complicate the case still farther, it appeared very doubtful, from the patient's description, whether there was not some stricture to be apprehended, as six years previously he had suffered under gonorrhœa, which, after having been duly treated with copaiba, slowly changed to a gleet, and this in its turn every now and then re-appeared; so often indeed that I doubted if it had ever been cured. Latterly also, there had been a good deal of dribbling after making water, and, the patient thought, some slight narrowing of the stream.

"All this," he said, "I could endure and hope to see cured. There is some visible cause for these sufferings, but I cannot understand why I have this dreadful irritability of temper and gloominess always hanging about me. I feel no pleasure in anything I do, and I am quite certain many of my patients have remarked my inattention."

On examination by the rectum, the prostate was found greatly enlarged, and a blister was ordered to be applied to the perinæum. A bougie was also passed, and a most irritable state of the urethra discovered; no stricture however was encountered. Within forty-eight hours after this operation the right testicle swelled in an extraordinary way. The patient could not allow me to touch it, and the attack was accompanied by such prostration that he was obliged to confine himself to his room. Morphia in large quantities was ordered and relieved him so rapidly, that he said "he could hardly describe the comfort this dreamy, quiet state inspired, compared with his first night's suffering." Hot water to the scrotum so as almost to excoriate it—a well-fitted suspensory bandage—a brisk aperient, and a diet from which all cold, ascescent, heavy articles of food were rigidly excluded, soon relieved all the most severe symptoms.

At the end of a week I examined the testicle; and though

this was one of the worst cases of orchitis I ever saw, I was not prepared to find such evidences of active disease. The epididymis was greatly enlarged and of almost *cartilaginous* hardness, *as was also great part of the testicle;* and though all pain was gone, yet the patient still shrank instinctively from the slightest touch. I now asked him if he had ever strapped the testicle for orchitis, and if he would like to go through the process. He at once admitted that he had performed the operation, but he entirely objected to having it done on himself, and I very strongly suspect, that many advocates for strapping might, under similar circumstances, give much the same reply.

The discharge was now treated with mild injections of nitrate of silver, followed by the use of gum-elastic bougies every second day. Two blisters were applied to the perinæum and two to the penis. Iodide of potassium was given in doses of ten grains twice a day; calomel and black draught twice a week. A full meat diet was ordered, and a bottle of claret daily.

The discharge soon ceased entirely. The uretnra became so healthy that the bougie could be passed with scarcely any discomfort. After the first three weeks the prostate gave him no farther annoyance; and finally such a steady subsidence of the hardening of the testicle ensued, that when he paid me his last visit, about four months from the beginning, little more than a slight thickening remained to mark the seat of disease. His tongue became clear, moist, and firm—his appetite returned, and he soon gained flesh and strength. From having been unable to walk a mile without fatigue, he was now almost as well as he ever had been, and in better health than he had enjoyed for years.

Another case, in which the weakness, partly natural and partly acquired, materially interfered with the treatment, will be found in the section on strong tendency to stricture.

For the most part the weakness induced by long-continued use of copaiba is easily remedied. The first step is, of course, to give up the use of the balsam itself; after this almost any mild preparation of iron, such as the citrate, conjoined with some simple aperient, will soon remove the effects.

3. Tendency to Inflammation of the Lacunæ of the Urethra.—However hazardous the statement may seem, that

inflammation of the lacunæ rarely—perhaps never—ensues under the use of the treatment recommended for simple gonorrhœa, provided this has had time to act before the lacunæ are involved, I believe I am warranted in making it; but whether it ensues or not, the treatment of the parent disorder, on the system mentioned in the foregoing section, may be safely pursued, even though the previous experience of the patient is that this complication will follow.

A surgeon, at that time a student, placed himself under the care of Sir Astley Cooper for gonorrhœa. The great surgeon ordered him an injection of nitrate of silver, five grains to an ounce. The inflammation and pain however became so unmanageable that he was soon laid up with orchitis and abscess of the lacunæ. The latter burst externally, leaving a fistulous opening, which healed in a few weeks, and a gleet which lasted ten months. Subsequently he had a second attack, which healed in four months by means of copaiba and injections : this time also the lacunæ suppurated. He contracted a third gonorrhœa, and treated it himself with small doses of copaiba and cubebs, which purged and nauseated him so much that he was quite prostrated. Dyspepsia and total loss of appetite came on, making him so irritable and weak that he could not mount his horse or attend properly to business; within a fortnight three of the lacunæ had run into suppuration and one had burst externally. He then consulted me. A mild saline aperient, with full doses of morphia at night, was ordered, along with sulphate of zinc injections; subsequently quinine and purgatives were given and blue ointment was directed to be rubbed over the lacunæ. He speedily improved; no more lacunæ suppurated ; the discharge rapidly subsided, and in a few weeks gave way entirely.

But I have seen very troublesome results indeed where the case was treated differently, and I believe most of the cases recorded of suppurative inflammation in the cellular tissue of this part owe their origin to disease beginning in the lacunæ.

E. E., Esq., came under my care for gonorrhœa. He had been suffering under it for several weeks. A small abscess had formed on the right side of the penis, about two inches from the mouth of the urethra. The abscess was pointing, and burst

within three days from my first seeing him. The urine began almost directly to pass through the opening, and continued to do so. It was difficult to imagine any reason why the patient should suffer in this way. He was a spare, strongly-built man, of unusually active, temperate habits and extremely healthy. He had used no injections and seemed to have been treated principally with anti-phlogistics and a few small doses of copaiba. While under my care injections of nitrate of silver, the solid nitrate of silver, blisters, &c., were all tried in vain. At last by applying the actual cautery and the acid nitrate of mercury to the interior of the fistula, I succeeded in reducing it to a very narrow passage, and, that done, I speedily brought down the urethral discharge to a mere gleet, but I could not completely cure either, and while I was contemplating farther steps, the patient was compelled to leave for a journey into Russia.

About a year after this, while still abroad, he again contracted a discharge, which seemed to have been treated in much the same way, except that copaiba was given more freely and, along with it, cubebs. As the case grew much worse he set out for England, but broke down before he got quite through Germany, and was laid up for a fortnight with great swelling of the penis, pain, and uneasiness of the organs generally. Directly he reached London he came to see me. The body of the penis was considerably swelled and persistently hard. In addition to the old sinus, through which the urine still passed, two new ones had formed at the junction of the lower surface of the penis and scrotum. From these radiated several passages backwards under the scrotum and forwards under the skin of the penis, and though the probe could not be introduced into the urethra, the dribbling through these sinuses, every time the patient made water, showed that there was a communication between them and the canal.

For several weeks I tried everything I could think of to heal these fistulæ. Dilatation of the openings, the application of the acid nitrate of mercury, of the actual cautery, and of a strong solution of cantharidin in glacial acetic acid, were repeatedly used, but to no purpose, while the gonorrhœa remained unaffected by blisters, injections, and the use of the solid nitrate to the interior of the canal. The thickening and induration of the penis and

scrotum got worse, and the sinuses evidently increased in extent; some of the skin, too, on the lower part of the penis was on the point of sloughing. At last, in a consultation with my friend Mr. T. Carr Jackson, it was decided to put the patient under chloroform and lay open the sinuses. This was done with the result of laying bare five fistulous openings into the urethra, and such a mesh of burrowing passages as has seldom, I fancy, been paralleled. Mr. Jackson said he had never seen anything like it. I was compelled to remove some of the skin of the penis, its vitality being so compromised that there was no chance of saving it. Some weeks after the patient again left England, at which time not one of the openings into the urethra had healed. He subsequently wrote however from East India to say that he was a great deal better.[1]

Mr. Phillips seems to have been as fortunate here as in stricture. "I have" he says,[2] speaking of this complication, "adopted a treatment from which I have experienced the greatest success. I apply the lunar caustic to that portion of the urethra in which the interior orifice of the fistula is situated." The reader has just seen with what success I applied it, and I repeatedly touched, not only the orifices, but also the sinuses themselves and adjoining parts of the urethra.

Mr. Lee, as I understand him, thinks that these abscesses begin in the areolar tissue surrounding the urethra, and this view is supported by the observations of M. Lagneau, *fils*,[3] who, speaking of three cases, in two of which the purulent collection was seated near the frænum, and in one just before the scrotum, considers the peri-urethral tissue most likely to be their seat, because they did not impede the passage of the urine, projected outwards, and opened exclusively on the outer surface; grounds which do not seem to me conclusive, as closing of their urethral orifices and distension are not essential steps in the process.

4. Morbid Sensibility of the Urethra.—In excessive

[1] Mr. Johnson had also a patient under his care who had gonorrhœa several times, and on almost all occasions the lacunæ suffered more or less.—*Op. citat.*, p. 183.

[2] *Op. citat.*, p. 299.

[3] *Gazette Hebdomadaire*; 1862, p. 343.

natural tenderness of the urethra, it is sometimes necessary to wait a day or two in order that the action of the potass may be set up, and to give a sedative every night, before beginning with injections. The first two or three of these may consist of warm water; the next of weak solution of nitrate of silver, beginning in some persons as low as one-tenth of a grain to an ounce; after this no farther precaution is necessary. Where this extreme sensibility seems dependent upon rheumatism or gout, a grain of the extract of colchicum every night may be serviceable.

In most cases after this difficulty is overcome, the injection may be increased in strength as with other patients; but on the other hand, there are many persons who can never bear injections stronger than a grain to the ounce without feeling severe pain. One gentleman, under my care, complained of much uneasiness, lasting for several hours, with heat and swelling of the penis from a solution of two-thirds of a grain to the ounce, and noticed these symptoms very perceptibly when the strength was reduced to the eighth of a grain. Now *it is never necessary to give severe pain.* If the patient is only seen when the gonorrhœa itself is declining in violence, I would recommend free bathing of the penis with hot water two or three times a day; the application of veratrin ointment, five grains to half an ounce, to the under surface of the urethra; and the use of a gum-elastic bougie.

In some cases of *acquired* morbid sensibility of the urethra behind a stricture, both of them the sequelæ of gonorrhœa, the nitrate gives ease where the most delicate touch of the bougie is not borne. I had under my care a case thus originated, where I was for some time entirely foiled. The patient suffered little discomfort from the application of caustic to the stricture, and he scarcely complained at all when I expanded the contraction with a straight screw dilator which I use; but, though a resolute man, he always shrank so from the contact of the point of the instrument, and even of the softest bougie, with the urethra behind the stricture, that I was obliged to desist. At last I passed the nitrate right through the stricture to this tender spot and used it pretty freely. The patient suffered little more than from the bougie, while the abnormal sensitiveness was so completely removed, that, though I employed both dilator and bougie on several subse-

quent occasions, he never complained. The instrument for applying the nitrate in this way, as also that used for stricture, will be described in the next section.

5. Strong Tendency to Stricture—that is, where the canal begins to contract within a very short time after the first appearance of gonorrhœa—though not very uncommon when this disorder is neglected, has only occurred in my experience three times in cases treated properly with potass and injections. In two of them it yielded quickly enough to the solid nitrate applied by means of the sheath and stilet to be presently described. In the third case the patient, quite a lad, with a first and pretty sharp gonorrhœa, was suddenly despatched on business which enabled him to indulge in the pleasures of the table to any extent he liked. Not having enjoyed such a privilege before, he made the best use of it now—lived on game, salmon, champagne, punch, &c., and returned to London with the urethra closely strictured for about two inches—a state of matters which required about eight months to set right again.

A slighter degree of this disposition may, when accompanied by great constitutional weakness and impaired health, also give a great deal of trouble.

C. F., Esq., a thin, extremely delicate looking man about 27 years old, consulted me March 1874. His account was that he had inherited a very feeble and excitable constitution, with a morbid dread of pain, and that he had resided a considerable time in Jamaica, where he had contracted intermittent fever, from the effects of which he had never recovered. Some considerable time before his visit to me he had been infected with gonorrhœa, which, though never severe, and treated by his medical attendant with great care and skill, had lasted six months. Although the discharge had ceased there was a sensation of tenderness and uneasiness in the posterior part of the urethra, which showed something was not quite right, and it was for this that he came to me. I advized him to pass a bougie once a week and to take a tonic, but he neglected to do either and I saw no more of him till the beginning of June, when he came to be treated for a rather active gonorrhœa which he had caught quite recently.

He was put on preparations of potass and gentle aperients, but,

owing to his excessive dread of pain, I had great difficulty in gaining his assent to anything in the shape of injections. He was imbued with an utter horror of even the slightest operation. Vaccination, he said, had made him faint. However, after a little while I succeeded in carrying the point, with many stipulations on his part that the injections should be very mild, and that the point of the syringe should only just enter the urethra, the latter condition being one which I took the first opportunity of evading. The discharge was gradually brought down to a very slight affair, and then the improvement came to stand-still. I now tried the santal-wood oil, which the patient took with great regularity in quite half drachm doses three times a day for some time. He was most anxious to get well, and I believe implicitly followed out every direction given him. The oil seemed to produce some improvement, and then there was a relapse and another stand-still. As he was extremely low, with a weak, small pulse, I did not much like going on with the medicine and prescribed him quinine, followed by steel with blistering. This however effected no particular good as regarded the discharge, which did not get quite well.

From the beginning I had warned the patient that the stricture, which I fancied was springing up in consequence of the first gonorrhœa, would be aggravated by the present attack, and when I saw that the means employed were not bringing about a cure, I advized him not to waste any farther time upon them, but to let me pass a bougie. Of this he would not hear unless he was put under chloroform, to which I most reluctantly consented, and he was accordingly chloroformed four times. He was however so refractory, declaring he should die if his hands were tied, and then, when they were set free, snatching the inhaler from his mouth, that three times no real insensibility was produced, and he foiled all attempts to explore the urethra. Once only he was fairly brought under the influence of the anæsthetic, and then the insensibility became so great, that the surgeon who gave the chloroform grew alarmed, and I could do no more than satisfy myself that there was some contraction about five and a half inches down, a number six passing with moderate ease.

As chloroform was of no use, he was put under laughing gas.

I then passed down an armed number eight bougie, and as it would not go through the contraction just spoken of, pressed it sufficiently long against the narrowed spot to act thoroughly. The patient suffered very little after pain, but the discharge remained as before. The santal-wood oil was again tried, in as large doses as his stomach could bear, and again failed. He also took matico, in which he had great faith, with as little effect.[1] As he still shrank from the only step likely to be of service, the use of the bougie, except under chloroform which I refused to employ, I advized him to blister again, and to accept an invitation sent him to spend a few weeks at the sea-side. He went down and, while there, blistered four or five times, he could not exactly recollect which. His health improved considerably from the change of air, and an impending attack of intermittent fever passed off; but the discharge continued so entirely unaffected, that at last he made up his mind to have the bougie used, which, however, owing to my own absence from town, could not be begun until near the end of October. Meanwhile I directed him to give up the dilute phosphoric acid, which had been ordered for the symptoms of fever, and to take, instead of it, the tincture of sesquichloride of iron, which he did, and reported, when I next saw him, that he had gained both flesh and strength from the use of the latter.

On my return to London the employment of the bougie was commenced, and with this began the first real improvement in the case. The stricture yielded slowly but steadily, and directly this change showed itself the discharge lessened. At first there was always some slight bleeding after even the most gentle passing of the instrument, but this was soon checked by the internal use of tannin. The patient had, at one time, suffered, though not very badly, from chordee, the annoyance being rather persistent than severe, and the bougie only relieved this slowly. By the end of the third week of December the discharge was practically extinct, and the urethra dilated to its natural size. During the first few days of the sudden thaw which took place in the beginning of January, there was an apparent relapse, possibly due to the patient having caught a bad cold, but the discharge was different from

[1] See page 81.

what I had ever seen it in him, being thin, not at all viscid, and of a pale, dirty yellow. I pronounced it not to be gonorrhœal, and under the use of a drachm of tannin daily it went away almost as fast as it came. On the 25th of March he reported that, for thirty-seven days he had not perceived a speck of discharge in the urine, which he always scrupulously examined at least once daily.

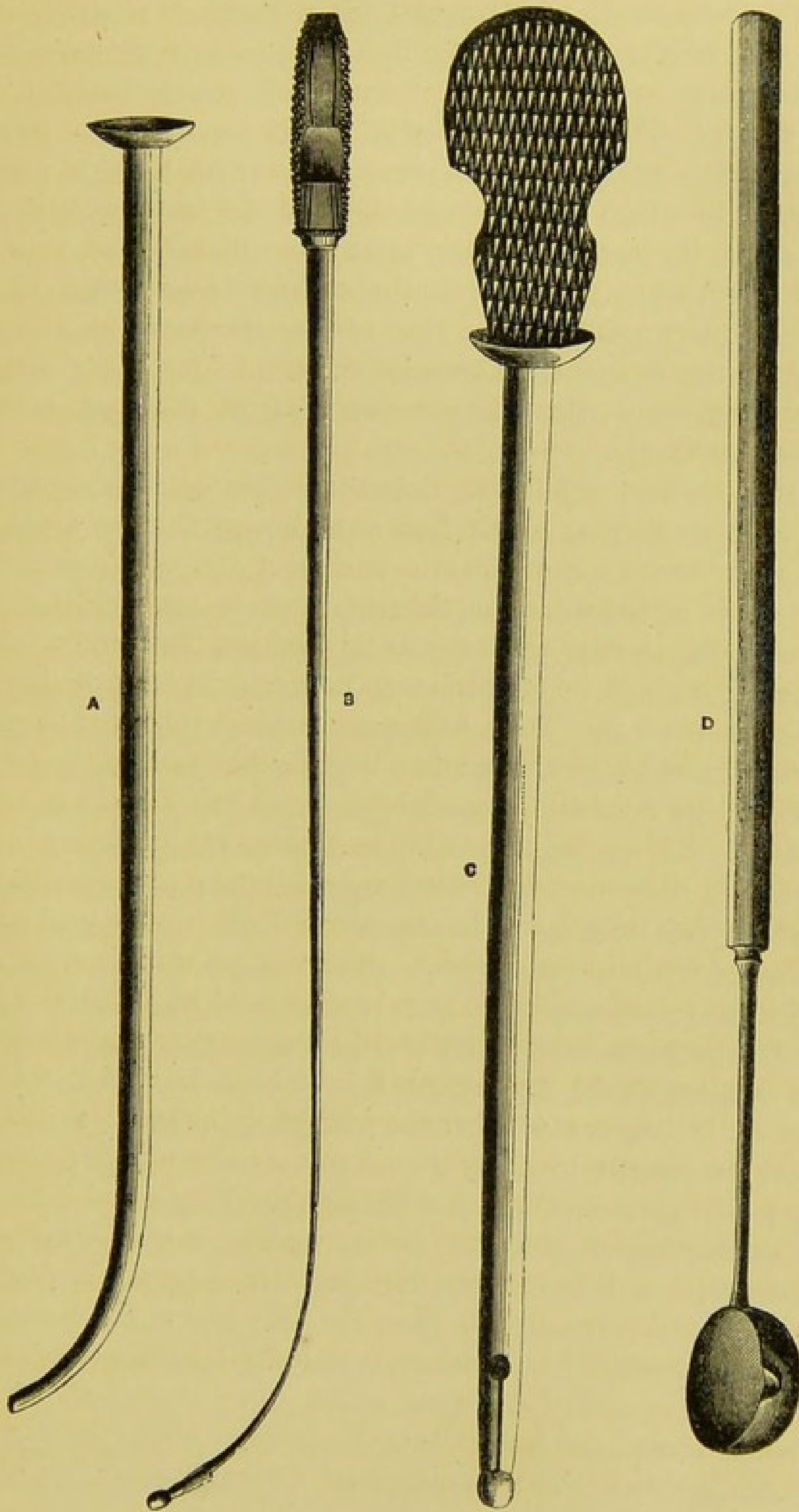
During the whole time the patient was under my care I believe he never omitted to take a single dose of the medicine ordered for him, nor had I ever reason to suspect that he transgressed against the suggestions made to him about remaining quiet and abstaining from stimulants, yet the disease lasted nearly seven months. Possibly the stricture was the chief cause of this persistence, but his morbid dread of pain was the cause of the stricture remaining so long unrelieved, and his first attack, with which stricture had nothing to do, lasted six months.

Caustic-holders.—The instrument[1] just spoken of and displayed in the engraving consists (1) of a platinum or silver canula, *A*, shaped like a No. 9 catheter with the blunt end cut off, and a pea-headed stilet, *B*. It is passed down, with the stilet in, to any part of the urethra that seems very tender, and the stilet being withdrawn, a small flexible bougie, armed by dipping the tip into caustic fused in the ladle, *D*, is introduced through the canula and drawn lightly over the urethra for an inch or two. It is then drawn back within the stilet while the instrument is removed, so that only the part the surgeon wishes to cauterize is brought into contact with the nitrate. *C* represents a smaller instrument of the same kind, sheathed, to be used when the seat of morbid action is nearer the mouth of the urethra.

I have, however, after many failures, devized an instrument which I think I may safely speak of as superior to that just described, so far as regards applying the nitrate to the walls of the urethra in morbid sensibility of the passage, gleet, &c. It does not in any way supersede the sheath and stilet in stricture and indeed aims at a different object.

The instrument consists of a soft gum-elastic bougie, into

[1] The larger instrument is reduced one-half, the smaller one a fourth. The drawing of the ladle is of the actual size. The instruments are made by Messrs. Walters and Co., Moorgate Street.


A
B
C
D

which is inserted, two inches from the tip, a platinum cage, soldered with gold so as to resist the action of the nitrate. This cage is an inch long, and somewhat less in diameter than the part of the bougie into which it is inserted; an arrangement which affords greater protection to the nitrate, and the material in which it is imbedded, while the instrument is passing along the urethra, at the same time that it allows the salt to flow out when melted. It (the cage) consists simply of four slips of platinum let into a ring of the same metal at each end. Though the construction appears slight, it is really possessed of great strength, a wire being continued from the cage over the tip of the bougie.

It is charged as follows. In summer a piece of white wax, as big as a small pea, is put into a Berlin crucible or a gallipot, and melted with a gentle heat over a spirit lamp. To this, when melted, is added twice the bulk of cacao butter, which at once mixes with the wax. So soon as this has set, the surgeon takes a piece big enough to fill the space between the bars of the cage and squeezes it in. Then, with a penknife, he scoops out a groove in the wax and butter, more than large enough to hold the amount of nitrate he intends to use, which may be half a grain to a grain or more. This being placed in the groove, any space left is filled up with a little wax and butter melted for the purpose, and any loose or projecting points left are scraped off with the penknife, or rubbed down with the fingers. In winter less wax must be used, and in very cold weather it may be dispensed with altogether.

The surgeon, having first of all passed a gum elastic bougie a size larger than the instrument I have been describing, with the idea of finding out whether the passage is clear up to the part where he intends to apply the caustic, as also whether there are any tender spots on the way, withdraws the bougie and introduces the caustic holder, well oiled, sliding it along as quickly as he can, till the cage is brought opposite the irritable part. It might be an additional precaution to pass the side where the groove was made downwards, but speaking practically I have not been able to detect any difference in its action when thus used. Having now introduced the instrument, the surgeon allows it to remain till the patient begins to complain of a burning sensation, when it

may at once be withdrawn. With management there should not be anything like severe pain, but if by any chance this be set up, the use of a hot bath at 98° or 100° Fahr. for two or three minutes, and a good sedative, such as a dose of Battley's solution in an ounce of the brandy mixture of the pharmacopeia, will generally relieve it in a short time. Or, instead of a bath, the patient may bathe the perinæum well with hot water, but this, if more convenient, is less efficacious. In my own practice I have rarely known either called for. Sometimes a little purulent discharge, or a slight degree of bleeding, follows even a very gentle application of the caustic, but the surgeon may quite safely leave this to itself, and repeat the application from two or three to several times, as the case is more or less severe. If there be no particular tenderness, the caustic may be applled to the prostatic portion of the urethra.

The advantages offered by this instrument are, its small cost, which is not more than half that charged for other caustic-holders; its simplicity, all screws, stilets, &c., being done away with; its safety, the strength of the materials being so great that a strong man could not drag them asunder, while they are not acted on by the nitrate as in Lallemand's instrument; and finally the ease with which it can, owing to its softness and elasticity, be introduced even into a very sensitive urethra.

Sometimes a gonorrhœa supervenes upon an old stricture. The gonorrhœa is cured or reduced to a slight gleet, but so soon as ever a bougie is passed to remove the stricture the discharge returns. I have tried pretty well every variety of treatment, and consider on the whole that embodied in the following paragraph as the most satisfactory.

6. Balanitis occurring along with Phimosis and Stricture.—If there be, along with the state of matters just described, balanitis and phimosis, the prepuce should forthwith be divided, unless the patient will permit of circumcision being performed, which is still more effectual. This step speedily disposes of both the latter complications, the balanitis requiring little, if any, treatment after the operation has been performed. The next thing is to reduce the gonorrhœa to a minimum, for according to my experience it is rarely cured at this stage, by means of very mild injections of

nitrate of silver. So soon as ever this is done the solid nitrate should be applied to the stricture, and nothing farther need be attempted till this is set right. With the removal of it, the gonorrhœa, I believe, invariably disappears of itself. The bougie may be tried instead of the nitrate, but my essays with it in such cases have been unsatisfactory, whereas it is scarcely exaggerating to say that the nitrate, though applied only to the contraction, acts with almost unfailing certainty on the whole seat of the running.

7. Excessive Irritability of the Bladder.—Sudden and almost irresistible irritability occurs at times in very healthy persons, often when the gonorrhœa is yielding to the influence of medicines ; but there is also an extreme and rare form which is encountered in delicate persons, and appears to arise from the gonorrhœal inflammation extending back within the first few days of its existence to the bladder. It is sometimes accompanied by a strong tendency to evacuate the bowels on administering a urethral injection.

Notwithstanding all my attempts, I have failed to discover any remedy on which we can rely in this variety of irritable bladder, which, however, is not often met with. I have tried every means recommended in standard works for the form usually seen, along with most of our sedatives and antispasmodics, such as sumbul, chloroform, &c., with no good result. On the contrary, I found the ordinary remedies so injurious here that I soon abandoned them in favour of *tonics*, (using mild sedatives merely as an aid) an antacid purgative, such as a dose of Henry's magnesia or the effervescing citrate, and the steady use of injections. The following history will, I hope, exemplify this class of cases better than any formal description :—

A gentleman engaged in speculations of a very hazardous nature, and subject in consequence to all the variations between the extremes of excitement and depression, consulted me respecting a gonorrhœa which he had just contracted. As he seemed very irritable and nervous I inquired into his history, and found that, after having been long in indifferent health, he had two years before been attacked with influenza, for which he placed himself under the care of a well-known physician.

The disorder slowly gave way, but he had never regained his flesh and strength ; his digestion was impaired, his appetite

capricious, bowels often costive, urine loaded with phosphates and mucus, tongue coated and marked by the teeth. He was haunted by a feeling that he was growing smaller, which, he said, in spite of its absurdity, he could not shake off. The discharge from the urethra was thin, yellow, and profuse, much like that occasionally seen without any manifest cause in elderly men. There was no particular uneasiness about the parts of generation; no pain in making water, chordee, or swelling of the prepuce. The discharge had appeared only two days previously.

A mild saline aperient was ordered, and, as the patient was very timid, only a weak injection was employed. In a few days the irritability of the bladder became so excessive that the injection was instantly thrown out again with a little urine, and the patient had to make water three times in the first half-hour after. This state continued to a certain extent up to a late hour in the evening. He was ordered meat and a glass of port daily, quinine and sedatives were given, and as it was found that the occasional use of brisk cathartics induced much less irritability of the bladder and rectum than the mild aperient had done, they were substituted. Injections of nitrate of silver, however, were principally relied on to remove the discharge.

The first effect of these was to increase the irritability of the bladder for an hour or two after using them, when it quickly ceased and did not return till the injection was repeated the next day. Having syringed out the anterior part of the urethra, the tube of the long syringe was passed down, and when withdrawn pus was found adhering to its point. The long syringe was therefore substituted for the short one, and the injection was gradually raised to the strength of ten grains to an ounce; an amount I have often found necessary whenever it was requisite to apply injections low down. This alteration had the desired effect; the discharge diminishing steadily, though it did not entirely disappear for six weeks. The irritability of the bladder grew gradually less, but to the very last the patient was always compelled to sit down immediately after an injection; and hence, as they were continued occasionally for some weeks after, it may be assumed that this irritability endured, in all, full ten weeks in a rather severe form. There was no relapse, the patient gained flesh and strength under the use of quinine, and married soon after.

8. Inflammation of the Bladder.—This rare complication, when it does happen, generally attacks the neck of the viscus, but whatever be the part assailed, it should, I think, be treated in the same way. The prompt and liberal use of sedatives, hot bathing, the application for a short time of a hot turpentine stupe over the pubis, and a diet of slops, from which wine is not necessarily excluded, are the most suitable of the means with which I am acquainted. Any direct applications are, I think, even when the more formidable symptoms have abated and the affection seems entering upon a chronic state, better suspended. As a rule, the symptoms almost invariably, if not in every case, decline under the influence of these measures, and those recommended for irritability of the organ. The employment, too, of some of the substances of which the injections recommended by certain authors for this symptom, are composed, seems to me as much calculated to endanger the patient's life as to cut short the course of the disorder. M. Robert mentions[1] most serious results as having arisen from an injection of cold tar water. A case of acute cystitis from gonorrhœa, treated with "balsams" and Van Swieten's fluid, ending fatally, in the practice of M. Guilvac, is mentioned in the *Giornale italiano.*[2] After death it was found that perforation of the bladder had taken place. Brodie says[3] that when, in acute inflammation of the bladder, the urine remains acid, and the sediment which it deposits is yellowish, having no adhesive property and being apparently purulent, the patient will often derive benefit from two grains of calomel and half a grain of opium two or three times a day; when it is alkaline, he has known much good arise from the use of vinum colchici, fifteen to twenty minims three times daily, for three or four successive days.

9. Excessive Irritability of the Rectum seems principally due to the sudden and irregular distension of the urethra by the injection. I injected a gentleman with solution of nitrate of silver for a gleet which had been treated with chloride of zinc injection and copaiba; he was compelled to make a precipitate retreat to the water-closet. The next day I made the injection

[1] *Op. citat.*, p. 91.
[2] 1873; An. viii, p. 302. Quoted from the *Bordeaux Méd.*
[3] *Works;* vol. ii, p. 463.

quite weak, although the first had occasioned no great pain; the irritability of the rectum was still as great. I then used the caustic plug described at page 134; this did not induce any irritability of the rectum, and four applications removed the discharge. It came back a little, and he never summoned up resolution again, saying that "for a mere drop of discharge it was not worth the trouble."

10. Perineal Abscess.—Of gonorrhœa accompanied by this complication I cannot give so favourable an account, not having found it so amenable to treatment as might have been expected. Fortunately enough it is rather rare.

It is laid down as a rule of treatment that leeches, antimony, calomel, and black draught should be exhibited for this affection. Those who have succeeded, with these remedies, in checking the progress of perineal abscess, have had better fortune than has fallen to my share, as they have never appeared to me to exert any material influence over its course.

The only remedy from which I have ever found benefit arise is the potassio-tartrate of antimony in large doses, aided by the application of water at nearly scalding heat to the perinæum, and sometimes the free application of the nitrate of silver to the surface.

In six cases out of eight in which I collected the histories, and had an opportunity of tracing them to their close, a complete though slow cure of the abscess took place; the gonorrhœa, however, proved more difficult to subdue than in most other cases. In the seventh the patient, just as the abscess was a little improved, gave up the medicine in disgust, and soon returned with a larger and more painful swelling. This was also subdued by the use of the antimony; but though he attended regularly, the urethra long felt hard and tight at the seat of the abscess, and a gleety discharge remained which proved very intractable. On passing the bougie the canal did not appear much narrowed, but it was somewhat twisted and peculiarly hard and inelastic; there was also considerable dribbling after making water. More than a year after this I met him, when he informed me that he had had no return of the gleet, but the uneasy feeling of hardness was still there.

The eighth case was that of a gentleman in whom the abscess had been checked, eighteen months previously, by the heroic use of leeches, poultices, &c. ; since that time the discharge had never diminished, and was now thick and yellow. He had taken large quantities of medicine, principally copaiba and cubebs, but without any result, except that of increasing disgust for " all physicking." For three or four months he tried blisters, aperients, and injections with unwearied perseverance, but with no effect. I wanted to cauterize the urethra and use bougies, but he said he had suffered so much that he could not bear the idea of instruments. At last he permitted me to introduce a gum-elastic bougie; on reaching the seat of the abscess, the urethra was found excessively tender and irregular. Three years subsequently he again consulted me for two confirmed and very tight strictures of the urethra, one of which was only an inch and a half from the orifice. He had for some time always carried a small bougie, which he occasionally passed a little way down. The discharge had never ceased ; his health seemed quite broken down, and he presented a melancholy picture of a constitution never very sound, now to all appearance ruined for want of resolution to undergo a mild operation. He still persisted in refusing to allow bougies to be used. Subsequently I attended him for complete retention of urine, and succeeded in passing a No. 2 catheter with the greatest difficulty, just as the symptoms had become too serious to admit of farther delay, and after I had resolved, if this failed, to pierce the bladder from the rectum. Although he knew in what jeopardy his life had been placed, and though strangely enough his brother died about this time from stricture, he seemed after his recovery to grow more indifferent than ever.

These cases, coupled with others which I could not watch so completely, quite impressed me with the conviction, not only that perineal abscess should be attacked with the utmost vigour, *but also that the treatment ought to be continued till the hardness has disappeared.* Subsequent experience has enabled me to verify this opinion ; and of late years I have always, so soon as the antimony had checked the inflammation, used the iodide of potass in combination with liquor potassæ till some effect was produced.

The perinæum should be blistered as often as the patient will allow it, and during the intervals blue ointment combined with camphor may be rubbed in every night. The bougie is also to be passed twice a week, so soon as the state of the urethra will permit. If suppuration cannot be averted, the matter should be let out by a *small* puncture with an insect-needle. Mr. John Marshall has used,[1] with great success, solution of morphia in oleate of mercury as an outward application in threatening abscess of the perinæum from inflammation of one of Cowper's glands, as also in epididymitis.

11. Inflammation of the Prostate.—This is one of the few complications, if not the sole one, in which leeches appear to be of service; in all other respects the rules for our guidance may be summed up in the free application of water, as hot as it can be borne, to the perinæum, the employment of tartar-emetic as recommended for abscess of the perinæum, and, if the patient object to this, small doses of calomel or hydrargyrum c cretâ, a sedative every night, rest in bed and very light diet. As to enemata and pessaries, they have, the latter especially, always given more pain when I have seen them used than done good, and I quite concur with Dr. Erskine Mason[2] in objecting to their employment. So soon as the more acute symptoms have passed off, iodide of potassium should always be given. Brodie relates[3] a case, where the patient was suffering great distress from enlargement of the gland, which was two or three times its ordinary size. The patient attributed the disease, and I think with justice, to an attack of gonorrhœa ten years previously. The affection had existed in its present form, and that a pretty severe one, for three or four years. Yet two grains of iodide of potassium, three times a day, in about seven weeks reduced the prostate to its normal dimensions, and, judging from my experience of such cases, would, if taken earlier, have saved the patient all these years of suffering. So soon as the prostatic affection is checked, the treatment of the gonorrhœa may be resumed.

Brodie recommends[4] rest in bed in the horizontal position,

[1] *Lancet;* 1872, vol. i, p. 711.
[2] *American Journal of Syphilography, &c.*; vol. i, p. 289.
[3] *Works;* vol. ii, p. 503.
[4] *Ibid.*, p. 191.

blood to be taken from the loins or perinæum by cupping, from the latter region however only when the services of a dexterous cupper can be secured; when this cannot be obtained, then leeches to be applied to the part. Active aperients are to be exhibited, followed by opiates in the form of an enema or suppository. After the bowels have been freely opened, calomel, in doses sufficient to bring on the mercurial action, is often useful, and if there be retention of urine, a small gum catheter is to be introduced, and the water drawn off when necessary. But, even with so great an authority against me, I do not hesitate to say that the tartar emetic is more efficacious. When any part of the prostate remains tender and swollen, as also in indolent swelling after epididymitis, Dr. Schuster finds the Aix-la-Chapelle warm sulphur-baths very useful. At the same time I must observe, that the recorded effects do not seem to exceed those following the plan recommended, which, thoroughly carried out, rarely, I believe, fails.

Mr. Phillips says[1] that acute inflammation of the prostate may not only end in suppuration or become chronic, but that it may bring about gangrene. I should think the latter could only have ensued under an extraordinary amount of neglect.

A considerable amount of prostatic irritation, or what may perhaps be better described as sub-acute inflammation of the prostate, marked by frequent disposition to pass water, pain after voiding it, possibly though not by any means frequently, some admixture of blood in the last drops of the urine, a sensation of stiffness, heat and weight in the perinæum, is not an uncommon sequel of gonorrhœa, especially when the patient has taken a great deal of exercize and large doses of copaiba. There is not unfrequently a hyper-secretion of mucus, but I believe blood is rarely present, unless the patient has been very careless, and over-exerted himself, or unless instruments have been used. The disorder frequently degenerates into an obstinate gleet, and I shall have to say a few words about this in the next chapter.

A few years ago, when it was thought that the running in gonorrhœa is the natural cure of the disease and the effort of nature to throw off the virus, death from disease of the prostate

[1] *Op. citat.*, p. 303.

was not at all uncommon,[1] a fact which it is just as well not to lose sight of entirely. A case of death from abscess of the prostate, following upon gonorrhœa, occurred some years ago at St. George's Hospital, under the care of Dr. Pitman.[2] The patient was a man of five-and-twenty, and had only been suffering a fortnight when he was admitted, eight days after which he died. The abscess was not detected during life. The autopsy revealed nothing beyond extensive suppuration in the gland, and profuse purulent discharge from the urethra.

12. Inflammation of the Seminal Vesicles.—I have no personal experience of anything like active inflammation of these bodies being set up by gonorrhœa; but it seems pretty certain that an action closely resembling irritability of the bladder is sometimes thus induced, for I have seen vesicular gleet developed by gonorrhœa and prove rather difficult to cure. Respecting the treatment of the former I can say nothing worth the reader's attention; that of the latter consists of tonics with mild aperients to obviate the irritation set up by hard stools, blisters to the perinæum, and, when the urethra remains irritable, weak injections of nitrate of silver with the long syringe to be described farther on. It is perhaps scarcely necessary to caution the junior practitioner and student here as to the diagnosis, by digital examination, of an inflamed and projecting prostate, only about an inch from the entrance of the gut, and with no very marked parting between its lobes, and of the vesicles, which can scarcely be reached with the finger and are widely separated.

13. Gonorrhœal Rheumatism.—Of all the complications this is one of the most formidable and the least amenable to treatment. I therefore propose to consider it somewhat in detail, especially as very contradictory opinions prevail respecting its etiology; the first question that meets us on the way being that of, whether there really is a true gonorrhœal rheumatism, distinct from the ordinary form, and due to gonorrhœa only.

After years of observation Dr. Elliotson came to the conclusion[3] that this affection is not due to gonorrhœa at all, for the reason

[1] Howard, *Op. citat.*, vol. i, p. 218.
[2] *Lancet;* 1860, vol. i, p. 408.
[3] *Medical Times and Gazette;* 1860, vol. i, p. 642.

that, in some cases there was no history of infection; indeed, if I understand him rightly, he seems to have believed that the rheumatism and discharge might come on together, without the patient having had connexion, the running being in fact merely a manifestation of rheumatism, an idea which I have seen twice put forward since his time. The chief reason for the belief seems to be, that occasionally the two affections show themselves when the urethra of a patient, labouring under stricture, has been irritated, and when there is no proof of gonorrhœal infection. But the evidence against this opinion is most strong. In all the cases that I have seen, the rheumatism complicated undoubted gonorrhœa. For many years I have never been without cases of stricture under my care, yet up to the present hour I have not seen gonorrhœal rheumatism from this lesion. Stricture itself means, often enough, uncured gonorrhœa or gleet. Dr. Elliotson's treatment was not likely to have always or even frequently restored the urethra to a healthy state, and therefore we can easily understand, that an irritant which will often, under such circumstances, renew the purulent secretion, should also rouse again into activity the slumbering disposition to rheumatism. I cannot help suspecting, that this is the explanation of catheterism setting up the mischief. Out of all the cases mentioned by Dr. Elliotson, and those writers who have taken his side of the question, there is not one where we can feel assured that the urethra was in a healthy condition, and that the patient had not been, either previously or recently exposed to infection, and no other evidence is to be relied on.

Several writers have espoused similar views; among others Mr. Thomas Nunn.[1] After carefully examining the grounds given by this gentleman for his opinion, I profess myself unable to see in them any justification for questioning the fact, that an obstinate and peculiar form of rheumatism, differing, both in its features and in its resistance to treatment, from the ordinary complaint, is set up by gonorrhœa in the urethra. Mr. Nunn's own arguments damage the conclusion he aims at. His contention seems to be, that constitution may have a good deal to do with the matter, because some persons have a tendency to this complaint, a fact which no one ever sought to controvert if the foregoing gonorrhœa

[1] *Lancet;* 1871, vol. ii, p. 909.

were only admitted; that gout may give rise to urethritis, and that obstinate stricture may be complicated by a syphilitic taint. Granting all this, I cannot see how it is to be looked upon as proof that gonorrhœal rheumatism does not exist.

I would meet in the same way the arguments of Brodie[1], and Dr. Angelo Scarenzio.[2] In not one of the cases described by the former is there anything to show that the disease broke out in a person who had never had gonorrhæa; in most of them there is proof enough, that this had been the case at the beginning of the story, and that an uncured state of it might have been at the bottom of the relapse. Urethritis is not a common result of rheumatism in a person who has never had gonorrhœa, yet this is substantially what Brodie would maintain. In one of Scarenzio's cases, directly he stopped the urethral discharge with the nitrate of silver, the rheumatism began to abate. The urethritis returned, and with it came back the rheumatism in a worse form than ever; he again cauterized the urethra with the same good effect, and a decline in the rheumatism at once showed itself.

Twice I have treated gonorrhœa in persons intensely rheumatic. The first patient had, when I saw him, suffered from the discharge upwards of six years. He never had, all this time, a sign of gonorrhœal rheumatism. Two or three times before, and once while under my care, he was attacked by common lumbago. It came and went as this affection usually does, yielding on one occasion to simple ironing. The urethral discharge was not in the least influenced by any of these attacks. The gleet was cured and never returned, but the lumbago came more and more frequently, till he became a perfect martyr to it and rheumatism in other places. The other patient had been severely tormented with rheumatism for quite eighteen months, and was only a little better when he contracted the discharge. Though he had orchitis and irritable bladder, no exacerbation of the rheumatism ensued, nor did any other form of this complaint appear.

This much for the dependence of gonorrhœal rheumatism on a special disease of the urethra; to the best of my judgment it differs also in its course and symptoms from the non-specific form. As

[1] *Works;* vol. ii, p. 145.

[2] *Giornale italiano;* 1874, vol. ii, p. 129.

I have seen it, the gonorrhœal kind has attacked the loins, head, heart, and hands far less frequently, and the soles of the feet and heels more often than the other. It appears, in its most acute and formidable shape, without any of those symptoms of general disturbance which so often accompany common rheumatism. The rheumatic fever, which requires a six weeks' course of mint water to cure, is unknown here. In all the cases I have seen, it was not the pyrexia but the pain that laid the patient up. Fournier noticed[1] fever, but slight and of brief duration, the pulse being never more than 90 to 100. The great prostration, too, which we see in the rheumatism of everyday life, the gastric derangement, acid sweats, and great deposits of lithates are absent. There is more fixity in the disease and it is less general. It shows itself rarely if at all in the shape of shifting pains, nor have I seen it creep from the wrists to the elbows, from the ankles to the knees. Its attack is more sudden and concentrated, its decline slower and less sudden, while both seem quite independent of the weather.

Ordinary rheumatism, when it does fasten on the frame with such severity as to last for years, is almost always more general and formidable at the outset than the specific kind. It is not a common thing for the first attack of it, in a purely local shape, to lay strong men up for three or four months, as we see in the gonorrhœal variety. The latter often shows itself in a patient who has neither had rheumatism before, nor manifested any rheumatic tendency, and when it is cured does not, according to my experience, return unless the patient be again infected, when it usually reappears, however thoroughly it may have been treated.

This part of the subject has been argued with great ability, at the Hospitals' Society in Paris, by M. M. Lorain, Féréol, Hervieux, Peter, and Fournier, in a debate which continued upwards of two months, and which is fully reported in the *Gazette Hebdomadaire* for 1866 and '7, and in the *Union Medicale* for a corresponding date.[2] The first named speaker maintained[3] that gonorrhœal rheumatism may arise from other morbid conditions

[1] *Gazette Hebdomadaire;* 1866, p. 793.
[2] Nouvelle serie; tome xxxii.
[3] *Gazette Hebdomadaire;* 1867, pp. 42, 106.

than urethritis, but his arguments were previously met by M. Fournier, with counter-arguments of superior force, in a memoir communicated to the society[1], and later on, in a series of papers published in the *Annales de Dermatologie* for 1869 which it is no exaggeration to speak of as masterly productions. From these I have borrowed what follows.

M. Fournier says that the essential, efficient, indispensable cause of the symptoms, which we comprize under the name of blennorrhagic rheumatism, is blennorhagia itself, and he finds that simple urethritis does not set up this kind of rheumatism in persons who *are* attacked by it if they happen to catch gonorrhœa. But I am quite of M. Féréol's opinion,[2] that M. Fournier goes too far in ascribing it so unhesitatingly to catheterism, and saying, that if we give him a sound he will produce gonorrhœal rheumatism. I have repeatedly passed both the bougie and catheter in gonorrhœa; I have drawn off the water day after day, have used the long syringe, and even the caustic holder, in this disease without any such result; whereas the symptoms ensuing from the employment of the catheter acting unfavourably, are far more menacing —shiverings, quick pulse, great prostration and anxiety, loss of appetite and formation of pus.

Fournier's observations are so full and important that I continue them here, albeit perhaps a little out of place. He found that out of fifty-two cases the joints were not affected in fifteen, and that in sixteen cases out of fifty-two the disease was limited to one locality. It is to be observed, however, that he ranks ophthalmia among the manifestations of this rheumatism, and some instances of it are counted among the number limited to one spot. But he finds the gonorrhœal form more often restricted to a few places than to one, which does not accord with my experience, while it does not, like common rheumatism, attack several joints at once.

He recognizes four divisions of this affection. 1. That of hydrarthrosis, which is very rare and which I have not seen at all. 2. The rheumatic or arthritic form. 3. Simple arthralgia, in which there are joint pains, leaving the joint however unaffected; showing no tenderness or tumefaction; no creaking is heard on

[1] *Gazette Hebdomadaire;* 1866 and 1867. [2] *Ibid.*, 1867, p. 44.

moving the joint, and the part is not very sensitive to pressure, sometimes even indolent. He has seen this form in the knee, wrist, shoulder, metatarsus, articulations of the phalanges, and temporo-maxillary joint. 4. The knotty form, which is accom panied by deformity of the joint as in knotty (*noueux*) rheumatism or gout. This attacks not only the joint, but also peri-articular fibrous tissue, and even periosteum, thus inducing both periostitis and periostosis, or inflammatory exudation, the latter taking its origin in the tissue (*trame*) of the periosteum, painful at first but gradually assuming the shape of an indolent, flattened deposit, so adherent to the bone as to be motionless. He has seen this variety in the corpo-metacarpal, metatarso-phalangeal articulations, and in the great toe.

He has noticed that non-articular parts are more frequently attacked than articular, and that the affection may fasten upon more points numerically than common rheumatism would. In the list of manifestations he includes rheumatism of the tendinous and mucous bursæ, and muscles, simple pains, ophthalmia, neuralgia, as seen for instance in the sciatica elsewhere described by him, and phlegmasia of the periosteum, but rejects the lesions of internal organs, believed in, as I understand from a review[1] of his work, by M. Lacassagne and others, such as those of the pleura, endocardium, pericardium, as also those of the venous system, the rachidian and cerebral meninges, liver, salivary glands, &c.

Once in every three or four cases gonorrhœal rheumatism will appear in other parts than the joints, these other parts including, it is to be remembered, the eye. More persons are affected with the articular than with the non-articular form, the proportion being for the former about thirty-seven out of fifty-two of all cases. This is seemingly in direct contradiction to what has just been said, but he explains the discrepancy by pointing out, that the number of attacks, or rather of points assailed, is greater in a case of the non-articular kind. The arthritic variety is not confined to one joint, as is often stated ; he only found it so sixteen times out of the thirty-seven cases just spoken of. Consequently he does not accept this as the distinguishing feature

[1] *Union Medicale ;* troisième serie, tome xiii, p. 10.

between gonorrhœal and common rheumatism; the great peculiarity of the former is that the disease does not attack many joints at the same time, and never makes such a general invasion of these structures as we may see in the non-specific form.

Up to the date of his memoir he considers that there had not been recorded one authentic case of the disease ending in suppuration of a joint. He however gives one where this took place; the elbow was the part affected, but the formation may have been, in some measure, due to intercurrent typhoid fever by which the patient was cut off. Since then another case has been published in the *Gazette des Hepitaux*. In an earlier edition of this work, I stated that suppuration had been noticed in the ankle joint from this cause. This statement, as also that of gonorrhœal rheumatism having been seen where there had been no gonorrhœa, I took from notices of the disease in the journals, principally the *Union Medicale*, as quoted, not having been able to get at the original memoirs. Farther search having proved useless, I must leave the matter as it now stands. The arthralgic form does not seem to be accompanied by any pathological changes in the joints; it is usually seen in the course of recently contracted gonorrhœa, along with other signs of specific rheumatism, such as synovitis, painful inflammation and ophthalmia, or it may accompany an old gleet without any other manifestation.

Among the unusual places where Fournier has noticed gonorrhœal rheumatism, are, in addition to the temporo-maxillary articulation as already mentioned, three cases of which have also been reported by Padova,[1] the spine of the scapula, insertion of the tendon of the patella into the tuberosity of the tibia, the carpo-metacarpal joints, and, in two cases, at spots on a level with the spinal apophyses of the dorsal vertebræ; localities in which I believe it is most rare to meet with painful, isolated rheumatism of the common type. The proportion of those affected with gonorrhœal rheumatism, to that of gonorrhœa patients, is put down by Fournier at one in sixty-two, or thirty-one in nineteen hundred and twelve.

I proceed to another set of facts, shewing the exceptional tenacity sometimes manifested by this disorder. A young, healthy

[1] *Giornale italicno;* 1873, an. viii, p. 231.

looking man applied to me with chronic gonorrhœal rheumatism, which had incapacitated him for four successive winters from doing any work. It was principally seated in the sole of the foot, and the pain was so severe that he could not stand more than half an hour. If he attempted to exceed this time, a hot burning pain attacked every part on which the weight of the body rested, and this soon became so severe as to compel him to lie down. Even when resting the pain grew so excessive towards night that he could not wear a boot. He had wandered about from one surgeon to another, till at last, from sheer poverty, he was obliged to enter a hospital, where he remained eight weeks. He came out as bad as he went in. In this case the pains began three days after the appearance of the gonorrhœa, and resisted three separate salivations carried so far as to loosen the teeth. What else he had used he could not tell; but I gathered from his account that galvanism, cramps to the feet, and mustard-poultices had been tried. Second case very similar and almost as severe.

In a third case the patient was attacked quite ten years previously, and was confined to his room the greater part of the first eighteen months, under the care of a surgeon who really seemed to have done almost everything that could be done. Amongst other things the patient took lemon-juice in such quantities that he used to buy the lemons in Covent Garden by the hundred. A long and most tedious recovery left him very lame, both in his hands and feet. About six years afterwards he contracted another discharge, for which he placed himself under my care, and immediately another attack of rheumatism fastened upon him. For weeks he could scarcely turn in his bed, and at the lapse of four years was still suffering. I afterwards heard that he had recovered.

In a fourth case, seeing within the first day or two that signs of rheumatism were showing themselves, I closely questioned the patient as to whether he had ever suffered from this complaint or not, and learning that he had, I begged of him to let me take the most energetic measures at once. Instead of this he went down into the country and thoroughly neglected it. Rheumatism of the most violent character at once assailed both thighs and both knee-joints, extending seemingly up the sheath of the spinal cord, as when I next saw him a few months after he could not stand

steadily, and was almost paralyzed from the loins downwards. Even then nothing could induce him to be prudent, and in this shattered state, a perfect wreck to all appearance, he contracted another discharge. The result was an immediate exacerbation of the rheumatism, which had remained bad all the time. The paralysis also rapidly gained ground from this time, and when I last saw him, *a very few weeks after the first appearance of the discharge just spoken of*, he was unable to get up even two stairs, and could not stand at all. All control over the rectum and nearly all over the bladder was lost.

In the fifth case the patient, a fine, strong, healthy, and very active man, who certainly would not have allowed any trifle to lay him up, was attacked with this rheumatism in the shoulder almost directly after the gonorrhœa showed itself, in such a violent form that he was four months confined to bed, though his surgeon, a gentleman at the head of the surgical department of a large hospital, showed every attention to the case.

Another patient, who had already suffered from periostitis in the tibia, had an attack of rheumatism from a slight discharge. It was subdued, but the treatment was broken off before anything like a complete cure was effected. Soon after the rheumatism appeared he had complained of an uneasy feeling in the site of the periostitis, and shortly afterwards this returned with such severity, that, after nearly losing his leg, he was glad to escape with two abscesses in the tibia and a serious illness of several months' duration. I think it may safely be said, that ordinary gonorrhœa, in such a shape, does not exhibit this almost unconquerable obstinacy.

Mr. Pidoux also points out[1] differences in the course run by gonorrhœal rheumatism. Thus, for instance, when the latter attacks the radio-carpal articulation, the swelling all at once attains such a height that the folds and projections disappear, and the narrowing at the wrist is lost, while the diameter through from front to back almost equals that from side to side. The synovial membrane is thickened, the extremities swell, and, if the case be refractory, atrophy is set up in the muscles inserted above and below the articulation. Even when the gonorrhœa is quite

[1] *Gazette Hebdomadaire*; 1866, p. 822.

recent, the patient has a pale fatigued look, a change which I have not noticed; finally, he tells us that this form of gonorrhœa brings in its wake obstinate swellings of the inguinal and sub-maxillary glands, sebaceous acne, pityriasis, impetigo of the scalp, coryza and crusted eruptions on the lips, not one of which have I seen.

According to the experience of M. Laboulbène[1], there is a wide distinction between the pathological products of this and the common form. He twice punctured, with M. Potain's aspirator needle, the right knee joint of a young man suffering under gonorrhœal rheumatism. The liquid obtained was yellow, viscous, purulent, and much charged with fibrinous matter. It contained a largish proportion of pus globules and blood globules, but no mucine, whereas the fluid of simple synovitis and ordinary arthritis yields abundance of this substance. The blood, too, does not show the buffy state seen in the common form.

We have now to examine the machinery by means of which this obstinate complaint is called into activity. Mr. Bond considers[2] that it is due to absorption of a morbid material from the urethra, though he is "not prepared to explain" the exact way in which this process takes place, so that we are left to help ourselves here. According to him, rheumatism so essentially depends upon the disease of the urethra, that the first condition of successful treatment is to set this canal in good order, an excellent rule of practice, but subject to exceptions, seeing that Mr. Bond might have read, in an earlier number of the Journal to which he contributes,[3] a case where the rheumatism was successfully combated, while the discharge was not treated at all, and relapsed after the rheumatism was cured. This gentleman finds the complaint often accompanied by congestion of the sclerotic, and most prevalent among the poor, ill-fed and anæmic. I apprehend, however, that this is because such states predominate in dispensary practice, of which he is speaking; in private practice, I have seen gonorrhœal rheumatism often enough among men both robust and well-fed.

With regard to any such conjectures, as that the complaint is

1 *Gazette Hebdomadaire;* 1871, p. 475.
2 *Lancet:* 1872, vol. i, p. 396.
3 1860, vol. ii, p. 265.

due to metastasis of the gonorrhœa, or its suppression by means of copaiba and injection, there is a short and simple way of dealing with them. The complaint occurs when no specifics have been given and no injections used. I have attended cases where the pain has come on within seventy-two, and even forty-eight, hours after the appearance of the discharge, and have even known patients uncertain as to which began first. The discharge is not usually, if it be ever, suppressed by the outbreak of the rheumatism, but indeed there is no such thing as thorough suppression of the gonorrhœa in the usual sense of the word; for what effects such a change cures the running, and very often the rheumatism cannot be subdued till the purulent secretion is got under.

Some of the french medical men seem to be much interested in the question, of whether gonorrhœa here sets up a new diathesis or evokes a latent one, and draw a distinction between a diathesis and a predisposition. I must dissent unequivocally from the first proposition. I have examined hundreds of patients after gonorrhœa, and in no instance have I seen reason to believe, that it affected the constitution in such a way as "acquiring a diathesis" would infer; while there is fair reason for suspecting that it awakens a predisposition, because by no effort, no precaution, can either patient or surgeon avert the attack of rheumatism when once the gonorrhœa has begun. I do not see, too, how a diathesis can be acquired within seventy-two hours, and as to the distinction between this and predisposition, it seems to me that in disease they mean much the same thing.

I have in different papers endeavoured to show that the organs of which the human frame is composed naturally divide themselves into four great classes:—1. Those of generative life; 2. Those of animal life; 3. Those of organic life; 4. Those which possibly represent some form of extinct life on the globe, and which at any rate play no ascertained part in the human economy—as the thymus, thyroid gland, &c.; that maladies commencing in one class have little tendency to pass to another set of structures, although one class may sympathize with another, and that this *sympathy* and this *slight tendency* obey some law which has yet to be worked out.

Thus in gonorrhœa—an affection of the organs of generation

—such structures as the eye and skin, fibrous tissues, &c., sometimes, though rarely, become involved, those of organic life never; that which distinguishes man from other animals may sympathize, the structures which distinguish essentially the animal from the vegetable do not. When gonorrhœa first attacks a patient, the weariness, lumbar pains, &c., show a sympathy between the generative and the animal life. Rheumatism and ophthalmia are also evidences of the working of this form of sympathy. But if ill-health (an affection of the organic life) ensue, it is from the prolonged action of medicines and the mental irritation caused by the tedium of the disease. Or if one of the fourth class of structures, as the prostate, become involved in the extension of the gonorrhœal inflammation, it is mechanically, it is by the sympathy of contiguity only; the distant organs of this class, the thymus gland, spleen, &c., never suffer. The subsequent investigation of M. Fournier support this view. He reveals to our eyes a picture of ample disturbance set up in the structures of animal life, but not a trace of such action in those of organic life. I also stated that I suspected gonorrhœal ophthalmia and rheumatism to be due to the same diathesis, a view also upheld by Fournier.

Mr. Johnson says he has generally found this affection in persons of a "gouty habit." If by this he meant persons who have previously had gout, I can only say that I have not observed the fact; if by "gouty habit" be meant a temperament disposed to gout irrespective of its having ever shown itself, a temperament so marked that an observant surgeon can predict its possessor will one day be gouty, I reply, that I am quite ignorant of the signs which point out such a diathesis. Mr. Johnson tells us that it has all the features of rheumatic gout, but I know of no such disease. A patient may have gout and rheumatism at the same time, but that is a different matter.

Gonorrhœal Rheumatism in Women.—Were I to be guided by my own experience in deciding, I should say that this affection is excessively rare in the other sex, and its existence even in women has been denied. But numerous cases prove its occasional appearance. One is reported by Mr. de Meric.[1] There is one

[1] *British Medical Journal;* 1867, vol. i, p. 335.

entry of this disorder in the female in the sixteenth volume of *Guy's Hospital Reports*,[1] and another of two cases in the eighteenth volume.[2] A case is very carefully reported by Mr. Hardy,[3] and Dr. Angelo Scarenzio saw three cases in women, all accompanying gonorrhœa of the urethra.[4] In a space of about two years, M. Fournier saw seven cases in the female, and does not consider the disease so very rare in women, but I confess that I lean to the prevailing opinion.

Gonorrhœal Sciatica.—Perhaps it will be better to take this affection here, as it seems clearly to be gonorrhœal rheumatism affecting the sciatic nerve. I believe it was first noticed by Sir Everard Home, but the credit of thoroughly investigating it belongs to M. Fournier. As long ago as 1867 he had collected ten cases.[5] The affection is as distinct from common sciatica as gonorrhœal rheumatism from the ordinary kind, being marked by great suddenness of attack and rapid subsidence, abatement appearing in three, four, or five days; by its assailing persons suffering under gonorrhœal rheumatism and rapidly becoming intense; by its sometimes alternating with gonorrhœal rheumatism and yielding very quickly to cupping and narcotic applications; and by its returning with a fresh infection. Two of Fournier's patients twice had it after gonorrhœa. A carefully prepared abstract of M. Fournier's views will be found in the *Medical Times* for 1868.[6]

These varieties having been considered, there remain for examination two points connected generally with this form of rheumatism and it will be as well perhaps to review them here. I have said that gonorrhœal rheumatism is much less influenced by the weather than the common form, and in the usual acceptation of the word I believe this to be so; but if the term be understood to include those great climatic mutations, which seem to cause the extinction of some diseases in parts of the world, such for instance as leprosy, and call others into life, then I think it is possible enough, that gonorrhœal rheumatism may have been evoked by those mysterious changes which have of late come

[1] Third series, p. 568. [2] Page 441.
[3] *Dublin Quarterly Journal*; vol. xlvi, p. 241.
[4] *Op. citat., loc. citat.* [5] *Gazette Hebdomadaire*; 1867, p. 123.
[6] Vol. ii, p. 647.

over the earth.[1] The disease seems to be quite modern; at any rate it has only been recognized of late years, a theme on which I wish to say a few words.

In a former edition of this work I stated that I believed we were indebted to Brodie for our first knowledge of this affection. Since then I have lighted upon two papers which might lead any one, who read them, to think I had committed a grave error. One is by Dr. Elliotson[2], who, quoting from Dr. L. Brandes of Copenhagen, says that gonorrhœal rheumatism was first noticed by Swediaur, and then by Monteggria, an italian surgeon, in 1798, and that it was afterwards described by Sir Astley Cooper, in his lectures in 1806 and 7.

Dr. Elliotson does not give the date of the edition of Swediaur, and therefore it is not easy to examine the question to one's satisfaction. That of 1788, which was the only one in the Library of the College of Surgeons at the time when I wrote, does not contain a word about the matter. Indeed, though Swediaur devotes several pages of it to a general abuse of Hunter, he never seems to have noticed that the latter writer records a case of the affection. In the edition of 1819, recently added to the Library, there is a brief notice[3] of it. He gives to the disorder the name of gonorrhœal rheumatism, and describes it as attacking the knee, and yielding to mild diluents, and a liquid ointment made with "gum resin ammoniac" and vinegar of squills. He does not seem to have had any idea of its distinctive characters.

As to Monteggria I can find out nothing about him. There is a work by Monteggia, but of a later date and on general surgery[4]. It contains a chapter on rheumatism, but I do not see a word upon the gonorrhœal variety. Dr. Elliotson is quite right in saying that Sir Astley Cooper described the disease. He did this, in so far that he narrates[5] the case of a patient, who told him that gonorrhœa was always followed in him (the patient) by rheumatism; and he adds that this proved to be so, for it ensued, in a very obstinate shape, in the very case for which Cooper was con-

[1] *Pathology and Treatment of Diseases of the Skin.* By the author. 1872, p. 291.
[2] *Medical Times and Gazette;* 1860, vol. i, p. 642.
[3] Vol. i, p. 252.
[4] *Istituzioni Chirurgiche:* 1813.
[5] *Lancet;* vol. iii, p. 301.

sulted. He too does not seem to be aware that the disease is a separate and very unmanageable variety.

The other paper is by Mr. Nunn[1], who briefly states that the disease was described by Swediaur in the edition of his work published at Paris in 1801. This edition I have not seen, but I suppose we may safely assume that it does not contain much more information than the one published eighteen years later, which I have just stated to be very elementary indeed.

The authors of these two papers do not seem to be aware, that all the essential features in the discoveries of Swediaur and Cooper were made known by Hunter many years before, that is to say as far back as 1786. "I know," he says[2] "one gentleman who never had gonorrhœa but that he was immediately seized with rheumatic pains;" and Whately, writing in 1801, reports[3] a case where a patient with gonorrhœa was seized with rheumatism of one wrist, then in the other wrist, and afterwards both knees in succession; after another attack of gonorrhœa the patient again had rheumatism, first in one knee and then in the other, and then again in the ankles and wrists. I believe every person who reads Whately's work will feel sure that he considered these affections of the joints to be gonorrhœal.

But this is not what I meant. I thought and still think, that Brodie was the first who recognized the true nature of the disease and made it known. I do not see, in any writer before his time, the least proof that its distinguishing features and obstinate character had been appreciated; and I think any one, who will compare Swediaur's fragmentary description, and his ridiculous statement about the affection yielding to diluents and ammoniac, with Brodie's luminous account and his clear recognition of its resistance to treatment, will come to much the same opinion as myself.

Treatment.—Up to within a recent period the treatment which I adopted was that laid down in the last edition of this work, and of which I now proceed to give a summary. The reader will observe that I speak of it in the past tense, the grounds for which will be shown farther on.

[1] *Lancet;* 1871, vol. ii, p. 909.
[2] Treatise on the Venereal Disease, p. 51. [3] *Op. citat.*, p. 75.

In the acute stage, the hydrochlorate of ammonia was given in half-drachm doses every two or three hours. If this failed, free use was made of the *nitrate of potass*, which was prescribed in scruple or half-drachm doses every three or four hours in guaiacum mixture. Should the patient be very low and the tongue coated, the infusion of serpentaria or cascarilla was ordered in preference as a vehicle for the potass, and the suggestion was thrown out, that if the reader were of the antiphlogistic school, he might, for conscience-sake, give a little antimony with each dose, though, so far as my experience goes, I should say it was useless.

At the same time the bowels were to be kept freely open, and perhaps there are no better remedies than a colchicum pill, followed by a dose of *calcined magnesia*, a teaspoonful of Henry's magnesia every morning being to my thinking the most efficacious medicine of the kind. The pain was to be alleviated by means of morphia in conjunction with acetate of ammonia, or laudanum in combination with brandy. If the patient can manage to get the dose down, Dover's powder is not a bad form for giving opium.

So soon as ever the first severity of the disorder was checked, another class of remedies was to be called into service—a class particularly adapted to the more advanced stage.

Foremost among these stands iodide of potassium. Should the surgeon decide upon giving it *alone*, I ventured to suggest that it should be ordered in five-grain doses and be prescribed with some aromatic tincture or infusion, and a mild diuretic, as the spirit of nitre or juniper: another remedy always resorted to was colchicum, and I am not in any way prepared to say that it ought to be given up. On the contrary I can quite conceive that there are cases in which it may be of great service. When a fluid preparation is called for, I prefer the wine of the corms. The dose in the pharmacopeia is put at twenty to thirty minims, but according to my experience it is absolutely necessary to order quite the latter amount, or even more, twice a day, or twenty minims thrice daily. No fear need be felt about giving this quantity. The reason why colchicum so often fails is that it is prescribed in a form which insures all its distressing effects, and in quantities so small as to be quite useless. It should be kept in large bottles, as suggested by Home, in order to insure the settling of the gum and starch, which

most probably bear with them the colchicin. Only the perfectly clear liquid should be used, and of this a couple of drachms may be administered daily without bringing on either purging or sickness to any extent worth notice. It can be given along with the iodide of potass mixture, and both should be taken after a meal.

Mr. Johnson doubts whether colchicum can be "a substantive remedy" for gout or rheumatic gout, because it is beyond what his "*chemistry or physiology can comprehend*," that "it should rid the blood of those poisonous constituents which are in excess." Such an opinion, accompanied by the alarming statement that "its continuance" may lead to organic deposits, tophi, or fatty heart, might lead hundreds to refrain from the use of this valuable remedy to the extent to which, if employed at all, it requires to be carried. These fears, however, are quite gratuitous; ample experience has shown that colchicum, properly prescribed, may be used for years. Mr. Johnson does not object to its use so much, provided that "with alkalies and with the neutral and diuretic salts *we antagonize the acids* of nitrogenous origin," and dismiss them by the kidneys and skin. I should have thought it was somewhat difficult to antagonize an acid with a neutral salt, and that to prescribe alkalies, neutral salts and diuretic salts all in one sentence, was rather vague for a chemical theory of treatment.

But what nitrogenous acids are there in the blood? Perhaps uric and hippuric acids are meant; if so, a little more precision would have possibly conduced to a clearer understanding of the matter, as sceptical people might be induced to say, that if present in the blood they are pretty well neutralized. But their presence in this fluid is quite a moot point. It is not very certain that uric acid exists free even in urine; that it circulates free in the blood to any extent, is as a rule quite out of the question, and this holds good of hippuric acid. Besides, the fact of the blood being alkaline precludes the possibility of such a thing as free acids being found in it.

At every risk of being thought tedious and argumentative, I say at once, that if treatment is ever to be made dependent upon chemical theories, the patient will be safer in the hands of a hospital nurse than of a learned physician. If we are to hold

to doctrines suited to the days of Voltaire and Molière, let us at all events be consistent, and begin by burning the works of Hunter, Brodie, and Cooper—people who trusted a good deal to experience—and branding them as impostors.

I do not wish to attack Mr. Johnson, it is the system that I assail. I consider strictly scientific, or chemical, treatment as little able to help us now as ever it was, and expressly give it as my opinion, that a man who refuses to employ a valuable remedy because he does not understand on what principle it acts, is as far wrong in substance as any of the schoolmen attacked by Locke and Bacon, or any of the Laputan philosophers invented by Swift. Reason must be guided in its first groping trials by the torch of experience, and I agree with Dr. Bushnan in thinking, that rational medicine is more likely to land us in fatal results than ever to assist us out of a difficulty.[1]

Along with those remedies blistering, not only thoroughly but repeatedly, was advized, and in old cases and where the foot is the principal seat of the pain, blistering by cantharides not being strong enough, tartar emetic ointment, which will generally in time get through the toughest skin, was recommended. In some obstinate cases a joint was to be bandaged with mercury plaster, or the hot douche was to be used, or even pumping cold water over the part; the resolute use of the hair-belt being perhaps as good as any.

Such was the treatment which I usually adopted, and now, on comparing it with that of others, I am disposed to think it was as useful as treatment generally is; that is to say it relieved some of the symptoms, and perhaps in some cases shortened the course of the disease. Thus for instance, in that of the first patient just mentioned the iodide of potassium and strong blisters to the feet relieved him so far that in five or six weeks he was able to do a little work; after this he left off attendance. I learned from time to time that he was steadily improving, but I never knew whether he was cured, though I was informed by his landlady that he could get through a fair day's work. In the second case the first blister so relieved the shoulder, in which the pain was principally seated, that the patient informed me the ointment (employed after

[1] *Remarks on the Narrow Limits of so-called Rational Medicine.*

the blister) had "soupled" the joint. At the end of ten days he could place his hand on the back of his neck, and a second blister so much improved him, that to my regret he left off his treatment and went to sea again. In the third the persevering use of iodide of potassium and tartar emetic ointment did good, whereas the patient's account was that he derived no benefit whatever from other means.

But for some time past I have felt much inclined to doubt whether I was not searching in a wrong direction, and one or two observations with respect to the effects of a somewhat different system both in this disease, in ordinary rheumatism, and in gout, having made me still more suspicious on this head, I resolved to try a method which, judging from its action in the following very severe case, seems to merit consideration.

Early in February 1874 I was consulted, by a surgeon, about a patient suffering from most obstinate gonorrhœal rheumatism in the ankle, knee, and back, which ankle and knee was not stated. The patient had first noticed the discharge about a week before he applied to the surgeon, and the rheumatism showed itself a few days after this. As he resided at a long distance I had no opportunity of verifying the dates, and at a later period, when I saw the patient, I omitted to do so. The running was reported to be most profuse, and accompanied by great soreness inside the urethra. It had remained quite unaffected by antiphlogistic treatment, potass, copaiba and cubebs, singly and combined; nor did these remedies influence the rheumatism, the pain of which was so great that the patient had to take hydrate of chloral for weeks to get some sleep. The treatment of gonorrhœa laid down in this work was next tried; but with no better success. I recommended that the rheumatism should be combated as mentioned in the foregoing pages.

On the 22nd of May I was called to see the patient, who had arrived in London. The discharge was so profuse as to drip from the penis when the wrappings were taken off. The rheumatism, described by the patient as being chiefly situated in the feet, which were greatly lamed by it, and also to some extent in the back, had yielded but very little, except in this respect, that, whereas it had formerly fixed itself also in the left knee and hip, and in the right

shoulder, it was now restricted almost entirely to the parts mentioned. The patient was also suffering from ophthalmia with great sensitiveness to light. He now mentioned to me what I was not aware of before, that he had thirteen years previously had an obstinate gonorrhœa, which had resulted in stricture. This had been dilated, and up to the time of the second infection he had, at intervals, passed a pretty large bougie in accordance with the directions given by the surgeon. He was thin and pale, very dejected in spirits, and suffering from indigestion, which he ascribed principally to the use of specifics, also from great irritability of the bladder. The pain from the rheumatism was so severe at night that he could not sleep without a sedative, and his appetite for natural food, never very strong, had quite left him. In the interval between the first and second consultations, galvanism had been tried for the rheumatic pain, but a pretty long use of it had failed to do any good. On examining the urethra I found it very much contracted. The patient's age, I may remark, was about thirty-four.

I ordered this gentleman to drink a bottle of burgundy a day, and, if he could not manage that amount, to take as much as he could, to have a large glass of good milk and the best rum every night on going to bed; a restorative diet, comprizing plenty of fat ham and bacon, beef tea with vermicelli or isinglass; to have quinine at first twice, and then three times, a day, raising the dose as fast as he could possibly bear it up to three, four, or even five grains; to keep the bowels gently opened by means of an aperient pill containing colchicum, and, when a sedative was required, to take a full dose of bimeconate of morphia. For the rheumatism he was ordered to have a sulphur fume bath occasionally, and after that a vapour bath. During the next seventeen days the nitrate of silver was applied fifteen times, but very gently each time, to the stricture. At the end of this the patient left for the country, feeling, he said, very much better and stronger. The discharge had diminished, but not materially. The ophthalmia was a little improved, and for it his medical attendant was asked to drop occasionally into each eye a minim of solution of nitrate of silver. He was directed to blister the penis and perinæum well, and occasionally to pass a bougie.

On the 22nd of July the patient called to report that he was now comparatively a new man. The "discharge proper" of the gonorrhœa, as he called it, had quite ceased. The rheumatism, which had so completely defied what seemed appropriate means, had yielded to this strange treatment as his medical attendant seemed to consider it, and was dying out. He was free from any irritability of the bladder. He could eat and sleep better, and felt much stronger. The ophthalmia seemed slowly passing away. Beyond the occasional passing of a number ten bougie, which he could do very well, no other treatment than that mentioned had been adopted. He had continued the quinine, diet, and vapour baths; the sedative he had almost entirely given up.

Taking all things into consideration I thought any change would be injudicious, and therefore simply directed that the nitrate should be occasionally and very gently used, limiting the application to the seat of the stricture; that he should continue his wine, and, unless already sick of it, the rum and milk; that the quinine and colchicum should be resorted to occasionally, and that he should blister once more at any rate. I saw him again in the succeeding February, when he reported a decided amendment in every respect, the last vestiges of all except the stricture having now gone.

I do not mean to say that, because this case turned out so well, the reader should on that account abandon all the lessons of experience, and treat every case of gonorrhœal rheumatism with tonics and high living; but I do ask him to weigh the circumstances. This gentleman's case might well be described as truly deplorable; it had gone on above eight months without any improvement whatever, and yet the patient, who ought to know better than any one else, stated that he began to mend directly the treatment was changed, and that the improvement went on to the close without any halt or check; results which did not seem in any way likely to flow from the measures which I formerly suggested. His medical attendant seemed of quite the same way of thinking.

As regards hypodermic injecting and galvanism in this affection, I have no very conclusive observations to offer, and numerous observations of their action in the ordinary form of rheumatism have not induced me to look upon them as so powerful, when unaided by other means, as some writers do.

Among the patients at the Dreadnought Hospital gonorrhœal rheumatism is often seen to assume a degenerative form, marked by structural changes in the ligaments, cartilages, and bones, and "peripheric or interstitial or fibrous anchylosis" occasionally follow. In a very good report of the practice there, in the *Medical Times*,[1] a case is mentioned of two years' standing, where fluid had accumulated in both knee joints, so that it became necessary to tap the swelling and draw off the fluid by means of a small canula, after which the part was tightly strapped with gum ammoniac and mercury plaster, under which a good cure was effected. M. Laboulbène's treatment with the aspirator needle seems to have been useful. Four days after the second puncture of a knee joint, and twelve days after the first, the patient left the hospital cured. M. Furneaux Jordan says[2] he has found nitrate of silver, applied almost to vesication, remove gonorrhœal rheumatism of the knee in twenty-four hours.

14. Gonorrhœal Ophthalmia.—Mr. Robert Taylor distinguishes—1. *Gonorrhœal Ophthalmia*, resembling ordinary purulent ophthalmia, except in its origin, which is due to the contact of gonorrhœal matter. The conjunctiva is first affected, and thence, if unchecked, the inflammation extends to the other tissues. It is a very destructive form of disorder, but Mr. Taylor is not satisfied that it is more so than uncomplicated purulent ophthalmia. Considering the prevalence of gonorrhœa, it is a rare disease. As to its origin from the contact of purulent matter, I have only one observation to make, which is that I believe in far the greater number of cases the pus never comes into contact with the ocular conjunctiva at all; indeed, though a few well-authenticated instances have occurred where pus was launched right into the eye, yet this accident must for obvious reasons happen but very rarely; and the probability is, that if the application of matter be the cause, it acts first upon the lids on which it is accidentally smeared, much as I believe in gonorrhœa the irritating vaginal pus is really only applied to the mouth of the urethra.

2. *Gonorrhœal Iritis*, which may or may not be accompanied by gonorrhœal rheumatism. It attacks principally the iris and

[1] 1868, vol. i, p. 365.

[2] *British Medical Journal*; 1868, vol. ii, p. 202.

other internal structures, and is *not* accompanied by purulent discharge from the conjunctiva. Mr. Taylor speaks of it as very rare. It is quite unknown to me. A case, apparently, of this disorder is reported in the *Gazette Hebdomadaire* for 1874.[1]

3. *Rheumatism of the Eyeball*, affecting the sclerotic, iris, and other tissues; rather a common disorder, sometimes accompanied by rheumatism in other parts of the body, though sometimes the eye alone is affected. It is not dependent for its existence on weather, habits, or a first attack of gonorrhœa, for it has been known to recur four or five times in the same person. This form, accompanied by purulent discharge from the conjunctiva, is the only affection I am familiar with, arising unmistakably from gonorrhœa. It was never found destructive to the eye in my practice, and is widely different from pure purulent ophthalmia.

Mr. Holmes Coote, however, gives a case clearly arising from this source, in which the patient, when last heard of, was lying in a darkened room, with the eyesight quite unfit for useful purposes, and in a questionable state as to ultimate recovery. I have not seen it in the female. The restriction of the disease to the male sex, as also in respect to gonorrhœal rheumatism, is denied by M. Robert,[2] who maintains that both complications may be seen in women. However far this may hold in France, I believe it does not apply to England with reference to ophthalmia.

As to this disorder arising from repulsion, considering how often this idea has been refuted, it may now be assumed that it is sheer waste of time to argue with persons who make use of it. You might as well dispute with a man who denied the circulation of the blood, or that the earth moves round the sun. The very act of running counter to all common sense and experience has a charm for some minds. But these men are wise in their generation. They use a figure of speech patients can understand, or at any rate fancy they can understand, which serves the purpose just as well, and they save themselves the trouble of thinking. They begin with assertions which, having no other value, are clearly expected to derive weight enough from the fact of their being patronized by the speaker or author in question, and these asser-

[1] Page 749.

[2] *Op. citat.*, p. 156.

tions are supported by arguments which only too often rest on an equally uncertain basis.

Treatment.—I do not see how it is possible, by any process of mental alchemy, to extract from the jarring opinions of those who ought to know best how to manage this disease, a single axiom of treatment which can be said to meet with general concurrence; and he who can explain, by any known system of pathology, how it happens that a specific affection, of definite course, is treated with equal success by means which weaken and by means which strengthen the circulation, by remedies which increase and by remedies which lessen the cohesion of the blood, by quinine and antiphlogistic measures, by warm applications and by ice, is gifted with far greater powers of analysis and induction than I possess.

I used at one time to see a good many cases of ophthalmia in the large number of patients who attend at the Royal and Metropolitan Free Hospitals. I watched every one with great interest, and in every case treated the disease with nitrate of silver solution, four grains to the ounce, ordering it to be dropped in two or three times a day, and raising the strength rapidly till even the solid nitrate was borne. I think I may say the practice was successful, indeed I did not observe that it failed when the patient began with it early enough, and attended properly to the instructions given him; but any statement of this kind is to be coupled with the reservation, that there are two sources of fallacy here which must not be overlooked. One is that men, who are even getting on very well, are easily persuaded by their fears or their friends to go to an eye-hospital; another is, that very possibly the worst cases are always taken there from the first; circumstances which invalidate any general conclusions.

If there be any chance of destruction of the cornea, free incision should be resorted to. Mr. Coote's advice to remove the swelled mucous membrane with scissors is, to my thinking, the best and simplest way of dealing with the difficulty. At the same time I wish it to be understood that I recommend this step solely on the authority of others, and that in my own practice the necessity for it has never arisen. It seems, however, pretty certain that the practice is safe enough. M. Robert tells us[1], that

[1] *Op. citat.*, p. 244.

M. Sansun used, when there was much chemosis, to excize all the conjunctiva of the eye (toute la conjonctive oculaire) and cauterize the bleeding surface with nitrate of silver, and this with a result which surpassed his expectations. Mr. Tyrrell, who was a very good practitioner, used to incize freely.

Of external applications I have little to say. I have myself never used any but an evaporating lotion, containing solution of the acetate of ammonia and spirit of wine or æther, in camphor mixture or elder flower water, applied to the forehead and eye-brow by means of a single fold of linen. I believe this to be as useful as any such means can be, the application being often very grateful to the patient; in so far, too, it aids the nitrate, but only to this extent, its curative power being, I believe, next to nothing.

As to the internal treatment, with the exception of mild, warm purgatives, I know of nothing that is likely to be of service but calomel and opium. I have always given the latter very freely indeed, one or two grains every two or three hours till the pain and uneasiness were thoroughly checked, but of the calomel I have never made but a moderate use. The diet should, I think, always be restricted to slops, and a fair amount of light wine may be allowed.

I have spoken of the conflicting opinions held by those, whom we look up to as guides, about the best method of meeting this formidable affection, and I will therefore now offer a few selections in support of the sweeping conclusion I have ventured to draw.

The treatment adopted by Mr. George Lawson[1], whose prognosis is however grave, consists of tonics, one item being quinine in two grain doses every four hours, diffusible stimuli and liberal diet. If there be great pain or irritability he gives opium at bed time, and when there is much heat of the skin, thirst and furring of the tongue, he orders ammonia in an effervescing form. His local applications are nitrate of silver solution, ten to thirty grains to an ounce of distilled water, dropped in once or twice a day, and a solution of six grains of alum, or one grain of sulphate of zinc and three of alum, in an ounce of water, to wash away

[1] *Practitioner;* vol. i, p. 342.

the discharge. A fold of linen, wetted with iced water, is laid upon the eyelid and changed every time it gets dry.

But as early as 1859 Mr. Hancock treated the disease with these doses of quinine. In the *Lancet* for that year[1] two cases are reported under his care, one in which a similar dose was given every four hours, conjoined at first with opium, this being subsequently withdrawn, as it did not seem to agree; and another where the same quantity was ordered three times a day, accompanied by a full diet, the result being highly gratifying in both cases.

It is therefore calculated to excite no little surprize, when we find the disease treated quite as successfully by Mr. Adams[2] with means so diametrically opposed as bleeding, leeches, calomel and opium; and "almost invariably cut short" by Mr. Collis in "twenty-four hours" with a half grain solution of nitrate of silver[3] used very frequently, to the entire exclusion of all medicines. As to the bleeding recommended by Mr. Adams it seems but another word for almost certain mischief; the only inference to be drawn from the horrors recorded by Wardrop, Lawrence, and others, is that at least half the victims to the destructive influence of antiphlogistic treatment lose their sight. Mr. S. Browne, who holds that the nitrate of silver is all powerful in gonorrhœal ophthalmia, says[4] that depletion is the worst of practice. Yet this is the deliberate recommendation of an able surgeon.

Mr. France, in a highly practical paper,[5] specifies the treatment at Guy's Hospital as consisting in division of the external canthus, daily depletion by scarification and leeching, the use of a six-grain nitrate of silver collyrium, unceasing ablution with poppy water and alum, and the internal use of a mercurial such as Plumner's pill, quinine and a moderately nutritious diet.

The treatment of the rheumatic form is simply that of rheumatism itself. Solution of nitrate of silver should be dropped into the eye every day, and if the patient can possibly be induced to

[1] Vol. ii, p. 287. [2] *Ibid.*; 1859, vol. ii, p. 28.
[3] *Dublin Quarterly Journal*, vol. xxxiii, p. 177.
[4] *Ibid.*; vol. xxii, p. 60.
[5] *Guy's Hospital Reports*; third series; vol. iii, p. 185.

allow it, *the lids* should be *brushed over with the same fluid.* Free use may be made of spirit lotions over the eye. With all possible care, the cure is apt to prove tedious. As to the treatment of gonorrhœal iritis, I have no remarks of my own to offer.

15. STRONG TENDENCY TO BLEEDING is the last of these complications. All those I have seen affected with it had suffered from the disorder of the liver. The mildest injections produced bleeding from the urethra, and I was obliged in all cases to give them up until this tendency gave way, which it generally did in a little while under the use of aperients and tincture of steel. The gonorrhœa was very mild in these patients. This bleeding is not like that from injury to the urethra. It is a slight but very persistent trickling.

The bleeding generally seen is, in nine cases out of ten, due to neglect and want of rest. The conditions under which it occurs generally point so clearly to the treatment required, that I should scarcely have thought it necessary to say more than that they are comprised in three words—rest, cold, and pressure. Mr. Cooke, however, mentions a case where the surgeon injected tincture of iron into the urethra to check the bleeding, and succeeded in doing so, but at the same time coagulated the blood into such a firm plug that an opening had to be made behind it to let the urine out! So that it is necessary to give due notice that this at least should *not* be done.

Chapter VI.

PATHOLOGY AND TREATMENT OF GLEET.

Pathology.—To describe the symptoms of this stage of the disorder, to say that it is the declining and last phase of gonorrhœa, and to refer its persistency, when obstinate, to some constitutional taint, and especially to scrofula, long formed the staple of what authors had to tell us on the subject. But indeed it is not a very easy subject to investigate, opportunities of examining the pathological state of the canal, after sudden death, being rare, while exploration of the canal in the living is greatly limited.

There being no strict pathological basis to go upon, I have been accustomed to adopt an arbitrary one, and to divide the affections comprized under the name of gleet into—1. Gonorrhœa of long standing, usually owing simply to neglect. 2. Inveterate gonorrhœa, which is merely the same disorder in a more rebellious form. 3. Gleet or muco-purulent gleet, the name being adopted solely for the sake of distinction. 4. Pure mucous gleet. To these I have for some time added—5. Prostatic gleet.

1. Gonorrhœa of long standing.—In the first of these divisions the disease is characterized by the constant presence of a small quantity of muco-purulent discharge, especially on rising in the morning. The amount is generally not great, and the disorder is unaccompanied by much chordee or scalding, though there may be tenderness of the passage. Often the disease is so limited to the anterior part of the urethra, that local means, applied to this part of the canal, suffice to cure it; sometimes we encounter much the same condition as in the next class.

2. Inveterate Gonorrhœa.—The case is more severe in the second class, which is not unfrequently accompanied by some scalding and pain, the latter often most marked opposite the junction of the under side of the penis and scrotum; if recent, often combined with stricture, but if of some standing, as eighteen

months to two years, there is usually none. For if stricture do come on in these bad subjects, it soon becomes so marked as to make the diagnosis quite certain; if at the end of six months the canal remains quite free, my experience is that it will be equally free at the end of a year. We often find tender spots in the urethra, one perhaps near the lacuna magna or occupying its floor; one near the bulb, a very frequent seat; and sometimes one of pretty large extent, but not such marked sensibility, at the anterior end of the prostatic urethra.

These spots are not large, and often the tenderness is so slight that the patient does not suspect their presence till the surgeon passes a bougie, which soon reveals their existence, and sometimes discloses their morbid nature by bringing away a small clot of mucus from their surface, or dislodging shreds of epithelium which are afterwards passed with the urine. These clots are generally to be found near the bulb, and I have seldom met with more than one at a time. Their shape is irregular, and their bulk not usually greater than that of the smallest pea, but I have now and then seen one as big as a small hazel-nut. In the third and fourth divisions, muco-purulent gleet and prostatic gleet, the latter being little more than an extension of the other, these tender spots are sometimes the sole evidence that the original disease is not entirely cured, and in continent men may remain dormant for years till called into activity by connexion and excesses at the table. In the third edition of this work, I have endeavoured to shew what an important part these clots may play in the pathology of gleet. The pain and the obstinacy of the discharge are sometimes referred by the patient to chordee or over-injecting.

3. Muco-purulent Gleet is shown chiefly in the occasional appearance of a drop of mucus, whitened by a slight admixture of pus, often with appearance of shreds in the urine; almost invariably associated with more or less stricture. Sometimes pricking pains in the urethra are complained of, and there is often a history of treatment long tried in vain. To this class of cases may be added those when the discharge is thin, or seems broken up, as if some portions of it were more consistent than others, or is slightly coloured with brown.

4. Prostatic Gleet.—This variety arises from two causes, one being that of boys at school playing tricks with themselves, the other is the extension of gonorrhœa backwards. When the discharge is fairly established, I know of no test by which gleets arising from these different sources can be distinguished. In cases where it has not resulted from infection the discharge is often of a more mucous character, but I have seen numerous instances of identity of appearance from both modes of origin. I purpose however, to deal here only with the gonorrhœal variety. The characteristic features are a small quantity of creamy discharge, usually constant, but occasionally absent at times for months, returning again and again even when no stricture is present; shreds of epithelium showing in the urine, especially that voided on first rising, and soreness with heat on passing a bougie even very gently. There may be other symptoms, such as sensation of heat on making water, shooting towards the buttocks, discomfort in the prostate after standing long, and sometimes on lying down or going to stool; but we may encounter the disease in a very intractable form without any symptom of the kind.

5. Pure Mucous Gleet.—This, the last division, is, according to my observations, much less common than any of the preceding, and is generally only a last and brief stage of a gonorrhœa cut short in a moderate space of time.

To some of my readers this classification may appear crude and unsystematic; to others overstrained, the latter objection being raised when I read the first rough sketch of it before the Medical Society. But I respectfully submit that its practical fitness is justified by the necessity for arranging the different modes of treatment adapted to different classes of gleet. No pretence is made that there is any sharp line of demarcation between these varieties of the disorder, but some arrangement, some plan there must be in practice.

Dr. Fessenden Otis, in a paper[1] which is evidently the result of great attention to the subject, arranges the conditions on which the continuance of a chronic discharge from the urethra may depend as follows. 1. An enfeebled state of that portion of the

[1] *New York Journal of Medicine;* 1870, vol. i, p. 354.

mucous membrane which has been the seat of acute inflammation, the degeneration of the epithelium thus set up being continued by a state of enervation. 2. Localization of the disease in the deeper parts of the urethra, or in folds of the mucous membrane, or in the mucous crypts or follicles; conditions which we may encounter after those in the first section have been set right by appropriate treatment. 3. Granular ulceration in the canal, following complete exfoliation of the epithelium of the part attacked. 4. Alterations is the course and calibre of the urethra.

He however gives another cause not included in this list, and that is abnormal openings, bringing parts of the urethra into contact with the air. On one occasion he found two of these close to the meatus, one above the other, and about a quarter of an inch apart; they communicated with each other, and he felt confident that they also communicated with an ulcerated patch on the floor of the lacuna magna, though he could not establish the fact. In another case, that of a patient suffering from a little creamy discharge, there were two very small pustules on the glans, into the upper of which he could pass a probe, and then a hypodermic syringe carrying a solution of indigo. By placing a piece of lint in the lacuna magna, he satisfied himself of the communication, as the lint was stained. M. Diday describes a similar lesion in another part of the organ, namely the occasional appearance of a small hole in one lip or other of the mouth of the urethra; this is the opening of a mucous follicle running parallel to the urethra, and communicating with it. Down this tract a needle can be passed for some little distance. It is apt to become the nestling place of obstinate gonorrhœa, and, when it is so affected, pressure from behind forwards will cause a drop of muco-purulent fluid to exude from it. At times the inflammation of the little follicle takes on an acute shape of some severity, but its prevailing character is obstinacy.

In persistent discharge, Dr. Otis says he is led to suspect a granular condition at some point or points in the canal, where, from abnormal activity of the morbid processes, the mucous membrane has been completely stripped of its epithelial covering, and, from the underlying tissue coming to participate in the process, ulceration has resulted. At a certain stage in the declining inflam-

mation, little papillæ sprout from the plastic lymph, which has been exuded to repair loss of tissue; these papillæ he calls granulations. This granular condition is usually indicated by a local tenderness or pressure, or on passing a sound or ball-staff.

Dr. Otis examined the urethra by means of tubes of hard rubber, varying in length from an inch and a half to eight inches; with the aid of reflected sunlight, as also that of Tiemann's lamp, burning kerosene oil holding ten grains of camphor dissolved in each ounce. Though I do not observe him saying anywhere positively that he really sees this granular state, there is no other conclusion to be drawn. "Especially," he remarks, "is the meatoscope valuable in diagnosis of the granular condition of the urethra previously mentioned," and again, "the favourite seats of the granular ulceration of the urethra are in the natural expansions of the canal at the navicular and bulbous portions, evidently invited by the rich diffusion of crypts and follicles in the ample folds of these parts." This idea is upheld, as regards the seat of the disease, by Dr. Sands, in a paper read before the New York County Medical Society;[1] and, as regards frequency of granular appearance near the bulb, by M. Rollet,[2] who, however, also finds granulation and granular ulceration in the prostatic region. The careful researches of Mr. Phillips lend some support to this view; he says, though rather vaguely, that after death a white spot, resembling the cicatrix of an ulcer, is sometimes found in the urethra of a person who has suffered from gleet during life; and, from the context, the seat of this lesion must be referred to the lower surface of that part of the canal which lies beneath the symphysis pubis.

While rejecting Dr. Dick's view, that many cases of gleet owe their persistence to a deviation in the urethra from its natural line, he assigns great weight to even a very slight contraction of the canal. He is of opinion, that many of those cases when the discharge comes on from venereal excitement, or where it occurs in a few hours after exposure to infection, are due to stricture, and affirms, as an important axiom, that "the slightest encroachment upon the calibre of the urethral canal is sufficient to perpetuate a

[1] *Medical Record;* No. 274, p. 93.

[2] *Annales de Dermatologie;* tome i, p. 110.

urethral discharge, or even, under favouring conditions, to establish it *de novo* without venereal contact." In a paper read before the Medical Society of London, many years ago, I stated my reasons for believing, that gleet, complicated with deflexion of the canal owing to perinæal abscess, even when allowing a full sized gum elastic bougie to pass, is often very obstinate, and that stricture is by no means always at the bottom of recurrent gleet, as has been alleged. Finally, I may observe, that gleet is sometimes cured without the complicating stricture being removed.

Dr. Amilcar Ricordi, of Milan, has contributed a highly practical and valuable memoir[1] on gleet of Cowper's ducts, of which he distinguishes two kinds; one in which the urethra, on pressure, yields two or three small drops of opaline fluid, of the density of white of egg, frothing on being rubbed between the fingers. Examined with the microscope this product gives mucous corpuscles, cellules of pavement epithelium, and amorphous liquid matter. Under the influence of sexual excitement, the secretion may become muco-purulent. The second form is simply what we call gleet, a little discharge appearing at the mouth of the urethra when the patient rises in the morning.

I do not know whether I render Dr. Ricordi's views correctly, as the paper is in some parts rather difficult to follow, but I understand him to say that in the first variety the ducts alone are involved, in the second the urethra participates. The shreds thrown out in true gleet of the ducts are cylinders of epithelium, casts of the ducts. There are always two of them, and they are covered with a very fine diaphanous membrane; whereas the shreds of stricture, slight catarrh of the bladder and newly cured gonorrhœa have no epithelial covering, and resemble rather little flakes or tufts than threads. The secretion from the ducts is also unlike that from the prostate, which consists of filiform concretions one or two lines long, fringed at one end, thicker and entire at the other, often accompanied by the presence of brownish bodies, which, on squeezing, yield polygonal cells and "brownish-clear" nuclei. Dr. Visconti twice examined the secretion of the ducts, and found in one specimen mucous corpuscles in mucine,

[1] *Giornale italiano;* 1874, vol. ii, p. 129.

some of them in a state of fatty degeneration, with cells of pavement epithelium among them. In the second there were, in addition to these products, crystals of carbonate of lime.

Sometimes in this gleet, when the urine has passed the bulb, there is a slight hitch, and if an instrument be introduced the patient complains of a sense of heat. The sense of formication noticed in other forms of gleet, and even when there is no discharge present, as also the sensation of a drop of water falling from the bulb into the urethra, may be present in this variety; but the shreds are the pathognomic sign, and are always to be noticed on rising. If the patient make water before removing the drop of pus at the mouth of the urethra, or which can be made to appear there by a little pressure, they will be found in the vessel, and if the drop be first of all cleared away they are wanting. This form of gleet is apt to be extremely obstinate, and cannot be met by the ordinary means of treatment. Persistency of it he attributes to unusual length of the ducts, which he has found much greater in some pathological specimens than in others.

Ricordi mentions a case of this disorder, which I think supports the theory of there being a wide distinction between idiopathic and acquired purulent discharge from the urethra. It is that of a man in whom the affection had been brought on by long continued venereal excitement without infection, and in whom it ran so mild a course, that Ricordi did not think fit to order more than a simple injection, whereas we have just seen how obstinate he found the affection when derived from gonorrhœa.

Prognosis.—Usually favourable in the long run when the case is properly treated. Even when complicated with stricture it may almost always be subdued. Prostatic gleet is sometimes very obstinate, as is that in which there is a history of deviation in the urethra, caused by unabsorbed deposit, the result of perinæal abscess. In cases of sinuses communicating with the urethra and external surface, all treatment may prove ineffectual. With all this its proverbial obstinacy has scarcely been over-rated.

Treatment.—How then are we to master this refractory disorder? M. Ricord, looking to the possibility of having to spend his future existence in the land of the damned, seems to

think that what he has most to dread is, not the discomfort of the abode, but the certainty of being plagued by the ghosts to cure them of their gleets. But if the contingency be an imaginary one for the next world, it is a reality here, and sometimes a very troublesome reality.

At first sight nothing seems easier to cure than a gleet; yet few slight complaints are more difficult to subdue, and the number of remedies suggested by authors only proves how often all their resources have failed.

Some authors, such as Professor Graves, M. Ricord, Mr. Whately, and Mr. Phillips, candidly confess that they have met with instances where the disease did not yield to any treatment; but others are rather careful how they commit themselves to any very decided statements. The manner however in which the subject has been handled leaves no doubt on the mind of the reader, that the authors in question are quite familiar with those obstinate cases which go on for months, or even years, till at last the patient gets so thoroughly sick of medicines, that he makes up his mind to endure an evil he cannot remedy. Should the sufferer be an Englishman he is, according to Mr. Berkeley Hill, apt to get hypochondriacal or desperate. A German, says Dr. Schuster, starves and injects petroleum or brandy. The Italian, according to Dr. Ricordi, follows the english fashion, and our lively neighbour, the Gaul, takes the affair still more to heart; for M. Robert tells us that he not unfrequently conceives a disgust for the world, goes mad, or decides that suicide is better than to be always taking copaiba, cubebs and alum, tar-water, and creasote, besides being made the subject of interesting experiments with the last new drug; the whole forming a rather sarcastic commentary on the many infallible methods of cure recommended for this complaint, and offering a suggestive hint to all but those who are insensible to ridicule, as is the case with the infallible section of mankind. Under these circumstances I hope to stand excused for devoting a little extra attention to the questions involved.

The following digest will, I think, comprize the pith of all the directions given by those authors I have consulted :—The specific remedies having failed, they may be tried combined or along with steel or cantharides; then the bougie, simple or armed, the

latter being, when of any service, often intensely painful,[1] often failing, and almost invariably requiring to be repeated; violent exercize; a course of tonics, or one of Zittman's decoction is to be used, or the urethra may be cauterized; these failing, constitutional treatment is to be suggested, or change of air, sea-bathing, or the cold plunge bath, or perhaps an alterative course of mercury. Finally, we are told of cases where the *coup-de-grâce* has been given to the rebellious disease by some desperate remedy, such as the rude passing of a bougie,[2] an injection of brandy, a violent debauch, a drastic purgative,[3] a seton, or a blister to the perinæum—so that the despairing reader has a method of getting out of the difficulty equally useless to himself and to the patient.

It is very safe to go into generalities, to offer simply collective experience, but it does not meet the difficulties of the subject. A surgeon, who has an obstinate gleet to cure, does not feel much wiser after reading over a list of remedies which would take two or three years to become thoroughly acquainted with.

Now, when a case of gonorrhœa or gleet has been regularly treated for thirty days, and at the end of that time is no better; if during all this time the surgeon has reason to think that the patient has given the treatment fair play, and finally, if there be no complication, such as swelled testicle or abscess in the perinæum, my opinion is that it will not be cured by the ordinary remedies more than once in fifty times; nay, I question if any benefit result from employing them: and could we attain to a sufficiently accurate diagnosis at the outset, it would, I think, be better to resort at once to a different plan. But I know of no means of doing this—and the only rule I can find for using extraordinary measures is the failure of others.

Again and again have I in such cases, at the wish of the patient, or from a desire to avoid recurring to my last resource, tried one medicine after the other, and injections of all kinds.

[1] Mr. Johnson, one of the advocates for the practice, candidly admits this. —*Op. citat.*, p. 100. He also says that it is apt to induce inflammation of the testicle or bladder, and has seen bad stricture from it.

[2] Swediaur; *Op. citat.*, p. 66.

[3] Hunter, *Treatise on the Venereal Disease;* 1786, p. 77.

The result always was, either that the patient left uncured, that some complication sprung up, or that a cure—if effected at all—was wrought by some totally different means. I have now given up this plan, convinced that *if one medicine fail, a second has just as little chance.*

It may be said that this is a very short time to fix for a trial, but I can scarcely recall a case of cure being effected by medicine where there were no signs of amendment within a month. Delay, too, is perilous; while we are trying to cure the discharge, stricture, at the bottom of the mischief, may be gaining ground.

When a patient with long-standing gleet only comes under our care at an advanced stage, the first step of all is to make out the history of the treatment. Many of these cases last so long solely because no pains have been taken to secure a different result.

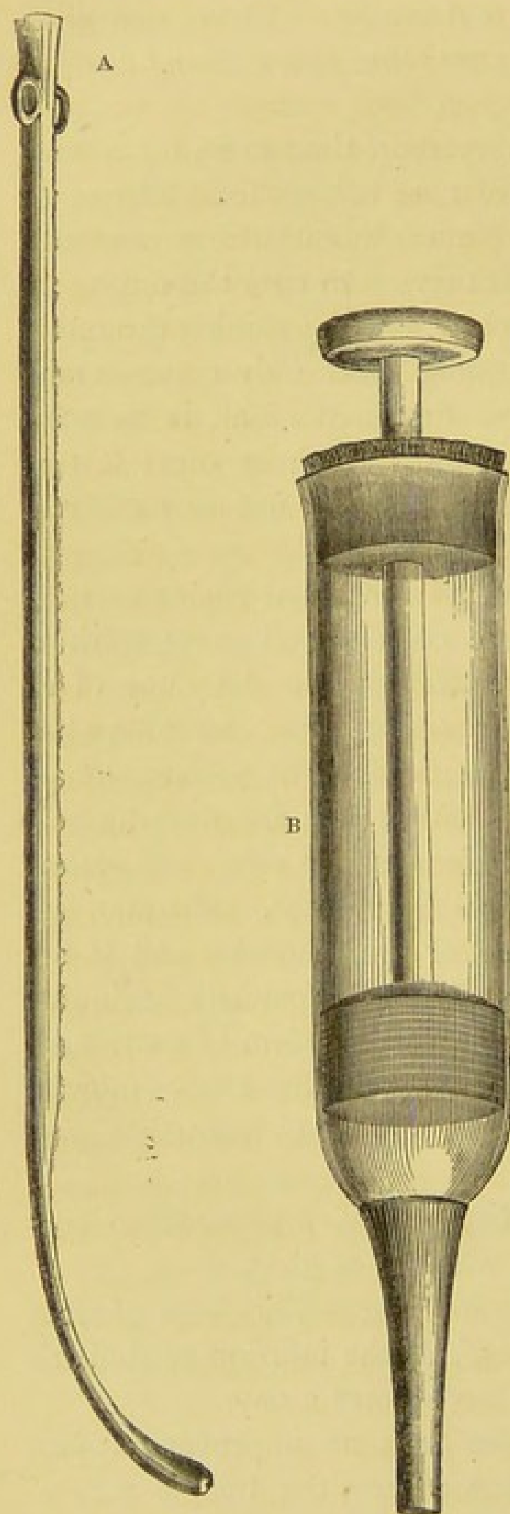
Thus, in one case the disorder had continued twelve months, but the patient had only taken pure copaiba and sweet spirit of nitre: a cure was effected in three weeks by the daily use of an injection of nitrate of silver. In a second, the gonorrhœa had lasted five months, but on cross-questioning the patient, he admitted having neglected it: it was cured in a few days by mild aperients and sulphate of zinc injections. In a third, the patient said he had had it off and on for eighteen months. His plan had been to go to a surgeon for three or four months, and if not relieved to betake himself to another; thus perpetually beginning treatment anew. He reaped the results in the form of a stricture. A fourth patient had been treated at intervals for twelve months by injections, and at the end of the time had not learned to give himself an injection properly.

This preliminary point being disposed of, I proceed to consider the treatment of the different varieties of gleet.

First Class.—Gonorrhœa of long standing.—This form of gleet will generally yield to a mild aperient, as the infusion of rhubarb with soda, and an injection two or three times a day.

But if, at the end of ten to fifteen days, no improvement has been effected by these or any other means, the bougie may a once be passed; for every variety of discharge may be accompanied by more or less stricture, and the only sure proof of no

contraction being present is that a bougie will pass. Should this exist, it is needless to say that it requires its special treatment.



The Long Urethral Syringe.—But if no stricture be found, my advice would be to have immediate recourse to the syringe shown in the annexed engraving. It consists, as the reader will see, of a detached tube A, which is oiled at the tip and passed down as far as the bulb, membranous, or even the prostatic portion of the urethra, as may be found requisite; the syringe B, charged with a solution of nitrate of silver, is inserted into the end of the tube and pressed firmly in, so that the two parts may hold well together; the piston is then driven home, the tube being steadily withdrawn at the same time. The fluid should be detained in the passage by compressing the urethra rather low down in the penile part till a sensation of heat is felt, when it is allowed to escape. To prevent after leakage from staining the linen, the same precautions should be taken as when injecting for gonorrhœa.

As to the strength of the solution, I would suggest great care at the commencement.

NOTE.—In the engraving the syringe is drawn of the right size; the tube is reduced nearly one-half.

Half a grain to a grain of the nitrate, in an ounce of distilled water, is quite enough to begin with, and when the patient states that he is very sensitive to pain, even a weaker solution should be employed. But generally these patients bear injecting very well; the urethra has long ceased to be very susceptible of the action of such remedies, and, with a little caution, the strength of the fluid can be easily raised to five or ten grains to the ounce. Pain, however, should on no account be caused; even when the patient is quite indifferent about such a result, it is a gratuitous evil here; for injections of such a strength as to cause great suffering do not cure the disease any quicker than mild ones, and they often make the urethra so tender and sore, that the patient cannot go on with them at the very time when it is most requisite that he should continue the treatment. Mr. Teevan asserts that they will bring on stricture, even when the patient has never had gonorrhœa or gleet, but this does not accord with my experience.

As to the quantity, I never charge the syringe with more than a drachm and a quarter or a drachm and a half of the fluid, and of this quite two thirds remain in the tube. To the objection, which has been made, that even this quantity is excessive, that no object is served by letting a caustic solution flow over the anterior part of the urethra, and that the same good would be gained by injecting six or seven drops at the bulb or prostate, I reply that I have never seen any mishap from this excess; that the inconvenience of having an apparatus, such as that required for injecting so small a quantity, and of measuring the spot in the urethra where this must go, is far greater than by my method; that caustic solutions should not be employed; and that no harm ever follows from letting a weak solution flow out of the meatus.

For the purpose of injecting the prostatic portion of the urethra, Dr. Otis uses a double-bodied tube, one chamber continuous with that of the syringe, and from which the fluid is thrown out by means of several fine openings at the free end; the other acting as a catheter, and indicating, by the passage of a few drops of urine, that the point of the instrument has gone far enough. So soon as this happens, the farther exit of urine is cut

off by means of a wire stilet, and the injection is forced out of the openings a little in front of the neck of the bladder.

Dr. Robert Taylor has also invented a very clever instrument for injecting the posterior part of the urethra.[1] It consists of a "hard rubber" tube about six inches long, with an acorn-shaped bulb, perforated on its tapering sides with twelve very minute holes, arranged in four rows of three holes each. The apex of the bulb is rounded, to avoid injuring the folds of the urethral membrane when it is introduced. The size of the tubes varies from 4 to 10, english bougie scale, and the widest part of the bulb is two sizes larger than the shaft. A button of hard rubber slides upon the shaft to regulate precisely the spot to which the injection is to be applied. The advantages of this mode of construction are that regurgitation is obviated by the shoulder of the bulb, that the smallness of the holes prevents too much fluid being thrown in at one time, and that the bulb serves instead of a ball-staff to explore the urethra.

For any fluid except the nitrate both plans are no doubt excellent, but with the use of this salt begin our difficulties. The tip of the syringe must be oiled to admit of its gliding gently down the urethra, and the oil, uniting with the oxide of silver, forms a tenacious black paste very difficult to dislodge, and tending constantly to close even a tolerably large orifice. Consequently I have long given up this method, and possess now the first syringe of this kind which I had made many years ago, and in which I subsequently had the fine holes plugged and a large one made at the apex; a mode I decidedly prefer. Nor is any harm to be apprehended from allowing the injection to spread a little farther than the focus of mischief, the neighbouring parts of the urethra being usually in a state which is rather benefited than otherwise by the nitrate; at least this has often been the case in my own practice.

Whichever form of syringe be adopted, I would suggest that two or three injections should be given with it in pretty rapid succession, and then that a period of rest, say for two or three weeks, be observed, during which the bougie may be passed every five or six days. I recommend the latter both because this

[1] *American Journal of Syphilography, &c.*; vol. i, p. 379.

instrument possesses some remedial power, and because the use of it removes the little clots of mucus which here and there cover a tender spot in the urethra. Unless this be done, injections may be given long enough without effecting much good. The force of the stream from the syringe does not appear great enough to displace the clots, and the solution merely flows over them, causing imperfect coagulation without touching the half abraded surface below. These clots will continue to form for years, and as there seems in some persons no natural disposition in the urethra to get rid of them, it becomes highly necessary to remove such an obstacle.

There can be no harm in ordering a tonic, such as quinine or iron,[1] along with an aperient[2], especially if the health happen to be out of sorts, as is extremely apt to be the case when the patient has been long trying to master the running by means of specifics. A patient, who has suffered in this way, is often reassured by such a step, and some persons like to give internal means a fair trial before resorting to instruments. They are often better and never worse for a proper use of such medicines, and a man in good health gets rid of gleet and stricture as quickly as if he were low and weak. Such remedies then may be advantageously prescribed for the purpose of relieving exhaustion, and setting right disordered health; as regards any power over the discharge, they might as well be recommended in cancer or hydrophobia.

The Bougie.—But it may happen that we find some degree of stricture, and that we have to treat it before we can do anything for the gleet, so that it becomes necessary to discuss the best method of dealing with this complication. Prior to entering, however, upon this part of the subject, I must beg the reader to understand, that what I have to say does not apply to stricture

[1] ℞ Quiniæ sulphatis gr. xij (xxiv).
Acidi sulph. diluti ʒj.
Tinct. cardam. compos. ʒiv.
Aquæ cinnam. ad ℥vj. ℳ.
Capiat cochlear. ampl. bis terve quotide.
℞ Tinct. ferri sesquichlorid. ℥j.
Capiat minim. xxx. ter quotidie ex aquæ cyatho vinar.

[2] ℞ Pilulæ aloes et myrrhæ, vel Pilulæ rhei comp. ʒj. Divide in pil. xij. Capiat j. vel ij. horâ decubit.

generally, and particularly to bad, advanced and complicated cases, but to that stage of it which we find as a cause or complication of inveterate gonorrhœa and gleet, which is seldom severe, and might often be described rather as nascent than existing.

The unexpected size to which this work has already swelled, obliges me now to compress all I have to say on such a subject into the narrowest possible space. After having tried, and seen tried, most of the systems in modern use, I feel myself compelled to say, that, as a rule, all such operations as sudden expansion of the stricture, or division of it internally or externally, are here almost always unnecessary, and only too often dangerous; *that except in the case of sudden retention of urine, they effect no purpose which cannot be gained more safely and painlessly by means of dilatation with the bougie to be presently mentioned, seconded by applications of nitrate of silver*, and that at least nine times out of ten they are superfluous, inasmuch as the patient has ultimately, whatever operation be performed, to trust to gentle dilatation. I should be very sorry to offend any one by expressing this opinion; I am quite ready to bear ample testimony to the value of the inventions of Mr. Thomas Wakley and Mr. Barnard Holt, and to that of the operation devized by the late Mr. Syme, but I must adhere to the view I have expressed. The results as detailed to me of forcing stricture by means of the dilator in the posterior part of the urethra have been, in some unfortunate cases, severe pain, bleeding, abscess in the perinæum, pyæmia, followed in one case by affection of the hip-joint, the exact nature of which I could not learn, but which resulted in stiffness, apparently permanent, of the joint; more or less complete impotence has also followed. To dilatation of the stricture in the more anterior part of the canal I see less objection, and have myself frequently employed it.

I would therefore recommend, as a first step, that a proper bougie be chosen. I give the preference to the

bougies made under my directions, by Walters & Co., both on account of the shape, which is, to my thinking, better adapted for finding its way through a stricture than that in ordinary use; and of the material, which is so soft that no mischief can be done to the walls of the urethra, while it is so strong that the dangers attendant on the use of those mischievous implements, gutta percha bougies, and the cheaper class of french instruments sent over to this country, are got rid of. As to first of all passing a wax bougie, a bougie-a-boule, or any other implement of the kind, I hold it, with all deference to the gentlemen who advocate the plan, to be unnecessary. A surgeon, whose hand is properly trained—and no other ought in such a case to attempt to pass a bougie—can learn everything really requisite from using this instrument. I am aware that Dr. Dick, Mr. Teevan,[1] Dr. Otis, and other eminent surgeons who have paid great attention to gleet, recommend the use of the ball-staff, very much modified however from the form originally suggested by Sir Charles Bell whose invention it was; but cogent as their arguments may be, I must venture to abide by the position laid down, and I appeal to the results of experience in support of it.

Dr. Otis is an ardent advocate of the ball-staff. He prefers one with an olive-shaped end of metal, and a soft metal shaft, as this gives greater firmness than the flexible shaft of Le Roy d'Etiolles, and is easier withdrawn than a ball or acorn-shaped knob. The size of the bulb is determined by that of the urethral mouth, which it must fit accurately. The ball is pushed home to the bladder, and after being allowed to remain there two or three minutes, is slowly withdrawn; if a contraction, even not more than half a line in thickness, exist, its whereabouts will be indicated by a slight clinging or want of suppleness. He couples with this exposition of his views a recommendation, which certainly shows great faith on his part, and suggests equally great compliance on that of his patients. I give it in his own words. "Should this proceeding," he says, "fail in locating a stricture, I am accustomed to slit up the meatus freely, and repeat the operation with the largest bulb that will enter the spongy portion." My impression is, that in England a good many patients would

[1] *British Medical Journal;* 1869, vol. i, p. 494.

hesitate about allowing a surgeon to use such a method, excellent as it may be, unless he could assure them that it was absolutely necessary and certain to cure. A farther modification of the bulb has been introduced, in which it is made almost triangular with the broad end attached.

The second step is, having made out the size, that the bougie should be *properly* passed twice a week. By properly, I mean that it should first of all be plunged into hot water, that it should then be gently and slowly passed quite into the bladder, and that it should never be suffered to remain in the urethra more than two or three minutes at the utmost; indeed forty or fifty seconds is generally enough. My experience has satisfied me that to pass a bougie too often, or to let it remain in the passage too long, is a mistake, and that instead of hastening the cure, it is very apt to retard it, by setting up so much irritation that instead of the stricture yielding more rapidly it becomes more contracted. Too much gentleness can never be exercized, and if I have learned one thing more than another from experience, it is that when the stricture is very tight, irritable, and resilient, gentleness will get through it more frequently and effectually than any brusque movement. The more sensitive, too, a patient is to pain, the more is this treatment adapted to his case. I have repeatedly, when the patient had suffered so much from the use of a metallic or even an ordinary gum-elastic bougie, that he shrank from the very idea of an instrument, guided one of these softened bougies through without creating more than the most trifling uneasiness.

I have repeatedly been asked, both by surgeons and patients, how a bougie acts in gleet, and therefore hasten to give the only explanation which suggests itself to me. I have watched the effects of the operation as closely as I could, and imagine that it acts much like a blister on a small scale; that is to say, it excites an afflux of vital power towards a part already attracting an abnormal amount, and that, with the re-attraction of the now mobilized vital power towards the seats of organic life, a withdrawal occasioned by the daily wants of the frame, a rebound takes place, which lessens the accumulation of power at the morbid part. This view I put forward many years ago in the *Medical Times*, and, if it be not accepted, I have no other to offer.

Certain facts lend probability to it both as regards gleet and stricture, and I will therefore take the two together. Passing a bougie in either case will, at first, make the urethra more sensitive than it was immediately before, so that some change at any rate has happened in the state of the canal; but if the employment of the instrument be kept up, even the previous sensitiveness is removed, so that a process somewhat of the nature that I have pointed out *must have taken place.* This is still more noticeable when an injection of the nitrate has been employed, as then the canal often swells so in a few minutes, that a bougie, which would have gone through easily before the injection, cannot be passed after it; and a similar change takes place, but more slowly, after the solid nitrate has been applied. Both cause, in addition, heat and pain at the time, but afterwards the canal is often healthier than before. Sometimes, too, a gonorrhœa will supervene upon a slight and recent stricture and aggravate it for the time, but with the decline of the running the contraction will sometimes also yield, and is afterwards found slighter than before. Hunter's theory of a bougie setting up such an action of the animal powers, as "either to adapt the parts to their new position or to recede by ulceration"[1] seems to me crude in respect to the first position, as though the idea had not been sufficiently worked out in his own mind, and incorrect as regards the second, seeing that the parts do not recede by ulceration.

Nitrate of Silver.—Should, however, the progress of the cure not correspond to the wishes either of the surgeon or the patient, should the discharge continue, and still more, should it be aggravated by the use of the instrument, I would suggest immediate recourse to the nitrate of silver, applied as described at page 248. When the patient prefers the nitrate to the bougie, and many do so, I would apply it regularly till the instrument slips, without any force being used, right through the stricture. When that occurs it is generally not necessary to do much more with either caustic or bougie. A few extra applications of either can do no harm, but they are seldom requisite. Practically the stricture is cured in so far as it admits of cure at all; and, according to my experience, quite as effectually as if it had been expanded to the utmost limits.

[1] *Essay on the Venereal;* 1786, p. 118.

To show how freely the nitrate may be applied, with impunity, by means of the instrument I have described, I may mention that, in cases where the patient was about to leave England I have used the caustic as often as six, eight, fourteen, or even nineteen days in succession, and though a good deal of suffering was often caused, no other ill effects ensued; the patients were always able to attend to all that was necessary for their departure, and in some instances I know that they made fair and even good recoveries. Of many I, of course, heard no farther, but no instance of any serious results has come under my notice, and that is more than I can say of speedy dilatation.

Potassa Fusa.—Mr. T. Carr Jackson employs caustic for stricture in a manner which, though more suited to the cases I have spoken of as beyond my province, has proved so very successful that I go out of my way to notice it, as it might prove a valuable resource here. He uses the potassa fusa, and applies it by means of a silver caustic-holder, shaped like a catheter and of number seven gauge. The tip, which screws off and on, is hollowed, and pierced with a hole just large enough to let a bristle pass through. The caustic is laid in the hollow of the tip, and when this is screwed on, the point of the stem on which it is screwed, holds the potass against the hole in the tip. The instrument, oiled, is passed down the urethra till the point reaches the contraction, and then the salt, melting, flows out through the hole and acts on the stricture. Mr. Jackson only arms the holder with a piece of potass about the size of a number six shot. He has successfully employed this instrument in many bad cases, and especially in one of traumatic stricture, where it was impossible to get even the smallest catgut through, the urine passing only by drops, and where, after seven applications, the potass, even under these unfavourable circumstances, effected such a steady relaxation that a number two catheter could be introduced, and in three weeks more a number ten.

The Endoscope.—It may not, perhaps, be considered irrelevant to offer here a few remarks on the utility of employing the endoscope in these cases. I am sorry to say that, though I highly admire the ingenuity displayed in the construction of this instrument, as well as in that of the uretroscope invented by the late

Mr. Avery, I am obliged to conclude that in their present form they are not practically of much use. The exceedingly small surface illuminated, the dimness of the light cast upon it, the loss of time, and the discomfort a patient must necessarily be subjected to even by the most expert operator, militate, in my judgment most seriously against the use of both instruments. Farther, I think they teach nothing which cannot be learned as quickly and effectually by gentle manipulation and passing the bougie in the way I have mentioned. In my opinion a practised hand will rarely require such aid. This opinion, long ago expressed, is strengthened by the experience of Dr. Sands, Mr. Teevan and Mr. Berkeley Hill. Those who may wish to hear the opposite side of the question, will read with interest Dr. Cruize's excellent paper quoted from in an early part of this work. Should the reader decide to try the endoscope, he will probably find the instrument invented by M. Desormeaux, and recommended by M. Ricord[1] and Dr. Dick, the best.

Blistering.—It will now be necessary to take up again the treatment of this class of cases when not complicated by stricture, and in these I would advize that, if injections do not within a very short time produce a distinct lessening of the discharge, the penis should be blistered without delay, and whatever form of counter-irritant the surgeon may choose, observation will soon show him that there should be complete vesication. So soon as the soreness has passed off, mild injections can be employed. Should the action of this not correspond to the expectations entertained, the use of the bougie, and touching the posterior part of the urethra *gently* with the nitrate of silver, will now, assisted by a mild aperient and tonic, generally effect a cure.

As what I said on the subject of blistering has drawn forth some remarks, I take the opportunity of placing the subject in its true light. I never thought of claiming the credit of having *discovered* that blisters cure gleet. I knew that blisters to the perinæum had been recommended long before I was born: nay, even in Hunter's time they were used for this purpose, as also to the under part of the urethra,[2] and Howard confidently looked

[1] *Lettres sur la Syphilis*, p. 110.

[2] Hunter simply speaks of two cases of this treatment having been men-

forward to great benefit from their use ; but I believe, that if other surgeons than those mentioned by Hunter and Swediaur had ever resorted to blistering *the penis*, the remedy had, at the time when I broached the subject, fallen into very undeserved desuetude ; so much so, that, except in the instances just referred to, I found no trace of the practice in the works I read. I certainly have met with a few injunctions not to blister the penis, which from their tenour I should have said were written by those who knew nothing of the matter, but this may be a misconstruction on my part. Of course, it is easy in all such cases to rake up some claim to priority.

A blister is one of the most powerful remedies that can be employed in any case that is not complicated with stricture. So far as my experience goes, it is, when properly used, the most efficacious remedy we possess in many cases, and the best calculated to remove that painful susceptible state of the urethra often remaining after gonorrhœa treated in the usual way ; the tendency to catch fresh infection ; and the defective expulsion of urine and dribbling after making water, which lead so many patients to think they have stricture.

I have heard it condemned as a violent remedy. I appeal to the fact that many patients, cured by it of gonorrhœa and gleet, have, on being a second time infected, blistered themselves of their own accord.

Again, I have been told that I have overrated its powers. Among others, Dr. Bumstead says,[1] " It is to be feared, however, that this remedy has proved less successful in the hands of other surgeons than in Mr. Milton's. Recent writers, who have spoken favourably of it, appear to have done so chiefly on Mr. Milton's authority ; others, as Mr. Langston Parker, have given their testimony decidedly against it, and in my own practice it has not been attended with such success as to lead me to prefer it to other and less disagreeable modes of treatment." Mr. Lee's experience is

tioned to him : I do not observe that he ever employed it himself or saw it employed.—*Works of John Hunter ;* 1835, vol. ii, p. 224. Swediaur says that gleets have been cured by a blister to the parts affected, or to the perinæum.—*Op. citat.*, p. 63.

[1] *Op. citat.*, p. 114.

also unfavourable, as is that of Mr. Teevan, though I believe the latter at one time thought well of the remedy.[1] I think a fair way of meeting this is to refer to the experience of Mr. Park, Mr. Chalmers Miles, and M. Diday, who speaks[2] of blistering as "le plus afficace de ces topiques, celui qui parfois guérit et toujours prepare la guérison." Irrespective of these gentlemen, there are surgeons in England who have employed it at my suggestion, and have found it very successful indeed.

And why should surgeons hesitate to blister in gleet? They are not so scrupulous about using such a remedy in the vicinity of the eye, the most delicate organ in the frame. Why should the penis be the only part of the frame which we cannot vesicate? If patients complain of such trifling discomfort, it only shows how inconsistent and ungrateful man is. They must, then, really expect to be cured of these disorders without any sacrifice of trouble or convenience. If they had lived a century ago, they would have been only too glad to avail themselves of such a remedy.

In order that a blister may be properly applied, there are some points which, however trivial they may seem, require as much attention as the leading features of the case. Where these are neglected, blistering is apt to produce such a filthy mess, that the patient will not submit to it a second time; whereas, if carefully laid on and dressed, it is, from the part being out of the reach of friction in the ordinary movements of the body, even less troublesome than if on a limb or the trunk.

Before putting it on, a little of the hair at the root of the penis is cut off, and if the foreskin be naturally retracted it must be drawn forwards over the glans. A piece of paper is then to be fitted on the penis, and cut till it exactly covers it from the root to within half an inch of the mouth of the urethra. This is then laid down on the blister, which is cut out by it, wrapped round the penis, and fastened with threads behind the glans and near the root.

The patient should remain quiet while the blister is on, lest it should come into contact with the scrotum and vesicate it, which

[1] *Medical Times and Gazette*; 1866, vol. i, p. 460.

[2] *Therapeutique des Maladies Veneriennes*, p. 39.

is very soon done. He should not, however apply it at bedtime, as he will most likely fall asleep and not awake till the penis is one mass of vesications, a state productive of needless sufferings.

In mild cases, or where the skin is very tender, an hour and a half or two hours will often suffice; the blister is then removed, and if there are any vesicated spots they are, after pricking the bladders with a needle, to be covered with pieces of linen or lint spread with benzoated zinc ointment, a layer of cotton wool is bound over these and kept in its place by means of worsted, or two small india-rubber rings; or cotton wool alone is employed as a dressing without any ointment at all, and this is perhaps the best, as it is the simplest, plan. It sticks to the surface certainly, but the adhering part falls off as the vesicated skin heals.

When a more severe case renders free blistering necessary, it must be kept on three or four hours, sometimes longer, but always till the penis is blistered. To protect the part from chafing, a T bandage, with a linen bag sewed into the part which receives the penis, or a handkerchief tied round the waist and dipping down in front so as to keep it tight up, will be found necessary.

The first effect of the application is to increase the discharge in some persons, in others this is not seen. In either case it generally soon grows ropy or mucous, and finally disappears in a few days, or remains somewhat more persistent, requiring a few injections when the penis is so far advanced towards healing that it can be handled without pain. It may however demand even a second blister. One of the most cleanly, convenient, and least painful forms of blister is Brown's cantharidine tissue; it causes, I fancy, less irritation than the emplastrum lyttæ. Dr. Durkee prefers cantharidine collodion to blisters.

The blistering fluids, if strong enough to vesicate, caused such pain, that I soon renounced the employment of them in most cases, though they are very useful applied to the perinæum. I say most cases, because there are patients in whom the skin of the penis is so exceptionally tough that the blistering tissue will scarcely touch it. In these instances they may be resorted to.

Beyond the pain, however, I never had any untoward results from the use of the vesicating fluid but once. In the case I speak of, the patient warned me that he was "a bad subject;" whatever

he had he suffered severely from. He had used the tissue ineffectually, and I therefore prescribed Bullin's fluid, enjoining him to apply it very gently, instead of which he put on a most unnecessary quantity. Intolerable burning pain and swelling of the organ set in, and about a sixth part, I should think, of the surface of the penis went into ulceration, looking like a bad form of multiplying sore. The patient, notwithstanding the free use of sedatives, suffered severely, but was recovering when I last saw him. He was then on the eve of leaving London.

For three or four days after the application of the blister, the quieter the patient is the better. So soon, however, as the blistered surface begins to heal up, a few mild injections may be given. The bowels should be kept gently open.

Now and then it will happen that the patient is mortified and surprized to find the discharge re-appearing at the very moment he thought all gone. Thus on the third day there may be no discharge and on the fourth there is a good deal; but it generally subsides as rapidly as it appeared if the patient will only abstain from tampering with it.

How does this remedy act? By counter-irritation, will perhaps be the answer. But, if this were the case, why should there be increased action in the urethra for a few days, and why should the discharge from the urethra begin to disappear when the counter-irritant surface is healing up? It would seem as if the organized constituents of the urethra are capable of keeping up a certain amount of over-action for an indefinite time; but that when hurried beyond this by a healthy stimulant, *a rebound* takes place, which leaves them less capable than before of furnishing a secretion, morbid in amount or in quality, or in both.

Among the advantages of blistering is the fact that it generally arrests, or cures effectually, that unsatisfactory state known as irritable urethra. Properly aided by some tonic suited to the patient's digestion, and mild aperients, it will remove irritability more rapidly than any remedy I have seen tried or ever heard of.

Should symptoms point to the posterior part of the urethra as the seat of the discharge, I would recommend that the perinæum should be blistered. A very good way of doing this is to apply

Bullin's blistering fluid by means of a camel's hair pencil. It should be laid on with a rather dry brush, so that none of the fluid trickles down and excoriates the thighs or scrotum, and a space the size of the palm of the hand should be painted over with it. This process soon raises a blister, which is to be dressed like the others, but, of course, only a T bandage can be used. This may be made by attaching a handkerchief to the back of the belt of a suspensory bandage (or another handkerchief tied round the waist), bringing it up between the thighs, and fastening it to the belt in front. A pad, consisting of a sock rolled up, or something of about the same bulk, is then fastened to the part next the blistered surface, and on this is laid the lint with the ointment, which it serves to retain in its place. The patient, unless of an inventive turn of mind, is apt to fail with his first essay, but he soon learns to dress a blister deftly enough. A bandage adapted to this purpose, with a triangular moc-main pad and elastic belts, is made for my patients by Walters and Co. It answers well and keeps the part comfortable.

It may perhaps be useful to mention, that there are other remedies of a similar class which act in much the same way, and which patients, averse to a blister, might not object to. A surgeon residing in the country, who had read the first edition of this work, wrote to me saying, that he had successfully treated several cases of obstinate gonorrhœa by means of mustard poultices to the perinæum; and Judd gives two cases of recent disease cured by rubbing in blue ointment for pediculi pubis, the remedy setting up here, I suppose, an action analogous to vesication. I have no personal experience of either method.

Men suffering from gleet in any form are very often habitually guilty of one piece of imprudence. In order to see how the complaint is going on, they squeeze the penis to force out any pus. They should be strictly warned not to do this. I have many times had reason to believe that this habit had been instrumental in keeping alive the discharge, because so soon as they had desisted this had somewhat lessened. The proper plan for ascertaining whether the secretion of pus is lessening or not is to make water into a glass vessel,—an old tumbler for instance, and examine the amount of shreds in the urine.

Diet in Gleet.—Patients continually ask what kind of diet is best suited to the case, and especially in reference to the form now under notice. I believe the answer to be, simply, that a plain, light but good diet will meet all requirements; that in every form of disorder known, or supposed, to be influenced by the food, it is safer to avoid over free use of ascescent articles, and those which are hard to digest, such as pickles, pork, and shell-fish; and that the best kind of drink is some light red wine. The late Mr. Skey was very fond of recommending beer in this stage of the complaint. I can only say that, while I never saw malt-liquor in any shape do the least good, I have met with many cases where it certainly seemed to do harm; and it is rather a puzzle to me why, if it possess any curative property, it does not cure some of the many persons who take it daily while suffering from gleet. I apprehend, however, that most of those who inquire thoroughly into the question will fail to find any virtue in beer; neither indeed will they in red wine so far as visible curative action is concerned; but the latter possesses the great advantage that it never does harm, while weak, anæmic people frequently grow strong and make blood on it. With respect to the kind to be recommended, a question the patient is almost sure to put, I may answer that I have tried the vintages of France, Spain, Sicily, Greece and Hungary, without being able to detect any particular superiority in one over the other; and after years of observation have only been able to conclude, that any sound unbrandied wine of the claret or burgundy class will serve the purpose.

Complications of Gleet.—I have now to draw upon others for rules of treatment respecting one or two complications, which may as well be looked into here, inasmuch as they apply equally whatever form of gleet they may appear with. These are—1. *A granular condition of the urethra* with or without ulceration, of which I have no sort of knowledge, having never seen reason to believe that I had such a state of matters before me. 2. *Abnormal sensitiveness of the urethra*, described by Dr. Otis and seemingly a more persistent form of the symptom already spoken of as irritable urethra, and for the cure of which he passes a stream of carbonic acid through the channel by means of a flexible catheter. 3. The *sinuses* mentioned by the same author, which he treats by incision.

For instance in the case already described, where the two openings were outlets of this nature, he slit them up so as to lay the two into one, cauterized the ulcer in the floor of the fossa navicularis, and in twenty days the wound was cicatrized and the discharge had ceased. There was also a contraction of the urethra, close to the ulcer, which he slit up. 4. The *follicular gleet* spoken of by M. Diday, which he treats with the actual cautery, wriggling a knitting needle to the bottom of the little pouch, and then heating the needle.

Along with these may be taken the cases of gleet depending upon *engagement of the lacuna magna*, for which also incision has been recommended. Dr. Otis says that Dr. Benjamin Phillips, in his treatise on " Diseases of the Urethra," relates four cases of this complication, in which he performed the operation with success. I have sought in vain for this work, of which Dr. Otis does not give the date, or the pages at which the histories of the cases are to be found. There is a well known book by Mr. Benjamin Phillips, formerly surgeon to Westminster Hospital, but the title of it is " On the Urethra," and the only copy of it in the Library of the College of Surgeons does not, I believe, contain any mention of such treatment. Dr. Bumstead also speaks[1] of these cases.

Second Class—Inveterate gonorrhœa. In every case of this kind, whatever may have been the previous duration of the disease, I can see no objection to its being treated at once as acute gonorrhœa, and perhaps a small number of these cases may be cured—certainly many of them are somewhat relieved. Here also, if at the end of thirty days no improvement be effected, the disease will in most cases not be subdued by any amount of perseverance in the use of such remedies, accordingly at the end of this time I at once blister the penis and order a smart purgative, treating the case subsequently as in the preceding class. When the surgeon has removed a discharge of this kind, I would strongly advize continuing the use of the bougie, as recommended at page 302, once or twice a week, for some little time after. The urethra is not always restored to a healthy state with the cessation

[1] *Op. citat.*, p. 105.

of the discharge. During all this time a tonic and aperient ought to be given.

Dr. Abrath, medical officer to the hospital for foreign seamen at Sunderland, communicated to the *Medical Times and Gazette*,[1] the history of five cases which I think belong to this category. The disease had lasted from fourteen months to two years and had defied all remedies. He treated the patients most successfully by means of ice, introduced down the urethra night and morning, the channel being previously washed out. Also eight cases of leucorrhœa, accompanied by erosion of the cervix uteri, ulceration of the cervix, &c. cured with the same means in from four to six weeks.

Third Class—Muco-Purulent Gleet.—Here the bougie may at once be passed, however confidently the patient may assert that the opening never was any larger, and that he makes water as well as ever he did. In all these cases I have found stricture, with one exception, in which the patient had a small fistulous opening behind the frænum, and so habitually placed his finger there to stop the urine that he never thought of telling me.

In this variety I have sometimes succeeded in arresting the discharge, and the patient has come back months after with stricture, so that I now always resort to the bougie without delay.

If there be much muco-purulent discharge, a mild injection may also be used; but where there is only sufficient to glue the lips of the urethra together, the necessary relief will frequently be derived from injections of pure water.

In many of these patients the health is a little out of order, principally, I think, from their having taken so much medicine. Small doses of quinine, a mild aperient pill once or twice a week, and when there is pain in making water, an ointment containing twenty grains of Morson's veratrine to ℥j. of lard, rubbed below the urethra, will generally effect a good cure.

Fourth Class—Prostatic Gleet.—Obvious as the similitude is between the two sub-divisions of this variety, there is a marked difference as to the effects of treatment; for while the simple form is usually got rid of with little trouble, and seldom, if ever, shows

[1] 1870, vol. i, p. 385.

any disposition to take on the character of urethral inflammation; that from contagion is often, even when very slight, intensely obstinate, and is liable, although no discharge may be habitually present, to take on all the characteristics of gonorrhœa. I give two cases illustrating the persistency of this form. Properly speaking, they belong perhaps rather to the section on prognosis, but the recital of them would have encumbered that part of the work too much. These cases will also exemplify the difficulties which sometimes beset the only treatment likely to be of service; namely, injections, nitrate of silver and free dilatation.

T. S., Esq., a healthy man, who had lived long abroad, consulted me respecting a gleet of this kind which he had had quite twenty years; indeed he added that, if he put down the time at five-and-twenty he should be nearer the mark, but as to the twenty years he was certain, because he had, for quite that time, been out of England, and he had contracted the disorder before he went abroad. There was usually very little discharge, often nothing more than a few shreds passed with the urine, there being at such times no secretion visible at the mouth of the urethra, and no stains on the linen. Connexion, however, especially if he had been hunting much, of which he was extremely fond, often developed it rapidly. He said there was a gouty history in the family, but that he had not suffered from the complaint. The idea, that the disposition of the gleet to relapse so continually was due to latent gout, had taken possession of his mind, and certainly it did seem anomalous, that a man, of healthy build and healthy habits, for such he described his to be, should suffer so long. His complaint had followed a gonorrhœa, cured by means of copaiba and injections of acetate of lead combined with sulphate of zinc. The gonorrhœa apparently got quite well, but in the long interval between its disappearance and his consulting me, he had suffered almost innumerable relapses after connexion with perfectly healthy women.

He came occasionally to see me for eleven months. Injections were given, but not often; the gum bougie was passed now and then. Once gout appeared, but in a very mild form. I prescribed colchicum for it, but the patient had a horror of this drug and lithia was substituted. The shreds in the urine

did not lessen under this treatment. At the end of the eleven months, he all at once made his appearance with a running which looked like veritable gonorrhœa; it had come on, he said very shortly after intercourse with a woman whom he knew very well, and who, he was assured, had no disease. After connexion he drank two glasses of hollands and water, and followed this up with some hard hunting. He returned to town with a profuse discharge.

A mild injection of nitrate of silver was given. This was done about half-past one in the afternoon. The next day the patient reported that, by five p.m. the discharge had become watery, and so plentiful that he fancied he must have burst some internal organ. It did not drip, he said, it ran from him, and, as it subsided, gave place to a dirty green, thick, somewhat abundant discharge, accompanied by redness of the glans; these he told me were the symptoms he usually had in his relapses. Hot bathing, preparations of potass, aperients and low diet steadily subdued these symptoms, but they receded very slowly. He was a good deal plagued with erections, but lupulin and camphor removed this symptom. The oil of santal wood was now tried, and at first he thought it did him good. Then, an injection with the long syringe having cleared the way, the nitrate was applied twice to the urethra; once by means of the short stilet and sheath to the front half, the second time with the long instrument to the posterior half of the canal. This brought on a great deal of discharge, some slight bleeding, and considerable irritation in the urethra, after which decided improvement set in. I now proposed blistering, to be followed by thorough dilatation, with a view to sweeping away the last dregs of the disease, but the patient left London and, I believe, England, quite suddenly, and I did not see him again.

I had under my care a case of this class, complicated by congenital tightness of the mouth of the urethra (which also opened about four lines behind and below the natural site), number eight bougie only passing with difficulty. The patient, a surgeon, said he had done everything for the gleet that he could think of, but without avail, the disease having lasted nearly thirteen years. The application however of the solid nitrate, by means of a sheath

and stilet not larger than a number seven catheter, soon produced a favourable change, and I was flattering myself with the hopes of a complete recovery, when the patient was suddenly called to a distance and kept there. He afterwards wrote, saying, that he was in much the same state as when he left, and I may add that he told me, while having the nitrate applied, that it was the only thing which ever really "touched" the disease.

Fifth Class—Pure Mucous Gleet.—This variety need not detain us. But for the anxiety it causes the patient, I should say the best treatment was to let it alone. I have tried various astringent injections, among others that of green tea, without much result.

Occasionally the resins, such as Chian turpentine, in doses of ten grains, or the inspissated essence of spruce fir or pine, in the same dose, twice a day, are of some avail, particularly if the bladder be involved.

For *gleet of Cowper's glands*, Dr. Ricordi tries the solid nitrate of silver, and this failing, destroys, or at least cuts through, the sub-mucous part of their outlets. For this purpose he uses a canula with a stilet. The canula is solid at the tip, which is shaped much like that of a catheter. About a centimetre and a half from the extremity of the tip, there is a horizontal slit traversing four-fifths of the periphery, and through this slit, a very small scimetar shaped blade is made to protrude to the extent of three millimetres, by turning the mandril. This blade in its course describes an arc of a circle, and is rendered immoveable by the pressure of a screw, so that there is no danger of its protruding when the instrument is moved about in the canal. With this he cuts the floor of the urethra transversely in three or four places, about a centimetre apart, and to the depth of two millimetres, the first incision being a centimetre and a half *anterior to the bulb* and the others *in front of it.* A gum catheter must be kept in the urethra for twenty-four to thirty-six hours after. The treatment seems to have been successful in two cases, one of them rebellious to previous methods, and probably in a third, where, however, the later result was not ascertained.

As to the treatment of gleet by insufflation, as recommended

by M. Maillez[1], and later by Mr. Wilders[2]; that of chronic prostatic gleet by touching the prostatic portion of the urethra with dilute solution of the perchloride of iron, and indeed as to all the remedies not specifically recommended, I have no experience to offer. Insufflation appears to have succeeded in the hands of both the gentlemen spoken of, M. Maillez having cured some cases of long standing. The instrument, which he employs, was exhibited by M. Ricord at a meeting of the Imperial Academy of Medicine, and looks highly ingenious. The judicious use of perchloride of iron is most probably quite safe; over-free employment of it brought on death in a case related by M. Venot.[3]

M. Charles Phillips speaks[4] of defective erections and premature emission as common results of gleet; but I have never noticed a single fact which lent any countenance to such an opinion. The one great mischief to be dreaded from gleet is stricture, with its concomitant evils. He says this state is wrongly attributed to emissions, which I believe to be much the most frequent cause of it.

In my opinion the patient should never be pronounced cured of gleet till the urethra has been some little time in a healthy state, and till a bougie will pass without causing any particular uneasiness, or bringing on any return of the discharges. It is not always easy or pleasant to answer the patient's questions on this head, but so long as there is any unusual sensitiveness of the urethra, any abnormal redness of the mucous membrane, or any increase in the natural secretion of mucus or whitening of it, he is not safe. The merest speck of discharge may, after years of quiescence, ripen into mischief or convey infection, and I quite concur in the censure which Mr. Lee passes upon Hunter's dangerous doctrine about gleet being innocuous; a doctrine upheld again, not very long since, by M. Charles Dufour.[5]

Connection between Inveteracy, and Diathesis.—It may be asked, how is it that gonorrhœa and gleet are so obstinate in some per-

[1] *Union Medicale;* nouvelle serie, tome xxx, p. 126.
[2] *Lancet;* 1873, vol. i, p. 802.
[3] *Union Medicale;* tome xi, 1857, p. 5.
[4] *Traité des Maladies des Voies Urinaire;* 1860, p. 32.
[5] *Union Medicale;* nouvelle serie, tome xi, p. 287.

sons? Is it owing to the prevalence of a rheumatic, gouty, lymphatic, or scrofulous diathesis? Such an explanation has been suggested. Wallace says, "gleet may arise from rheumatism, scrofula, venereal poison;" and again,[1] "such persons as labour under gleets are sometimes of rheumatic or scrofulous habit." Howard expresses himself to much the same effect. He says,[2] "It is always more troublesome in arobust sanguineous than in a phlegmatic habit. . . And the difference of habit is still more conspicuous when a disposition to scrofula or scorbutic acrimony is joined to a young robust sanguineous temperament;" and again,[3] "When a person labouring under a gonorrhœa is subject to redness, tenderness, and increased secretion from the eyelids, has a thickened upper lip, or redness, tenderness, and increased secretion from the glandulæ odoriferæ, such person will probably suffer more, and be cured with greater difficulty, than another who has not any of these affections, and that whether his habit be weakly or robust." Mr. Johnson thinks[4] he has observed that "they who have actually suffered from scrofula or display the characteristics of that disease are difficult to cure." Mr. Berkeley Hill takes much the same view. "In weakly scrofulous persons," he says,[5] "gonorrhœa lasts longer and more frequently degenerates into gleet than in others," and M. Robert[6] cites lymphatic temperament and scrofula as incontestably predisposing to gleet. Dr. Bumstead also tells us[7] that "gleet is peculiarly frequent and obstinate in persons of a strumous diathesis;" and Dr. Dick says, "The first thing a practitioner has to do, when consulted for gleet, is to examine well his patient with respect to antecedents, to ascertain if he had a scrofulous or cutaneous affection in his early life, or has been subject to gout or rheumatism." Most likely farther search would have yielded more quotations of the same kind, but these are all that I remember to have seen, and of which I have preserved notes.

Obviously enough, then, the weight of authority is on the affirmative side of the question, while I have not met with a single

[1] *A Treatise on the Venereal Diseases;* 1838, p. 283.
[2] *Op. citat.*, vol. i, p. 211.
[3] *Ibid.*, vol. iii, p. 42.
[4] *Op. citat.*, p. 66.
[5] *Op. citat.*, p. 386.
[6] *Op. citat.*, p. 128.
[7] *Op. citat.*, p. 102.

author who disputes the point; and I might well pause before I committed myself to direct conflict with such a phalanx. Yet this is precisely what I am going to do. I cannot accept the conclusions arrived at by these gentlemen. While solicitous to avoid saying a word that might give offence, I am compelled to remark, that the principle from which they start is essentially vicious, and that their views seem to me rather moulded in conformity with traditions long current, than upon exact statistical proof, and in order to probe the question thoroughly, I will select two or three of the factors and examine their operation.

And first as to scrofula, the belief in which, as a cause of inveteracy, is one of those vague elastic opinions which, while they have the advantage of harmonizing with current theories and modes of speaking, possess the still greater one of being so intangible, that it is well nigh impossible to deal with them as we can with an argument reduced to a definite form. It must be obvious that any one, assailing so shapeless a doctrine, does so at a great disadvantage, seeing that he might almost as easily attack a phantom or a ghost. Men may go on repeating such assertions in proportion as books are multiplied, till what was at first a loose statement, becomes a law from which no one but a person, desirous of being distinguished for his crotchets, would venture to dissent; but however well such a system might suit the requirements of science, it would not bring us any nearer the truth, which is quite a different matter. To do this, we must first of all define with sufficient strictness what is really meant by a scrofulous diathesis; and then, in the second place, ascertain what proportion persons so affected bear to the entire male population. Having agreed upon the solution of the former point, a comparison of the numbers in the latter with those of strumous and non-strumous persons suffering under gonorrhœa, would enable us, by a simple sum in arithmetic, to get at something like the facts of the case. But, to begin, difficulties beset the question of definition. If, as is pretty clearly the opinion of some medical men, inveteracy is in itself, even when all other signs are absent, to be looked upon as decisive testimony that the patient is of this temperament, I give up the point. There is no arguing against such a faith. It is weighing the wind and counting the sands to spend time upon a creed like

this. If the term be narrowed to those cases in which we find the accepted and unmistakeable marks of scrofula I can meet it, and I say at once, that it does not in any way harmonize with my experience to find inveteracy associated with visible signs of struma. Considering that struma is by no means such a very rare disorder, it is not to be wondered at, if we occasionally see gonorrhœal patients suffering from it. A scrofulous person exposes himself to infection the same as a healthy man does, and pays the same penalty.

Many years ago, in some remarks on this question, I stated that I had entirely failed to connect inveteracy with scrofula. Since then I have seen a pretty large number of obstinate gleets, and have rarely, on a single occasion, omitted to question the patient carefully as to the possible reasons for the persistence of his complaint, *without*, except in the instances to be presently mentioned, *finding evidence of the strumous diathesis.* I never could trace anything of the kind. One patient, who was also the subject of abscess in the perinæum, had, in early life, been afflicted with scrofulous ophthalmia of the eyelids. The patient, whose rheumatic affection was complicated with inflammation of the conjunctiva, was described by his medical attendant as having a scrofulous disposition ; but the opinion seemed to be based on the fact that the ophthalmia continued to resist the treatment employed and that the patient was thin and pale. All the others seemed quite as healthy as the average of men, and presented every variety of temperament, nor was there a single sign by which the presence of scrofula could be recognized. The patient spoken of as having had gleet nearly thirteen years was a remarkably tall, straight limbed, well made man, with a mixture of red and brown in his face that betokened the best of health. One man who had had gleet twelve years was a powerful person quite six feet high. The patient, with the prostatic gleet of more than twenty years' standing, was a compact, square-set man, wearing every appearance of health and strength. One gentleman, a famous runner, also a picture of health, always had gonorrhœa, when he was unlucky enough to contract it, in a most obstinate form. Are we then, with such facts as these before us, to accept the creed that inveteracy must mean scrofula?

In the same way I would deal with rheumatism and gout. I suppose we should scarcely err in saying that two persons at least out of five suffer more or less from rheumatism, and in that case we cannot be surprized at finding forty patients out of every hundred to be rheumatic. If the first part of the calculation be erroneous, that only proves more strongly the need of such a preliminary inquiry as I have just hinted at. As to gout, I could not make out anything to my satisfaction. In the obstinate case of prostatic gleet spoken of as lasting more than twenty years, the patient said there was a history of gout in the family, but I suppose half the educated people in England might say the same thing; and I know that I have cured, and very easily too, patients suffering under gonorrhœa and gleet who did say the same thing, as I have done with patients, not only liable to rheumatism, but actually rheumatic at the time they contracted the affection. On one occasion I treated, for bad urethral discharge, a patient whom I had, not long before, injected six times with morphia by means of the hypodermic syringe for severe rheumatism. Yet his case did very well and showed no signs of obstinacy. A medical man, who consulted me for long standing gleet, unhesitatingly put it down to his father having gout; but it seemed to me that if such were the case, then every son of a gouty father, if he catch gonorrhœa, ought to have gleet in a rebellious form, which does not happen. Subsequently this patient had very bad rheumatism for three or four years, and then I wondered which of the two agents was now to be blamed.

As to temperament I have already said, that the patients labouring under rebellious gleet presented every variety of it, and having at least twice previously given my reasons for distrusting the coarse formulæ by which its varieties are to be distinguished, I trust to stand excused for not repeating them here. Such a method of parcelling mankind out into sections may have its advantages. For my part I at once confess that I have never been able to see them, any more than I have the bearing of temperament upon the enigma we have been discussing.

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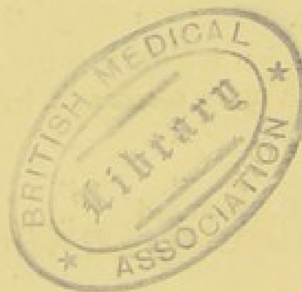

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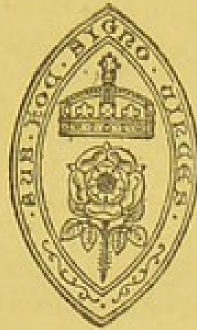

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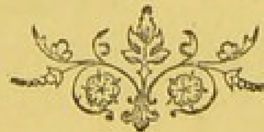

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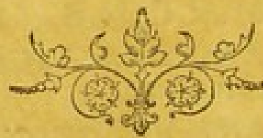

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