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Remarks on Incontinence of Urine in Children. By HENRY KENNEDY, A.B., M.B., Vice-President College of Physicians; Physician to the Whitworth Hospital, Drumcondra, &c.

IN the following paper I would make a few remarks on the subject of incontinence of urine in children. The affection is not a serious one, but it is of sufficient consequence to render it very often a most distressing one, and it may be said to be always very difficult to cure. I do not know that I have anything new on the matter to offer to the meeting, but what I have to say will, I hope, elicit a discussion, and so collect the experience of many on this subject.

Before speaking of the immediate matter before us, I would just remind you for a moment of the marked differences—I might almost call them contrasts—which exist amongst infants at and after birth. Witness their size and weight, the growth and colour of the hair, and the appearance of the teeth. The varieties in each and all these points need not be dwelt on. Nor are they confined to what might be called externals. The varieties extend to the internal functions as well. Thus you may observe marked differences as to the susceptibility of the stomach and bowels; or when the infant comes to get food, such as bread, you may observe differences, not so much in the quantity taken as in the very mode of swallowing it. Whilst in most the act comes, as it were, by a kind of instinct, in others care is required, else there will be a risk of choking them; and even when they grow up so as to be able to feed themselves, every one must have observed that the act of

swallowing is not performed in the same perfect way by all. Some require a mouthful of drink frequently; whilst in others the tendency to a bit going the wrong way, as it is expressed, is out of all proportion more frequent than with other children. What I wish to exemplify, too, may be observed on other points, more particularly as the child grows up. Thus some are essentially awkward in all their ways and actions, and no education will cure them. Some are awkward, if I may so express it, in their powers of speech, and will continue to speak thick, years after others can speak perfectly. I am sure it has been observed by others, as by myself, that girls speak earlier and more perfectly than boys; and in connexion with this subject it is well ascertained that stammering is much more common amongst males than females. But it may be asked here, what have these remarks to say to the subject of my paper? Much, as I conceive; for they prove that the varied functions of our frames are liable—in childhood, at least—to certain derangements which mar the harmony that would otherwise exist; and there are few who do not exhibit, at this period of life, some one or more of those deviations to which I have alluded. Now these diversities in the mode of performance of natural functions may be either of a temporary or a more permanent character, and it is in this class I would place the affection to which I wish more particularly to ask your attention at present.

Incontinence of urine clearly belongs to one of those deviations from actual health of which I have been speaking. What the exact cause is it would be hard to determine, but it would seem to be a want of nervous influence in the sphincter of the bladder; or probably it might be better expressed by saying that the proper balance of power between the retaining and expulsive powers was lost for the time. I say for the time, as in the great majority of instances the affection is intermitting, or, if not actually intermitting, is at least worse at one period than another. This fact proves, at any rate, that whatever the cause be it cannot be due to any abiding disease. If it were, it would be very hard to understand why it should intermit, as it certainly does. That the affection is not due to what we understand as a delicate constitution is, I think, pretty certain. I have often seen the affection in robust children—indeed, I am not sure if they be not the majority. I think, however, the most of them had a marked mobility—if I may so express it—of the nervous system. Neither, in connexion with this part of the subject, must we forget what is to be met with in the adult, where considerable diversity in the function of the bladder is known to exist. You must all be familiar with these varieties, and I only allude to them here to show that if they exist in the adult, where all the functions may be supposed to have reached their maturity, they may much more readily prevail in infancy and childhood.

In connexion with this infirmity of the bladder, it is worth noting how rarely the bowel is implicated. Yet this does sometimes occur, intermittingly, as it were; but I have never seen it to the same degree as occurs with the bladder, nor have I ever been consulted about it. The parents have looked upon it as a casualty; yet to myself it has appeared exactly analogous to what occurs in the bladder. Need I say I am not speaking of what often occurs in the progress of the fevers of children, but of what takes place when the child is, to all appearance at least, in good health.

For so far the remarks made have had one object in view, which was to show that incontinence of urine in children is but one of the ways in which infirmity of the frame declares itself in childhood. What this weakness arises from is hard to make out, but it seems likely to be some cause in the nervous system itself. We know that when a child is born with any defect, such as a weak and atrophied side of the body, this is due to an arrest of development of a part of the brain; and so I take it to be—though in a greatly less degree—with the affection now under consideration. That there is no real disease may be taken for granted, else recovery would never take place, which would be contrary to all our experience. The affection seems to myself to be as close to real disease as it could be, consistent with perfect recovery. This would of course be the worst form of the affection, any others being of a lighter character and easier recovered from. Considerations of the kind advanced are, I believe, useful, but I shall not dwell on them longer at present.

On the affection itself I need not keep you one moment. It requires no description. The child wets the bed once, twice, or, as I have known, three times during the night. Nor is the infirmity confined to the night, as possibly many suppose. I have known it occur in the day-time. The very last case I saw was of this kind; but unfortunately I lost sight of it, having seen it only twice. The boy was eight years of age, and small for his years. The affection had not been of long duration. On the closest inquiry I failed to make out any such specific cause as would account for it. Cases of this kind are rare. As to the sex, boys are, I believe, more frequently affected than girls; but the latter are by no means free of it. I have both seen and known of different instances in girls. It is unnecessary to state that the duration of the complaint is most uncertain. In severe cases it has continued till the change from boyhood to manhood took place, and then only has it ceased. Probably most whom I address have known of instances where boys had to be taken from school on account of it. In a very obstinate case in a female, of which I knew, the infirmity continued up to womanhood, and ceased only when the patient married. I confess it appeared to me at the time a bold experiment; but marry she would, and the result proved she was right. On the whole, and in the worst

cases, both manhood and womanhood may be looked on as a barrier beyond which period the infirmity will cease, but it must be allowed to be a grievous calamity when it continues as long as this. In connexion with the duration of this state, we must not forget a point in its natural history to which I have before adverted—I mean the intermitting character of the complaint. I presume most present are aware of the fact that the affection will often cease, and very suddenly, but only to recur again after an interval. On other occasions, again, its intensity will lessen, if I may speak of it, without quite ceasing; and then it will return to its former state. This kind of intermission it is certainly very hard to explain; but it is prudent not to forget the possibility of its occurrence, more particularly when we come to consider the treatment, which is the next point to which I would ask your attention.

The treatment of this affection may be divided into two kinds—the mechanical and the medical. Amongst the former of these must be noticed what was suggested by Sir D. Corrigan a few years back, which consisted in the application of strong collodion to the orifice of the prepuce, and so preventing the escape of the urine for the time. This idea must, I fear, be given up; for it is more than probable the urine would not be retained in the bladder, but would make its way into the prepuce—that is, supposing the orifice was so glued as to keep it there. And that this is not mere speculation I may mention the following. I had taken a boy of ten years of age, who laboured under the infirmity, to the late Sir Philip Crampton for his advice. In the course of our conversation the idea of tying the prepuce was spoken of, but to this Sir Philip objected, inasmuch as he had known of a case in which this plan had been adopted, and the result was that the prepuce was literally turned into a bladder—an infirmity from which the sufferer was not freed as long as Sir Philip knew him. A more feasible plan with boys—and one which, indeed, is very old, having been proposed and acted on long since—is the application of a piece of bougie to the under surface of the penis, and keeping it there by means of sticking plaster. I tried it myself in the very case spoken of above, but I found very much more difficulty than might at first sight appear. It had of course to be used at night, and taken off in a few hours, and it entailed close watching. Besides, too, it gave rise to some pain; though this was very probably due to its being applied too tight. Still the plan is one of which, I think, we should not lose sight. I can easily conceive a case in which, all other measures failing, we would be justified in trying this one. Nor would the difficulties be as great now as they formerly were; for we have got vulcanised indian-rubber to deal with, and it seems clear to me that this substance, probably in the form of a ring, would be just to our purpose. The pressure, it is obvious, should be at the root of the penis, and it should not be undertaken except under medical supervision. The

object is to break the wrong habit of the system; and if this be done for three or four nights, there is a strong probability that the proper function of the bladder will be restored, and the infirmity cured. It need scarcely be added that it is only to boys these remarks apply, and it is when other measures have failed that this one should be tried. A second means which has been proposed for treating the affection, and which would come under the head of mechanical, is the position of the patient whilst in bed. It has been said that if they be kept on their side there is not that tendency to empty the bladder that exists when lying on their back; and this has been explained by supposing that in the latter the urine irritates the trigone of the bladder, and so causes the organ to empty itself. Before taking up this idea we ought to be sure that the statement is true. To myself it seems very unlikely, and I know in one instance it was not the case, as the patient, a boy, wet the bed, no matter in what position he lay. Besides, it is hard to understand how any quantity of urine can be in the bladder without coming in contact with the trigone.

It now remains to make a few remarks on what I have called the medical treatment of the affection, and this divides itself into general and special measures. Amongst the former will be placed the regulation of the quantity of fluid taken, as well as the time of the day it is used. There can be no doubt that if any over-quantity be taken towards evening, it must greatly increase the tendency to the complaint. Hence the necessity for regulating the quantity. Of the fluids used, I think tea has an injurious effect, and should be avoided. Speaking of the quantity of fluid to be used reminds me of a plan which, when it can be carried out, is always of use; nor do I recollect seeing it noticed in the books treating of the subject—I mean teaching the patient, during the day-time, to retain the urine as long as is possible. I have no doubt this is useful, though, owing to the age of some of the patients, it is not always available. You will observe it is the very opposite of a plan which is in very general use—I mean taking up the patient once or oftener during the night. By this means the unpleasant effects of the infirmity may certainly be averted, but otherwise I look on the proceeding as decidedly objectionable. It educates the bladder to empty itself the more frequently, and this is precisely what we do not want.

Amongst the medical means employed for the cure of the affection, blisters must be mentioned. There can be no doubt that, applied to the sacrum, they have been sometimes successful; and when they do succeed it is at once they do so. In one instance where I gave this plan a trial it did not succeed. This was the case of a robust boy of six years of age. The mother did not wish a second blister to be put on. In another instance, that of a girl of seven years of age, the plan was more successful, as for a period of four months the disease was completely

stopped, but it then recurred, though at the time I lost sight of the case; for the child's mother was advised to leave the infirmity to itself, being told that when the patient became a woman nature would right itself. It has turned out otherwise however; and, strange to say, it was this past week only that the mother came to me to tell me that, though menstruation has been established, the infirmity has not ceased. The girl is now fifteen years of age. On the whole, the blistering plan is one not to be forgotten; for it is clear that cases will occur where we will be driven to try every resource, and this one amongst the rest. West, in speaking of this plan, says the blisters should be applied again and again. Though I cannot speak against this way of using them from experience, I must say it seems to me if they do not succeed at first they are not likely to do so by repetition.

In any of the works in which this infirmity is spoken of it seems to be taken for granted that tonic medicines are to be used as a matter of course; and the tincture of perchloride of iron has been specially praised. I must say that they have not answered my expectations, and I doubt whether others have found them more beneficial. Some form of the cold douche, however, is a valuable agent; and if the disease be checked, even for a time, this measure will most probably prevent a relapse, which we know is so likely to occur.

Of specific medicines used for this infirmity I need only speak of two. The first is the hydrate of chloral, which has been recommended strongly by some. It has only yet been used by a few, and whether it will in the end prove a useful remedy remains to be seen. In the case alluded to before, where the boy suffered in the day as well as the night, I tried chloral. The patient was brought to the Whitworth Hospital, Drumcondra, but, unfortunately, I lost sight of him after the first week, and so I have no experience to offer on the point. It has been stated, however, that cases have been cured by this medicine; and it is, therefore, worthy of being kept in mind.

The last medicine of which I have to speak here is belladonna, and, with our present knowledge, it is I believe the most effectual means we possess. I need scarcely say that this is a potent drug, and has been proved to be a very valuable remedial agent in some obstinate diseases, such as hooping cough, chorea, &c.; and Trousseau speaks favourably of it in epilepsy. There is one very strange feature about it, as regards children, and that is the little susceptibility they show to its action. It may be considered as established that they bear it very much better than adults; and, when we come to use it, this point must not be forgotten. My own experience bears out this most completely. I have rarely seen the pupils at all affected, and when they were the state passed away very quickly. I may add that, by gradually increasing the dose, I have given very large doses for hooping cough, and the same remark

applies to the disease now under consideration, but the number of the latter has not been at all so numerous as the former. It may be looked on as proved that, with children, the functions, especially those of the kidneys, go on so actively that a poison like belladonna passes away almost as rapidly as it is taken. This reminds one of the analogous fact, which occurs with calomel; for we know that it is scarcely possible to salivate a child.

My own experience of the use of belladonna in incontinence of urine reaches to two cases, which came under my care during the past year. The first was a boy of three and a half-years of age, admitted into the Whitworth Hospital, Drumcondra, under the care of my friend Surgeon Elliot, for one of the forms of club foot. I found he laboured also under incontinence of urine, and wet his bed every night. He was a fat, healthy looking boy, and his appetite good. The urine was not over-acid. He was put on belladonna, in the form of tincture, one drachm to four ounces of water. The dose was a drachm three times a day, and it was increased every third day by one-half. No directions were given about the fluid taken. By the third week the nurse reported the boy better. Some nights passed without the bed being wet, and in five weeks the improvement was quite marked, and it went on till he got or seemed to get quite well. At the end of six weeks, however, there were signs of a relapse, and the belladonna was resumed, but in double the doses which he got at first, having now a knowledge of what he would bear. The disease again yielded, and much sooner than before, and this one case may be looked on as equivalent to two, so marked were the effects of the drug. The boy remains well at present, three months having elapsed since the infirmity ceased.

The second case was that of a boy of ten years of age. Though healthy looking he was thin and tall for his years, and, about one year before I saw him for the incontinence, had had a severe attack of chorea, and with it a strong beat of the heart, and a well-marked soufflet occupying the first sound, and to be heard not only at the apex but strongly marked between the left scapula and the spine. This boy had the infirmity for more than five years. But it was one of those cases to which allusion has been already made, that is, he was much worse at one period than another. His mother had been most assiduous in taking him up at night, but it had not cured the complaint. I advised his getting belladonna in increasing doses, and the tincture was the preparation used. At the end of three weeks improvement was reported, and a week now elapsed without wetting the bed. Unfortunately, circumstances then occurred to interrupt the giving of the medicine, and the ground which had been gained was lost. After an interval the belladonna was resumed, and with precisely the same effect as at first, that is, intervals of a week, or even more, elapsed without wetting the bed. Unfortunately, some illness now broke

out in the family, and again interrupted the use of the medicine, and it has not been resumed since. It is, however, particularly worthy of note, that the boy has not fallen back, as he did on the former occasion; and, though the infirmity is far from being cured, the parents consider him very much better than before the belladonna was given. There can be little doubt, I think, that a longer use of the medicine would, most probably, make a complete cure of this case, and I hope to try it again when a proper opportunity offers.

Such are the remarks I have to offer on the subject before us. I have not thought it necessary to allude to some of the supposed causes of the complaint, mentioned by West and others, such as over acidity of the urine or worms. My reason was that these causes have not come under my notice. Worms are a much more common complaint than incontinence of urine; yet, I have not seen any instance where the two were combined; and again the urine has not been over acid. Children are often sufferers from dysuria and frequency in passing water; but, as far as I have seen, this is a very different affection from the infirmity of which I have been speaking.

In conclusion, I would repeat the four points which, with our present knowledge, seem to me to hold out the best prospect of curing this complaint:—

1. The training the child to retain its water, in the day time, as long as possible.
2. The use of the cold douche.
3. A moderate use of fluids towards night, and a total abstinence from tea.
4. The internal use of belladonna, given in increasing doses, till its specific effects are produced.

DR. DARBY agreed with Dr. Kennedy that incontinence of urine mostly affected boys, and that it generally terminated or was cured about the age of puberty. He was unable to throw any light on the pathology of the disease; but he knew of a case where it had been transmitted through three generations—the grandfather, father, and son. The son was a boy about twelve years of age, and was suffering under this distressing infirmity when Dr. Darby saw him. The father told him that he, himself, had been similarly affected until he reached the age of fifteen, and that his father had told him that he also suffered from incontinence of urine until he had attained the same age. He knew another case in which it was also hereditary. At the time Sir D. Corrigan read his paper on the subject he (Dr. Darby) made a few remarks, and he was then inclined to attribute the infirmity to the want of care on the part of nurses, and giving the child a bad habit. Since then he had made use of the treatment recommended by Sir. D. Corrigan, and it was perfectly successful

in the six cases in which he tried it; the affection was cured by that means in the course of a week in one case, in a month in another, and in a few months in some. He accounted for it in this way. The sealing up of the prepuce with collodion imposed an impediment to the child passing water unconsciously; he got uneasy and disturbed and woke up, whereupon he made water properly. In one case two applications of the collodion were sufficient to effect a cure, and the child had had no return of the complaint since, and that was six or seven months ago. With a very young child, of course, it might not have the same effect. He had not seen many females with this affection, but he believed it continued in females to a much later period of life than with boys, and in those cases which were hard to cure, he believed blistering was the best mode of treatment. Dr. Kennedy did not allude to treatment by tincture of cantharides. He remembered a case of hooping cough where the parents of the child, instead of going at first to a doctor, consulted a Lady Bountiful, in their neighbourhood, who had a panacea for the disease, consisting of carbonate of potash, cochineal, and large doses of tincture of cantharides. She pressed the cantharides till it produced strangury, and the result was that he was cured of incontinence of urine as well as the hooping cough.

DR. C. F. MOORE doubted the propriety of giving belladonna to children in the large doses mentioned by Dr. Kennedy. He knew a case where a lady gave belladonna, for a length of time, to a child in the hope of keeping away scarlatina, the result being complete loss of sight which was never restored.

DR. DARBY also believed that belladonna was not so harmless as Dr. Kennedy appeared to think. He knew of a case in which it was given as a prophylactic against scarlatina, with the result of causing most intractable indigestion.

DR. CHURCHILL said:—Incontinence of urine is a very obstinate disease, or habit at any rate. In some cases I think it arises, or is kept up by an acid condition of the urine, and I have seen such cases benefited by the administration of alkalies. These cases are the most curable. I have seen it benefited by belladonna, though not in such large doses as Dr. Kennedy recommends. I have also seen it benefited by cold douches at night. I believe the best treatment is watchfulness. I remember asking a wise old man, Dr. Charles Johnson, how he cured cases of this kind, and he said the only way he succeeded was in employing an experienced nurse-tender, and having the child carefully watched all night. There is something very curious in this affection; it may prevail something like an epidemic in a large establishment of boys. I remember it happened (I am not sure, however, that it was not tricks)

when Smithfield Penitentiary was occupied by boys. One or two of the boys had the habit, and they were punished for it. Suddenly every boy in the establishment wet his bed. The physician had an accurate knowledge of human nature, and one morning he brought in with him from his country residence a bunch of nettles, and ordered that every boy who wet his bed should be well whipped with the nettles. One or two, I believe, were so punished, but at all events the epidemic was completely stopped. There is, as Dr. Kennedy says, a marvellous difference between those cases occurring in the day and in the night. A boy can always empty his bladder in the day-time, and will do so, if reasonably well taught. In the night, of course, he is asleep. I took some trouble to find out what time of the night it was in which the incontinence most frequently occurred; whether, when the boy was sound asleep, or in that half state which precedes waking; and in several instances I found it occurred when he was in a deep sleep, but in the majority of cases it occurred shortly before waking. I am not quite sure that it is not connected with dreams of passing water, the child really having a sort of dim consciousness that he was passing it properly. It is probable that some of these cases may arise from want of proper tone of the bladder, and such cases might be benefited by strychnine. I have seen several cases of incontinence of urine in girls. I know one who is now twenty years of age.

DR. KIDD said:—I think one of the methods of treatment Dr. Kennedy alluded to is the most efficacious and rational. I have long practised it. When cases of incontinence come before me, I impress upon the parents and upon the patients themselves, when of an age to understand it, the importance of educating the bladder during the day-time to retain the water. Teach the patients to retain the water as long during the day as possible; and in that way you will accustom the bladder to the irritation of the urine, and, in many cases, I believe, overcome the irritability of the organ which causes the incontinence. On another point referred to by Dr. Kennedy, I do not so fully agree with him, and that is the abstinence from fluids. I think if you make the children abstain from fluids you cause the urine to become more concentrated and more irritating, and you rather increase the tendency to wet the bed. There is another point which should not be overlooked, namely, that sometimes this incontinence of urine is a symptom of epilepsy. I believe that in many cases of epilepsy where the fits occur only in the night, their occurrence is only known by the bed being wet. In many cases I have had my attention directed to that form of epilepsy in which the fits only occur during sleep, by finding that the bed has been wet, and I think that in considering this question, the possible existence of epilepsy is a point that deserves to be borne in mind. Another important matter, with regard

to the treatment, is what is the best kind of bed for the patient. Early in my life I had occasion to watch very closely a case of this kind. The patient was the son of a medical man, and was afterwards a great athlete and the winner of numerous prizes at athletic sports. Up to the age of puberty he was greatly distressed by incontinence of urine. His father tried a great many devices for protecting the bed and making the affliction less disagreeable, and among the rest he tried India-rubber sheeting. I believe that of all the devices that is the worst; the child lies all night in a pool of urine, and you have the skin irritated and the child constantly getting cold. With some of the patients at Lucan we have tried India-rubber sheeting with tubes leading from an opening in the centre into a pan underneath the bed. That is better than the plain sheeting; but as far as my experience goes, the best plan is to put the patient to lie on a bed of good wheaten straw; the water trickles through it at once, and the patient is saved a great deal of discomfort. Within the last few days I have learned that at the asylum in Sligo, where there are many dirty patients in the habit of wetting their beds, they use a canvass bed—simply a stretcher made of some peculiar canvass, manufactured specially for an asylum near Liverpool; this is stretched over two wooden supports, and the patients are put to lie thereon, with two blankets under them folded in the way described by Sir Dominic Corrigan—two blankets doubled and meeting at the hips, so that the upper one is without the range of the wet, and the lower one is easily removed. I am told that they have found that better than straw at the Sligo asylum, but my own experience leads me to think that wheaten straw is the best. There is one other point which I should not omit to notice, and that is the frequent association of this condition with ascarides in the rectum. Some of these cases I have seen benefited by the injection of a solution of common salt into the rectum, which removes the ascarides and allays the irritation. I think the tincture of muriate of iron deserves more credit than it has got from Dr. Kennedy, as a remedy for this affection.

The VICE-PRESIDENT (DR. ATHILL) said that as the causes of incontinence were numerous the remedies must be numerous also. Dr. Churchill had alluded to punishment as a remedy sometimes adopted in these cases. They all were aware that instances occurred of children being punished for incontinence of urine, nothing could be more cruel or injurious than such a course. Very few, indeed, wet their beds intentionally. As to the time at which the urine was voided, no doubt it sometimes occurred during the act of waking, and sometimes in the most profound sleep. This, doubtless, varied with the causes the habit depended on. With respect to this infirmity in girls, he had seen that day an exceedingly handsome girl, of 18, who was afflicted with incontinence of urine at night. She had been treated by some of the best

physicians in this city without a permanent benefit. A remarkable feature of her case was, that when on a visit, she never wets the bed. If she goes to a hotel, or if she is on a visit to friends, five or six nights, at least, will elapse before it occurs, and then the infirmity returns. The explanation of this, probably, was that her sleep was not so sound as when she was in her own bed, or had got accustomed to the bed in her friend's house. He saw this girl, for the first time, last year, and her condition now was considerably improved, inasmuch as she would pass eight or ten days without wetting the bed, but she always did so at the approach of the menstrual period, and, probably, Dr. Kennedy's cure (marriage) would cure her. He thought this was an instance in which the urine was probably voided while in a state of profound sleep. With respect to Sir Dominic Corrigan's method, he had tried it in several cases, but had not had the amount of success which attended Dr. Darby's. He (the Vice-President) would not say, however, that that was always fairly tried. To apply collodion properly the prepuce must be well dried and the collodion coated on carefully and thoroughly, and not one woman in twenty would do this efficiently. Therefore, he was not prepared to say that collodion would prove a failure if applied by one who would take the proper precautions. A short time ago he saw a boy who had incontinence of urine, and a remarkable feature in the case was that when he was taken up at night, if the weather was in the least degree cold, they could not get him to pass any water at all. He would then be put back into bed and in fifteen minutes he would be in a flood. That case gave him an idea, that possibly ice applied to the spine might sometimes prove of use; he had not yet put it into practice, but would do so whenever an opportunity arose. This idea was supported by the observations of Dr. Churchill, that he had seen cold bathing at night do good. In cases where cold had the effect of checking the tendency of the bladder to empty itself, he thought cold applied, in the form of ice bags, to the spine in the course of the night, would have the effect of prolonging the interval, if not of entirely checking the involuntary evacuation of the urine. Dr. Kidd had forestalled him in his observations about the value of straw beds for patients thus afflicted. He had had experience of its benefits and fully concurred in Dr. Kidd's recommendation.

DR. T. MORE MADDEN said that he had published in the present number of the *Irish Hospital Gazette* some cases of this disease. In the *Children's Hospital* with which he was connected a good many cases of the kind had occurred lately. They were divisible into two classes, those which were preventable and those which could not be prevented. The former cases were the most numerous. In them it was not a disease but the result of carelessness on the part of the nurses and the children themselves, and could be cured by simple attention to cleanliness. He

remembered hearing Dr. Darby say in the discussion on Sir Dominic Corrigan's paper, that he could prevent the wetting of the bed, in a great number of cases, by punishing the nurses in whose hands the patients were placed, and that was Dr. Madden's experience also. Unfortunately there was a class of cases which went beyond this, and very few persons knew the extent to which this most unpleasant affection prevailed. He had known many cases of its occurrence in adults, and at present he knew two young men, grown up to adult life, still continuing this habit, and rendering their lives perfectly miserable. He agreed with Dr. Kennedy that blistering the sacrum was of advantage, but not for the reason he had assigned. Dr. Kennedy thought it was of no great use to prevent the patient lying on his back; but he (Dr. Madden) thought that a blister on the sacrum would render it uncomfortable to the patient to lie on his back, and in that way alone would do much good. He disapproved of the mechanical treatment which had been suggested. As to the medical treatment, there were two remedies which he had found useful—tincture of perchloride of iron and tincture of belladonna; and though they produced different effects when given separately, he found they acted very well in combination, and he had tried that combination in the Children's Hospital with much advantage. If they blistered the child's sacrum to prevent it lying on the back, put it on tincture of iron and belladonna, and gave no salt in its food, they would have very few cases of incontinence of urine.

MR. F. T. PORTER asked Dr. Kennedy if he had examined the state of the urine in any of the cases which came under his notice. In a very bad case of a boy between eight and ten years of age, he (Mr. Porter) detected phosphates in the urine. He found that the child's brain had been overworked, and on remedying this and giving him tonics and improving his general health the habit disappeared.

DR. SIBTHORPE had a girl of eight years of age who suffered from this infirmity under his care some time ago. The treatment adopted was to give her no drink from the time she got her dinner—not even tea—and the last thing she did at night before going to bed was to pass water. Tinctura lyttæ was administered, and she got quite well.

DR. KENNEDY, in reply, said he had never heard of the effects of belladonna alluded to by Drs. Moore or Darby, and had seen none of the disagreeable consequences spoken of by Dr. Darby in any of the cases in which he had administered the drug. He was glad to hear that Dr. Darby had had such successful experience of the collodion process, and hoped he would publish the particulars of the six cases in which he had employed that method. With reference to the state of the urine, he had

never tested it further than as regarded acidity, and he had never found any remarkable amount of acidity existing. He should say that in such a stage of life phosphates would be very rarely found to exist. He was aware of the fact alluded to by Dr. Kidd that epileptic patients frequently passed their urine in bed, and that it was often the only proof that they had got a fit in the night. The point was one that ought not to be overlooked, and the greatest watchfulness should be exercised in the case of a child suffering under this infirmity. Tonics in his hands had failed to effect a cure, although the health of the children had improved very much under cod-liver oil and tincture of iron.

A Glance at Preventive Medicine in 1769 and in 1874. By C. F. MOORE, M.D., Physician to Cork-street Fever Hospital.

IN attempting "A Glance at Preventive Medicine in 1769 and in 1874," unforeseen difficulties have arisen. Permit me, therefore, Mr. President and Gentlemen, to ask your indulgence for its many shortcomings.

I will here, by way of preface, dwell for a moment upon the existing state of society and science at or about the first period to be considered.

Commenting upon the times preceding the former date, the author of *A New History of England*^a wrote in 1766 as follows:—

"The powers of the human mind were freely and fully exercised in this period. Considerable progress was made in mathematics and astronomy by divers individuals—among whom we number Newton, Halley, Wallis, Barrow, Flamstead, Hudson, Sanderson, Bradley, Mac-laurin, Smith, and the two Simpsons.

"Natural philosophy became a general study, and the new doctrine of electricity grew into fashion. Different methods were discovered for rendering sea-water potable and sweet, and divers useful hints were communicated to the publick by the learned Doctor Stephen Hale, who directed all his researches and experiments to the benefit of society. The study of alchemy no longer prevailed; but the art of chemistry was perfectly understood, and assiduously applied to the purposes of sophistication."^b

This is not the place to enter into any detail of the long array of celebrated writers that marked the decades embraced in the first period referred to by the historian Mortimer— suffice to say, those were the days of Wm. Congreve, Steele, Farquhar, Addison, Swift, Prior, Crowe, Dryden, Pope, Parnel, Garth, Guy, Young, Thomson, Jno. Locke, Berkley, and many others.

We have more in common with the fact that it was about that time

^a *A New History of England, &c.* By Thomas Mortimer, Esq., &c. London, 1766. Vol. III., pp. 788-793, &c.

^b Meant, I presume, in a good sense, as mixing useful compounds.—(C. F. M.)

“the physician’s library was enriched with many useful modern productions; with the works of the classical Freind, the elegant Mead, the accurate Huxham, and the philosophical Pringle. The art of midwifery was elucidated by science, reduced to fixed principles, and almost wholly consigned into the hands of men practitioners. The researches of anatomy were prosecuted to some curious discoveries by the ingenuity and dexterity of a Hunter and a Monro. The numerous hospitals in London (and Mr. Mortimer might have added those also of Dublin) contributed to the improvement of surgery, which was brought to perfection under the auspices of a Cheselden and a Sharpe.”

Our own island was not behindhand in progress, for we find that the Royal Hospital had been some time built, and Steevens’, Mercer’s, St. Patrick’s, so well known as Swift’s; that for Incurables, then in Fleet-street; Dr. Moss’s in Great Britain-street; St. Nicholas’, Francis-street, the old Meath Hospital, the Hibernian Hospital in the Park, the Foundling Hospital and Workhouse, the House of Industry, the Bluecoat Hospital, the Royal Dublin Society, the Royal Irish Academy, the Hibernian Marine Society, and other valued and useful institutions, were founded or in working.

Such evidence of care for the sick, for the land and sea services—such energy of character—such literary talent—aye, and such evidence of the power of satire, as was manifest in the works of Hogarth and others who plied pen and pencil, and showed, in other ways, their disapproval of what was wrong, or believed to be so—existed on every side a hundred years ago. Commerce, too, was thriving, as seen in the growth of the Honourable East India Company; enterprise existed with many, not always to repay its possessors, as proved by the South Sea Bubble.

All this time the people of the British Isles maintained, with more or less success and renown, war with many powerful enemies. Solid evidence of successes remains in many of our colonial possessions, and of our reverses, no doubt sent for the best purposes, in the great Republic across the Atlantic.

That science, which is the more immediate object of this notice, might to a great extent be said to have taken a definite form at this period.

It was then that inoculation with the small-pox virus was introduced into these islands, institutions for the aid of soldiers’ and sailors’ children, for female outcasts, and soon after for venereal cases, were also established.

Wars by land and sea, as well as the enterprise of Captain Cook and other discoverers, led to much knowledge in practical hygiene about the time referred to. It was by these men that scurvy—that scourge of fleets and armies—was first shown to be avoidable.

During the last century many works were published on hygiene at

home and abroad ; some referred to the injurious effects of ladies' stays ; some advocated sobriety, believing, doubtless, with the poet Denham that—

“Mirth makes them not mad,
Nor sobriety sad.”

Invocations to health were published in prose and in verse. The mother, the nurse, the child, were counselled to follow in the footsteps of the goddess, Hygeia.

In 1714 John Bellew wrote “An Essay towards the Improvement of Physic, by which the lives of many thousands may be saved yearly.”

Sir John Floyer wrote in 1725 upon the “Galenic Art of Preserving Old Men's Health.”

Some years earlier an author, John Polus Lecaan, wrote—“Advice to the Gentlemen in the Army in Portugal and Spain.” This was published in London while the British army was engaged in Spain.

In 1722 Dr. John Quincy published the fourth edition of his “Compleat English Dispensatory,” to which he added “An Account of the Common Adulterations, both of *Simples* and *Compounds*, with some Marks to detect them by.”

Don. Monro, M.D., in 1764, published “An Account of the Diseases of the British Army in Germany, with an Essay on the Means of Preserving the Health of Soldiers.”

The names of John Fothergill, Jno. Armstrong, M. A. Clarke, W. Smith, Hugh Smith, W. Rowley, with very many others at home and abroad, occur about the same time as writers on the subject of hygiene.

W. Rowley wrote, in 1776, on “Medical Advice for the Army and Navy in the American Expedition;” and in the same year Sir John Pringle published his “Discourse on Improvements for Preserving the Health of Mariners.”

Sir John took counsel with Captain Cook, as seen by the Captain's letter^a to the baronet when the latter was President of the Royal Society (dated, 5th March, 1776).

It is now several years since the Regius Professor of Physic (Dublin University) drew the attention of my fellow-students and myself at the Meath Hospital, to the great value of Captain Cook's precepts for the preservation of health, as seen by his writings and the effects upon the crews under his command.

During three years and eighteen days but one man of the crew of Captain Cook's ship, the “Resolution,” died of illness, nor was that at all attributed to scurvy.

The Merchant Shipping Act of 1867 is, so to speak, by no means unmindful of the importance of the experience of the celebrated circum-

^a Philosophical Transactions, 1776. Vol. LXVI., p. 402.

navigator. It would be well if many of the provisions of the Act just referred to were made compulsory, instead of remaining, as at present, permissive. Most important and valuable enactments are now carried out in regard to the hulls, &c., of ships; what is now necessary to insure safety for property and life is to secure an efficient crew, for which at present the law only provides permissively, except in the matter of prevention of scurvy, which has worked^a so well already. Moreover, the coasting trade, employing fleets of vessels all round the coasts of the United Kingdom, is comparatively exempt from the operation of sanitary law and inspection, and consequently serves but too constantly to convey infectious disease wherever prevalent from port to port. Of this fact the records of every epidemic afford corroboration.

The great necessity existing at the present time for extension of preventive medicine to all classes of merchant seamen is seen by the circumstances represented a short time since by the Social Science Association to the Board of Trade. It was there shown that some 3,000 deaths, partly by disease, and partly by causes (neither sickness nor shipwreck), occur annually in the service.

Medical registration^b for the one, and legal inquiry for the other, is now called for, and it is to be hoped that success may attend the effort; for it is unnecessary to say how needful, not only in the cause of humanity and legitimate trade such steps are, but also to secure that national independence and safety which so largely, in our case, hangs on our maritime power.

We must not ignore the operation and influence of trade upon the home labour market in respect of the shipping enterprise of the United Kingdom, as well as in other directions.

It is not unlikely that, however it may operate injuriously, as it appears in respect of some points, it has, at the same time, operated beneficially. In opposing what might have otherwise become the domination of the labouring classes in the United Kingdom, events of the past few weeks show a tendency to equalization and to the correction of what a short time ago threatened to become a serious calamity.

It may be mentioned that, connected with this part of the subject, the same guarantees of successful vaccination required in the army and the navy should be legally obligatory on all young persons entering the merchant service. The great success that providentially attended the indefatigable industry of the able medical officers of the ports of London and of Liverpool, in so often securing the prompt isolation and treatment of cholera and small-pox last year, will surely prove an incentive to our

^a Scurvy has been lessened 80 per cent. by the working of the Act of 1867.

^b Registration of death, adopted some 18 years since in the Royal Navy, has been followed by an enormous reduction of mortality. See *Lancet*, May 2, 1874.

Irish authorities to continue the measures adopted last year, and to extend them where required.

Early in the last century accounts of the small-pox inoculation, as practiced in the East, reached England. The Chinese, indeed, claim to have practiced "sowing" the disease, as they termed it, for centuries, by the *pleasant* expedient of putting some of the crusts into the nostrils, as mentioned by Sir Thomas Watson*. According to the same eminent authority, Dr. Timoni, Dr. Woodward, Mr. Kennedy, M. Pylarini, anticipated Lady Mary Wortley Montague by short periods in the publication in Britain of the process as then practised in Turkey.

I will not detain my indulgent hearers by any long quotation from her great grandson's (Lord Wharnccliffe) publication of her letters, but will merely preface her own words, as quoted by Sir Thomas Watson on the matter, by saying that she represents the plague and the inoculated small-pox, then existing in Turkey, as being of a very mild form; indeed, her account would rather lead the reader now-a-days to think that she herself possessed uncommon courage, great strength of mind, and a determination to make the best of everything, especially in her letters to those at home. Under date 1st April, 1718, at Adrianople, Lady Mary Wortley Montague observes:—"The small-pox, so fatal and so general amongst us, is here entirely harmless by the invention of *engrafting*, which is the term they give it. Every year thousands undergo the operation, and the French ambassador says, pleasantly, that they take the small-pox here by way of diversion, as they take the waters in other countries. There is no example of any one who has died in it, and you may believe I am well satisfied of the safety of this experiment, since I intend to try it on my dear little son." Her daughter was the first person in England inoculated with the small-pox.

Several years before inoculation became established in England, Baron Dimsdale, the brothers Sutton, and others, claimed great success and almost perfect safety from the operation.

I have been favoured, by Arthur Haffield, Esq., of this city, with the inspection of a deed of "agreement between Robert Houlton, Master of Arts, late of Knight's Bridge, county Middlesex, but now of Waterford; Samuel Sparrow, late of the Strand, London, but now of Dublin, surgeon; and Charles Blake, late of Bath, but now of Cavan, surgeon, of the one part; and Charles Meares, of Gt. Ship-street, Dublin, gentleman, on the other part, as follows (to wit)," &c., &c. The articles go on to say that these gentlemen, having been "impowered, and duly authorized by the Sutton Family, in Great Britain, to use and practice the art and mystery of inoculation for the small-pox, commonly called the Suttonian method, in the Kingdom of Ireland, with powers to appoint other persons to use

* Watson on the Principles and Practice of Physic. 3rd ed. Vol. II., p. 787.

and practice the said art in Ireland, and other powers as mentioned and contained in certain deeds and articles duly executed to them by Messrs. Sutton," &c., and to appoint Mr. Meares as their "true and lawfull attorney, receiver, and general agent" in Ireland. By an inscription on the back, the document appears to have been signed by Mr. Houlton and Mr. Meares in presence of two witnesses, but only Mr. Meares' signature remains upon it, as a portion of the parchment is apparently cut away. Mr. Meares was to receive, and account for, all "ballances" to the other three persons named above, and to keep in safe custody all medicines or ingredients, nor to allow any to "make any essay, or philosophical or chymical experiment" with the same, except the three gentlemen above mentioned.

Excepting the law of patents, which is, like all human devices, imperfect, we have nothing at the present day like the joint-stock company, described in the deed under consideration, trading, as it did, upon the human live stock of the Green Isle. I have not been able to learn anything about the proceedings of the company, but now mention it in the hope that some of my hearers may be able to give some information upon this part of the matter.

For the sake of the inoculated it is to be hoped the Suttonian method was not like that practised in Turkey, as described by Lady Mary Wortley Montague in the following words:—

"There is a set of old women who make it their business to perform the operation every autumn, in the month of September, when the great heat is abated. People send to one another to know if any of their family has a mind to have the small-pox; they make parties for the purpose, and when they are met (commonly fifteen or sixteen together), the old woman comes with a nutshellfull of the matter, of the best sort of small-pox, and asks what vein you please to have opened. She immediately rips open that you offer to her with a large needle (which gives you no more pain than a common scratch), and puts into the vein as much matter as can lie upon the head of her needle, and after that binds up the little wound with a hollow bit of shell, and in this manner opens four or five veins," &c. "The children or young patients play together all the rest of the day, and are in perfect health to the eighth. Then the fever begins to seize them, and they keep their beds two days, very seldom three. They have rarely above twenty or thirty in their faces, which never mark, and in ten days time they are as well as before their illness. Where they are wounded, there remain running sores during the distemper, which I don't doubt is a great relief to it. Every year thousands undergo the operation," &c.

It is quite unnecessary to say a word in condemnation of this wholesale scattering of the germs of the most loathsome disorder, as it has so often been called, to which the human race is subject; or to observe

how serious are the objections that modern medicine would raise against the engrafting of so virulent a poison by its insertion into the very veins. We should be thankful that even the improved Suttonian method is now forbidden by stern enactments.

In Ireland an effort is being made by many to carry out sanitary improvements socially, and through the medium of legislative enactments; and it is to be hoped that the latter may be accomplished ere another dread lesson be taught us of our deficiencies, which latter are so patent to all who take the trouble to inquire and learn our great backwardness in these respects.

Although we have not Arab dhows reeking with that most fearful poison, the emanations from ill-treated and often starving human beings who are literally rammed into one mass of seething suffering and disease in a space—as I am told by an eye-witness—worse often than the black-hole of Calcutta, yet we have human beings crowded into small tenements befouled and poisoned with the effluvia of ages.

We need the enforcement of the law, that houses should be habitable, that the contagion of successive generations of fever stricken people should be destroyed with the defiled heaps of rubbish, called houses, that so abound in many of the older parts of our city.

We need protection against the results of ignorance and of habits of want of cleanliness, so common amongst the poor denizens of our courts and lanes. Such people should be taught the consequences of using the same vessels for the removal of everything offensive from their dwellings and for the bringing in of water from the fountains.

Those medical men who are, with the clergy, too often the sole visitors of the poor, can tell the suffering and sickness, and degradation of mind and body, so common among the people of the city alleys and back streets.

It is not to be wondered at that so many are victims of “drink” when the authorities allow such wretched lodgings, and so many cellars and other vile holes, called rooms, to remain. To-day I visited a poor girl in fever, in the Coombe. I inquired the cause of an offensive odour in the house. It proceeded, according to my informant, from a vegetable store under the room where lay the sick girl; indeed, when vegetables get bad, as my guide said, they are most dangerous. Some of the worst cases of rapidly fatal malignant fever that I have seen have come from such places, and it is to me incomprehensible how some gentlemen of the first ability as physicians, at this moment, profess publicly their unbelief in the influence exerted by bad smells^a in the production of fevers.

I do not desire to sit in judgment upon any one, much less on those whose knowledge and experience are appreciated wherever science has

^a See “*Athenæum*,” June 6th, 1874.

penetrated ; but I regret that statements are made, such as these to which I have alluded, by those who probably have never, or not for years, visited the homes of the fever-stricken poor.

The ill effects of such statements is seen in the unbelief evinced by so many of the unprofessional public in sanitary science ; this remark often applies less to the more intelligent of the working classes than to those a little higher up in the social scale.

The old story of the immunity from cholera of men and women employed in the north-east of England in gathering shell-fish on the shore, near the cholera-stricken ports, and of nightmen from fever, forms a strong argument for those who speak of harmlessness of filth. Superior physique, and the beneficial influence of the comparatively diluted emanations encountered by such persons, protect them ; but even these do not always escape. Witness the instantly fatal effect, every now and then, recorded of poisoning by sewer-gases,^a and the frequent attacks of a more insidious nature, from which even royalty itself has not been free.

What is it that aids unbelief in such causation of disease ? Too often other contributory influences to which the whole agency is ascribed. Three days since I saw a poor girl—for such, indeed, she was—suffering from all the serious train of symptoms so common in cases of over-nursing ; nor was I much surprised when she told me she had been for the last fourteen months, and still was, nursing her twin offspring. This poor girl presented incipient symptoms of fever. Another poor woman^b now has dry gangrene of the right thumb and index finger, as the sequelæ of deeply maculated typhus. She had furious delirium during the acute febrile stage. This sufferer had nursed one child for several months, and probably would have escaped without loss of health had she not lived in an unhealthy locality. In such cases the illness is too often put down to the fault of the nursing only.

The history of the fever-stricken houses, so familiar to the Dublin City District Medical Officers and to the working Committee of the Sanitary Association, is sufficient to convince the most sceptical.

Year after year wretched tenements in such houses contribute their quota of fever cases to the Dublin Hospitals, whilst they act as centres of contagion to the community, and give a bad name to the whole city.

Here, as I have before done elsewhere, I would draw the attention of the profession to the frequency of cardiac pain in cases of over-nursing and of blood-poisoning, arising, as it seems to me, from one and the same cause, viz. :—the imperfect manner in which vitiated or impoverished blood (controvertible terms, as I think) discharges its duty in sustaining life (nourishing the heart itself, as it may be).

^a See fatal cases in Liverpool, recorded in the journals two or three years since.

^b This poor woman died 13th June, 1874.

This same day I saw two children (the eldest a girl about nine years) thickly out in measles. She was suffering such agonizing pain of the heart that it rendered her almost insensible. Her condition was but a step removed from starvation; filth and misery characterized her dwelling—a wretched attic with coved ceiling—the heat of the burning June sun rendering the air of the over-crowded room almost unendurable, albeit the small window and the door were both open.

But I would weary your patience to record the experience of a single day in the life of a Dublin City District Medical Officer. I would add that city authorities should not permit decomposing filth to accumulate in our streets and lanes, and be blown by every blast of wind down our throats.

The Public Health Bill for Ireland contains much that is useful and workable. It has been so well discussed elsewhere that it seems unnecessary here to enter on its consideration. It is to be hoped, however, that certain defects in the English Bill will be avoided in that for Ireland, wherever they occur.

Nor should the miasmata of a thousand manure yards be allowed to befoul the air we breathe, and their offscour the sewers and water-courses and the river of our city.

The heavy mortality showing itself in forms varying with each change of season, proximity to small-pox,* and the revival of cholera on the Continent, should make us ask ourselves—Are we as advanced as we should be in our means of defence against disease and demoralization? Are we, who have so many advantages over our predecessors of a century since, to wait with arms folded? Should we not rather prepare for the pestilence that walketh in darkness?

If we do so energetically we may rest assured of a brighter future for our land; and, while we should not lose sight of the usefulness of legal enactments for the promotion of hygiene, we must also remember that each person can influence his fellow, and that more will be achieved by kindness and instruction, as well as by example, than by coercive measures.

The Society then adjourned until next Session.

* Small-pox is at present epidemic in some parts of England and Ireland.

TRANSACTIONS OF THE ULSTER MEDICAL SOCIETY.

President—JOHN MOORE, M.D., M.R.C.S.ENG.

Hon. Secretary—H. S. PURDON, M.D., L.R.C.P.

February 26th, 1874.

Notes on several Cases of Cystitis. By BENJAMIN H. SPEDDING, L.R.C.P. and S., Edin. ; Medical Officer to the Belfast Dispensary.

MR. PRESIDENT AND GENTLEMEN,—I do not pretend to bring anything new or original before you to-night in the treatment of cystitis, but merely to record the result of four cases, all treated upon the same plan, by a remedy which was twenty-nine years ago extolled in the writings of Dr. Robert M'Donnell, of Montreal, in such a manner as to warrant one in giving it a fair trial.

It consists of injecting the bladder with a weak solution of nitrate of silver at short and repeated intervals.

This practice, though possibly known to all of you, is, I venture to state, very rarely adopted, inasmuch as I do not remember any of my professional brethren so treating this disease during my studentship, or since I entered into practice.

The disease is so common that all men who have an extensive field for clinical observation must have noticed how little good effect is produced by the use of various internal remedies which from time to time have been recommended for the cure of sub-acute and chronic inflammation of the bladder. The effect of the use of nitrate of silver injected into the diseased bladder has been so successful in my hands that I think it may be interesting and instructive to read the notes of each case before this Society.

CASE I.—John M'Alister, engine driver, married, aged thirty-two, consulted me on the 20th March, 1873. He stated that about eighteen months previously he commenced to suffer from severe pain in making his water, and being in Edinburgh at the time, became an indoor patient of the Royal Infirmary of that city for a period of six weeks. Here he was treated by internal remedies, and being unimproved, left for Belfast. Shortly after his arrival he consulted me, complaining of frequent desire to micturate, and great pain in doing so, the stream often stopping, and

some blood coming away from the urethra. The symptoms of stone were so strongly marked that I passed the sound three times, with a negative result. Upon his second visit he brought me a specimen of his urine, on allowing which to settle in a test tube it took on a four-fold arrangement, the lowest fourth being blood, next pus, next tenacious mucus, the supernatant fluid being clear urine, having a strong alkaline reaction. I put him on a mixture of nitro-hydrochloric acid, tincture of hyoseyamus, and infusion of buchu, an opiate, and a hot hip bath at bedtime. Continued this for three weeks with no benefit, the urine presenting exactly the same appearance, and being as alkaline, as before. I, then, determined to inject his bladder with a solution of nitrate of silver. I passed a No. 8 elastic catheter, drew off the decomposed urine, and applying a half-ounce glass syringe to its outer end, injected twelve drachms of the solution (which was gr. ii. of the nitrate to a fluid ounce of distilled water). It gave no pain, but felt, as he said, rather warm; he went home, had his usual opiate, ten grains of Dover's powder, and a hot hip bath, and next day reported that he had slept better than he had done for several weeks. He came back every fifth or sixth day, and had altogether nine such injections. Upon each visit he brought me a specimen of the morning urine. The blood disappeared altogether after the second injection, and the mucous and pustular discharge was greatly diminished. At the end of the third week of this treatment he had to rise only twice at night to urinate, whereas he was formerly up every hour. After the ninth week he stated that he felt quite well, and when I examined his urine under the microscope there was not a trace of blood, mucus, pus, or epithelium to be found. In May, 1873, he went to work. I cautioned him against the cold and the abuse of stimulants, to which he had been very partial, and lost sight of him until July, when I received a letter of thanks from him, stating that he was quite well. He was at this time an officer's servant in the South Down Militia, at Newtownards, where he was fortunate enough to escape the usual amount of marching drill, &c., in connexion with the annual training.

I was greatly disappointed when, early in September, 1873, he again applied to me, having, after an interval of three months' apparent cure, had a recurrence of all his symptoms in their most aggravated form. He gave himself up to dissipation after his discharge from the militia, drank whiskey for weeks without intermission, slept out in the cold, and got his bladder into such a state of acute inflammation that I could not again attempt the injection of caustic. Nothing could now check the progress of the disease. Blood, mucus, and pus came away from the urethra, even without making water; he emaciated rapidly, an uncontrollable diarrhœa set in, followed by uræmic symptoms, and he died, I believe, a victim to his own folly, early in December, 1873.

CASE II.—Ellen P., aged twenty, married, mill-worker, consulted me on the 3rd June, 1873. She stated that she had always enjoyed good health until a short time, some four or five weeks, after her marriage. She had then to give up her work as a weaver, owing to a constant burning heat in her private parts, and a frequent desire to make water. Micturation pained her so much that she generally retained her urine for many hours from the dread of undergoing suffering. This state of things had continued for three months, and had been getting gradually worse, when she placed herself under my care. Upon examination per speculum I found the vagina highly inflamed, and the seat of a copious purulent discharge. On introducing the forefinger, and pressing upwards against the bladder, this patient screamed with pain. I drew off some urine for examination; it was normally acid, but upon allowing it to settle in a test tube it was more than one third pure pus. I diagnosed the case to be one of gonorrhœal cystitis, which the unfortunate bride had unconsciously contracted from her husband. I commenced treatment by injecting the bladder twice a week by an ordinary half-ounce glass syringe, with a solution of nitrate of silver, two grains to the ounce of warm distilled water. The first two injections gave a slight burning pain, followed by a desire to urinate, and were only retained a few minutes. The third injection, on the ninth day, gave *no pain*, and was retained altogether. This patient got ten such injections, with about four days' interval, and each specimen of urine which she brought to me contained less and less pus and mucus. She said that she could retain her water much longer, and was able, after the sixth injection, to sleep all night without requiring to urinate. In six weeks she was cured completely of her bladder derangement, but the vaginal discharge continued. This quickly yielded to the frequent use of the syphon syringe and astringent lotions. She has now continued quite well for six months, and has had no return of any bladder symptoms.

CASE III.—Christina D., a healthy married woman, aged thirty-two, and mother of six children, consulted me early in May, 1873. She stated that about twelve months previously she had over-heated herself while on a pleasure excursion to the sea-side, and that she got a chill by sitting on the grass and rocks. A few days afterwards from her account I gathered that she must have had *acute* cystitis, for which she received *no* treatment of any kind for three weeks, when she applied to a medical man, and took several bottles internally, without any benefit. She then tried another physician for a considerable time, and finally came to me, thinking herself incurable. To be brief, I found hers to be a bad case of chronic cystitis, with alkaline urine, containing large quantities of blood, pus, and tenacious mucus, together with phosphatic gravel. She was becoming emaciated from the pain and frequent calls to urinate during

the night. As she had taken so much medicine internally without any benefit, I determined to treat her mainly depending upon the injection of nitrate of silver. I did so just as in the two former cases, and the result was most favourable. In the third week, after six injections, the mucus and pus disappeared, and the blood was only visible when an occasional "attack of gravel" appeared. I then gave her a half-ounce glass syringe, and directed her to inject the bladder with a quarter of a pint of warm water every night, to which was added a tea-spoonful of laudanum. Being an intelligent woman, she did this properly, and after persevering in the treatment for four months, she became perfectly cured, and has remained well ever since.

CASE IV.—E. J., a gentleman, aged thirty, consulted me in June, 1873. He complained of scalding and pain, and frequent micturation, which he attributed to an imperfectly cured gonorrhœa which he had contracted several months previously. The discharge per urethram was little more than an ordinary gleet, but his urine showed chronic inflammation of the bladder, having a considerable deposit of pus and the characteristic tenacious mucus; the microscope revealed epithelium scales in great numbers; reaction slightly alkaline. I tried this patient with nitro-hydrochloric acid and infusion of buchu for one week, without any benefit, the condition of the urine being exactly the same as before its use. I now injected his bladder in precisely the same way as case No. I.—viz., with two ounces of warm distilled water, containing four grains of nitrate of silver, and after the fifth injection had the gratification of finding him quite well, without the use of any internal remedy, save an opiate the night of each injection. It is now six months since the pus and mucus disappeared from his urine, and as I examined it very recently under the microscope, I am in a position to say that he is as well as before the attack commenced.

Remarks.—From the foregoing four cases I have come to the conclusion that we have in nitrate of silver a most potent remedy in the cure of cases of sub-acute and chronic cystitis. The injection causes little, if any, pain, and can be employed in cases of *acid or alkaline* urine. I am also of opinion that gonorrhœa, especially in women of the middle and lower classes, is a much more frequent cause of cystitis than has hitherto been thought.

DR. WALES believed that the nitrate of silver was serviceable in such cases as those described by Dr. Spedding, but he was at a loss to know how that remedy could be beneficial in the case described as being associated with phosphatic deposit in the urine. In cases of gonorrhœal cystitis the treatment recorded would be very useful.

DR. WALTON BROWNE remarked that Mr. Erichsen had mentioned

the use of nitrate of silver in the treatment of cystitis. He had also tried it, and found it useful. Carbolic acid had, in some of his cases in dispensary practice, been serviceable.

DR. CHARLES thought that the best method of washing out the bladder was that described by Bryant. He had injected balsam of copaiva into the bladder in such cases as those recorded.

DR. H. S. PURDON held that for chronic cystitis local treatment was the most important, and also that the urine should not be allowed to accumulate, as in cases where there was enlarged prostate or stricture. Acute cystitis was rare, as an idiopathic affection. He noticed a case, recorded by himself in the *Dublin Medical Journal*, where the disease was cured by the injection of normal urine.

The PRESIDENT believed that cases of cystitis were not very common. The nitrate of silver was an old remedy. The injection of balsam of copaiva, he thought, might give rise to formation of calculus, by some of the balsam remaining in the bladder.

March, 1874.

Cancer of Breast.—DR. FAGAN exhibited a specimen of cancer which he had removed from the breast of a female, aged thirty-two, unmarried. About three months ago the patient first noticed the tumour, and felt pain in the affected part. She exhibited no cancerous diathesis. Some surgeons do not approve of the removal of scirrhus, but Dr. Fagan held that in this case operative interference was not only suitable but necessary, the case being most favourable in all respects for excision. There was only one gland enlarged in the axilla, and that from irritation.

SURGEON GRIBBEN considered it judicious to remove not only the diseased mass, but also any enlarged glands that existed. He had under observation a patient who had been operated on in the General Hospital twelve years ago, and the disease had not returned.

DR. SPEDDING believed that the younger the patient, the more liable she was to an early return of the disease.

DR. M'MURTRY doubted the necessity for operative interference in such cases, and did not see clearly the reason why some surgeons thought it so desirable to operate, as he held that the local cancerous deposit resulted from constitutional conditions which could never, he thought, be removed. After removal of the cancerous mass, other local deposits were very apt to occur.

DR. CHARLES said that if the glands in the axilla were enlarged, they should be removed, and this enlargement was generally due to cancerous

material being carried to them. Many eminent authorities looked on cancer as a local disease, and held that prompt removal was necessary. It is impossible to remove all the enlarged glands, as the lymphatics pass from the axilla to the thorax behind the sternum.

PROFESSOR DILL believed cancer to be a blood disease, which could not be removed. From his own experience he held it to be bad practice to remove a scirrhus breast, as he had generally seen the disease return not only rapidly, but in a more malignant form, and then the disease had no material, so to speak, on which to expend itself. He had seen scirrhus of the breast removed from a female, aged twenty-six, and return inside one year; it was again removed, and she died from the same affection in a year and a half. Two of his own patients who had scirrhus of the breast, which had not been operated on, lived upwards of ten years.

DR. SCOTT asked if any of the members had any experience of *condurango* given in this disease.

The PRESIDENT remarked that, from his experience, he undertook no surgical operation with more hesitation than that of the removal of a cancerous breast, owing to the great liability of the disease to return, and he had never met with a case where it did not show itself again.

Tumour Expelled from Uterus.—PROFESSOR DILL exhibited a tumour expelled from the uterus. He said that the patient was aged fifty-six; her catamenia ceased at fifty. Last year she thought that her menstrual periods had recommenced, as the loss occurred monthly, accompanied with pain. The uterus descended so low that it could be seen and felt, and the patient's daughter had often returned it with her finger. He was called in consultation. The patient had lost a good deal of blood, and the hæmorrhage still continued. The tumour was at the vulva, and its size, as was apparent to the members, was that of a goose egg, and of the shape of the uterine cavity. Tumours of this kind were usually fatal to the patient, and connected with the uterus. In structure it was musculo-fibrous. The pedicle was only the size of a large blood-vessel.

DR. CHARLES thought that the tumour had originally occurred in the uterine walls, which had given way when the growth had fallen into the cavity, and got moulded to its shape. This would also account for the absence of a pedicle.

On the Use of the Aspirator.—DR. H. S. PURDON said that he had recently read Dr. Dieulafoy's book on the aspiration of fluids, and was much struck with several of the statements contained therein. For instance, that if a congested lung be punctured, the needle may be left *in situ*, and a few drachms of blood abstracted, thus producing a true blood-

letting of the affected organ. Dr. Purdon's experience of the aspirator was very limited, as he had used the instrument only in some eight or nine cases of pleuritic effusion. The patients were all males, and were under treatment in the Belfast General Hospital. In about half the number the effusion was purulent, and in such cases he did not think the aspirator so useful. He punctured near the inferior angle of the scapula. Now, when the trocar and canula were formerly used, we were directed to select a high site—for this reason, that when nature produced a fistulous opening, such a situation was chosen. Two of his cases were complicated with tubercle, in which, of course, the treatment by aspiration was only palliative. In another case the disease was hydro-pneumothorax, and from this patient four pints of clear fluid were drawn off. The amphoric echo was present before tapping, after which operation metallic tinkling occurred. However, as the fluid again accumulated, this disappeared. In this same case no fluid was obtained on the first puncture, which was at the back, and where one would expect the fluid to gravitate to, but it was obtained anteriorly. It is not always possible to draw off all the fluid, as difficulty of breathing, pain in the chest, and troublesome cough occur. In some, bloody expectoration takes place, which is said to indicate puncture of the lung. In patients where the effusion is of small quantity, the fluid may occupy a conical portion of the pleural cavity—near, say, to the axilla, and when both resonance and respiration are wanting. Dr. Purdon next referred to “*Damoisseau's curve*,” which, it is said, tends towards estimating the amount of fluid effused—namely, when the fluid is being absorbed, and reaches a level of seven centimètres above the nipple, the line of dulness is horizontal, and when the effusion is less, the line of dulness is curved, the highest point being at the side, from which it gradually falls as it approaches the median line towards the spine.

PROFESSOR DILL stated that he was satisfied that the aspirator was the most important instrument introduced of late years. He had formed a high estimate of the aspirator, and within the last three months he was sent for in consultation to see a lady residing in the country, who was aged about fifty, suffering from strangulated umbilical hernia. Every effort was made to reduce the rupture, but without success. He thought it a fair case for using the aspirator, which he had sent him from town. The hernia was fully the size of an infant's head. The intestine was filled with air. After using the fine needle and aspirator, immediate relief was afforded, and the tumour collapsed. The patient ever since had done well.

DR. FAGAN had used the aspirator in a great number of cases, but he thought that, like all new instruments, its powers were overrated.

However, he had found it very useful in cases of abscess, when the collection of pus was large, and when it was desirable to draw off the fluid gradually. A child, aged six, was under his care in the Children's Hospital, with hip-joint disease, which had caused a large abscess in front of the thigh, and to open which in the usual way would have been nearly impossible. He used the aspirator daily, and thus removed the pus. In some cases the abscess burst afterwards. He had used the aspirator in a case of effusion into the knee-joint with good results, and the fluid could not be removed by the ordinary methods of treatment. In this case he drew off an ounce of serum, with immediate relief, and the patient recovered well without any one bad symptom.

DR. JAMES MOORE had used the aspirator for abscess in the outer parts of the thigh in a woman, an inmate of the Hospital for the Insane. As the patient was troublesome, he did not like to open it in the usual manner. He drew off 16 ounces of thin pus. He looked on the aspirator as a most valuable instrument.

The PRESIDENT thought that, in introducing the needle, in some cases a little incision through the skin might be useful, as it was not always safe to plunge into an abscess, especially with a large needle. He had tapped a knee-joint with the aspirator. In hernia distended by flatus the small puncture was to be preferred.

Osteo-arthritis.—DR. CHARLES exhibited some interesting recent specimens of this disease. He thought that the name of chronic rheumatic arthritis was bad, as the affection was never attended by any of the complications of rheumatism, such as heart complications, nor was the disease gouty. In some of the specimens of the shoulder-joint which he showed to the members, the head of the humerus was enlarged, and had a porcellaneous deposit. In others the biceps tendon was removed or flattened, whilst in one case there existed also fatty degeneration of the muscles of the thumb and fingers. The cause of dislocation at the shoulder was the removal of the supra-spinatus muscle by absorption, The capsule of the joint then became softened, as also the infra-spinatus, and the remaining muscles drew the bone upwards. The name of osteo-arthritis, Dr. Charles thought, did not bind one to look on the disease as rheumatic or gouty.

DR. WHITLA said that the fatty degeneration of the muscles of the hand observed in one of the specimens might be accounted for by the fact that motion was greatly impaired, and thus the muscles degenerated and atrophied. In this case there was also deposit about the finger-joints.

Calculus Extruded from Bladder.—DR. M'CREA exhibited a cigar-shaped calculus, which had been extruded from the bladder of a female. The calculus was originally about an inch and a half long, and three-eighths of an inch in diameter at its thickest part. The woman had declined to submit to the removal of the calculus. One day she could not "pass water," for which she took gin in repeated doses for two days. At last the force generated dislodged the stone from her urethra. It broke in falling, but the principal portion is one inch long. She had invented the new operation of hydrostatic extrusion.

April, 1874.

Pericarditis.—DR. WHITLA exhibited a beautiful specimen of pericarditis, the whole surface of the heart as well as pericardium being covered by a thick deposit of lymph. There was also congestion of the lungs. He looked on this specimen, which had been taken from a patient under Professor Cuming's care, as an example of idiopathic pericarditis, as there was no rheumatic or syphilitic history or symptoms. The kidneys were also healthy. He intended to send the specimen to the Anatomical Museum of Queen's College, Belfast.

Abscess of Liver.—DR. WHITLA read the following notes:—Mary Bodel, aged thirty-five, married, mother of one child ten years old, was admitted to hospital on Monday, 2nd inst., suffering from typhoid fever. She was conscious and freely told her history. Had been in tolerably good health until seven days before admission, when her husband knocked her down and kicked her; she stayed out all night, and from that time had been complaining, but kept at her usual work for a week, when a very severe pain in the back compelled her to remain in bed; she got worse, and finally presented herself at the hospital, being attended by two physicians, who told her she had fever before seeking admission. She had ceased to menstruate for seven months, having previously menstruated every fourteen days. Before admission some discharge came from the vagina, which, from the description given by the friends, seemed to be muco-pus. She had never suffered from jaundice, or complained of pain over the region of the liver. Never had any symptoms of ulcer of the stomach; no history of old diarrhoea. She had always resided in Ireland. Her friends stated that about one year previously her legs had swelled.

On examination, the skin was hot, tongue furred, head-ache, great pain in the back, sickness of stomach, no appetite, a good deal of thirst, cheeks circumscribed red, and face hectic in appearance, with great prostration, and temperature 103° . No eruption was visible. She had angular curvature of the spine in the upper lumbar region, and marks of old contusions. On percussing chest and abdomen negative results were found. No

tenderness was felt anywhere except over region of uterus. Her most prominent symptom was an agonizing pain in the vagina, which was so distressing as to concentrate all her attention, and her friends believed she had contracted venereal disease from her husband, and attributed all her illness to this; there was no discharge.

March 3rd.—Morning temperature $102\cdot2^{\circ}$; spent a bad night, seemed dull and stupid; the bowels having been up to this time in a fair condition, she was now attacked with diarrhœa, which lasted for two days, but was not very severe. Matter passed away involuntarily, she lay on her back with her knees drawn up, spoke little for hours, and would suddenly start exclaiming that the bed was on fire, and complaining of the pains in the vagina and back.

March 4th.—Morning temperature $101\cdot9^{\circ}$. Had been very restless during the night; kept in the same position during the day; constantly kicking the bed clothes off; and, at 5 p.m., had a smart shivering fit, which lasted about ten minutes; did not speak. Her eyes were filled with mucous deposit; and now and then muttering delirium showed itself, and her pulse was too slow and full for fever. This last group of symptoms looked so like a cerebral case that the physician in charge pronounced it to be a brain affection. Her menstrual flow commenced; she had menstruated eight days before, being the first time for seven months.

March 5th.—Morning temperature $99\cdot9^{\circ}$; much as usual all day; shivering repeated, but not so severe, lasting only a few minutes; no diarrhœa; no tenderness over the abdomen. Though speechless she was evidently conscious.

March 6th.—Morning temperature 100° , evening temperature $102\cdot4^{\circ}$. She remained as on the previous day, half comatose, till the morning of the 8th, when she died.

TEMPERATURES.

	Morning	Evening
March 2nd,	- —	- $103\cdot0^{\circ}$
„ 3rd,	- $102\cdot2^{\circ}$	- $102\cdot8^{\circ}$
„ 4th,	- $101\cdot9^{\circ}$	- —
„ 5th,	- $99\cdot9^{\circ}$	- $101\cdot8^{\circ}$
„ 6th,	- $100\cdot0^{\circ}$	- $102\cdot4^{\circ}$
„ 7th,	- —	- —

Post-mortem.—No marks on the body; no evidence of suppuration anywhere, old or recent; in pretty fair condition. *Head.*—Membranes seemed somewhat congested; brain quite healthy. Fluid was found in both ventricles to the extent of one-half drachm; it was red and turbid. On microscopic examination it was found to contain many exudation-corpuscles and blood-cells. The folds of the choroid plexus seemed to

be matted together in each cavity. Every part seemed otherwise healthy and free from even congestion. *Chest*.—Lungs perfectly healthy, structure entire, unusually pale. Heart very small in size but healthy; all the valves normal; vessels quite consistent with health; pleura and pericardium normal. *Abdomen*.—On opening this cavity everything seemed right, but on putting the fingers under the liver to tilt up its lower border, they went through into a great bag of pus, from which about three pints of thick creamy laudable pus escaped. The floor of the abscess was formed by a membrane composed of the thickened peritoneum and capsule; its roof by the burrowed out interior surface of the right lobe of the organ. When the purulent matter flowed away, the liver substance appeared like a coarse sponge riddled with cells. No membrane lined the greater abscess, nor was any trace of one found in the numerous recesses forming its roof. On cutting into the organ little of its structure seemed left, it melted down at the gentlest touch, and pus oozed from every incision, except over a space about the size of the clenched fist of the left lobe, which was healthy and about twice as much tissue round this, only a little softened. On the upper surface of the organ the peritoneal covering was much thickened and blended with capsule and pus in quantity bagged between them and the proper liver substance. *Gall-bladder* was filled up by nine calculi, the largest of which was as big as a pigeon's egg; all weighed nearly half an ounce. Thick yellow pasty bile covered over these, and completely occupied the bladder. *Ducts*.—No dilatation of the ducts; no trace of ulceration of the mucous membrane of the gall-bladder or ducts. The ducts were followed to their smallest visible termination, and appeared quite healthy. The biliary ducts were patent. *Adhesions*.—There were no adhesions of the liver to any of the surrounding parts, not even to the diaphragm. *Peritoneum*.—In every place clear and glistening, except over the liver, where it was thickened and matted together with the capsule. *Stomach*.—Apparently quite healthy, no marks. *Intestines* were removed, from stomach to rectum, and examined, but not slit open; they were healthy, no marks of ulcerations or congestion of the patches of Peyer. The rectum contained a quantity of bright yellow feculent matter. *Spleen* quite healthy and of fair size. *Pancreas* normal (rather firm). *Kidneys* apparently healthy, the right one, lying in fossa on right lower lobe of the liver, over the abscess; was quite sound; its capsule firm, no adhesions; their structure was continuous, and no trace of abscess discernible. *Uterus and Ovaries*.—The uterus was congested, its mucous membrane gorged, and a little blood found in its cavity—pointing clearly to death having taken place during a menstrual period. The “os” was patent and admitted the tip of the finger; something like slight ulceration was visible. A polypus hung down from the ceiling of the uterus a little way into its cavity. No purulent matter was visible either in the uterus

or vagina, which latter was a little congested, but otherwise quite healthy. In the left ovary was a series of cysts and small abscesses. The peritoneal covering was thick, and a loop of small intestine was bound to it, also some mesentery. In this matting of the intestine and ovary, traces of adventitious old adhesion bands were seen, placing beyond a doubt the long standing of the disease here. On dissecting the intestine carefully off the ovary, pus, or a fluid undistinguishably like it, oozed out from several little openings. The ovary was as large as a hen's small egg. On cutting, it was seen to contain cysts filled with purulent-looking matter. Right ovary not so much diseased as the left. It contained one large cyst, which dissected cleanly, and contained about 3ii. of thick, pasty, white material, not unlike pus. This cyst appeared to be the ending of the Fallopian tube. Two or three small spherical bodies, as large as peas, turned out on section of both ovaries. They were firm, made up of laminated white structure, which was pearly and glistening, like spermaceti, and peeled into distinct layers like an onion.

On cutting across the veins on each side of the uterus not a drop of pus was found in them. One large vessel coming from the ovaries was filled with firm coagulum of fibrin. Fallopian tubes presented no unusual appearance, being almost impervious to a fine probe. *Urinary bladder*, healthy. *Pott's curvature*.—The abscess of the liver was found to have no connexion whatever with this. The most careful dissection failed to trace anything here but firm bony ankylosis and normal tissue in every sense of the word. No traces of contusions were visible over the region of the liver, no broken ribs or ecchymosis. The contusions on each side of the spine were faintly seen on admission, and nothing but the patient's complaining would have caused them to be observed. All the tissues in their neighbourhood were free from disease or congestion.

DR. WALES said that all the symptoms recorded by Surgeon Whitla, and also the temperature, pointed to the disease as being typhoid fever.

DR. CHARLES thought that a good deal might be said in favour of the abscess being pyæmic, especially as there were no ulcers in the intestines, or, again, the abscess might be idiopathic. An ulcer in the stomach sometimes caused pyæmic abscess of the liver, or the suppuration in the ovary might occasion blood poisoning; the only objection to the latter view being the absence of abscess in the lungs.

DR. H. S. PURDON believed that a very common cause of abscess of the liver was ulceration of the bowels, especially in tropical countries (dysentery being the chief disease), and in which absorption takes place from the ulcers in the colon. The older authors held the opposite view, that the ulceration in the intestines was due to the vitiated bile from

liver disease, and that the reason the colon was chiefly attacked was owing to the fæces being longer retained there.

DR. M'CONNELL said that it should be borne in mind that in pyæmia typhoid symptoms are always present.

The PRESIDENT remarked that the specimen struck him as a pyæmic abscess, and he believed that pyæmia could occur without a broken surface. The gall-stones showed that there was some previous hepatic mischief.

Pruritus Vulvæ.—DR. H. S. PURDON called attention to the disease known as pruritus vulvæ, or prurigo pudendalis. It was frequently due to irritation arising from uterine or bladder ailments. Sometimes ascarides in the rectum, especially in children, travelled into the vagina, causing the disease; and in such cases the irritation they produced often led to masturbation. Diabetes was another cause, the saccharine urine producing a fungoid growth, shewn by aphthæ, due to the presence of the fungus, the *oidium albicans*—the same growth that caused “thrush” in the mouth. In such cases sulphurous acid lotion, carbolic acid, and glycerin, or even borax, were useful. The tearing of the parts by the patient caused excoriations and an eczematous eruption, which had to be treated by nitrate of silver and astringents. Females were said to have miscarried from this form of pruritus. Pruritus of the anus was often associated with pruritus of the vulva, due to the same cause, viz., parasitic growths; the fact that both situations are naturally moist favours a vegetable growth.

Puerperal Convulsions.—DR. WALTON BROWNE brought under the notice of the Society a case of puerperal convulsions that had occurred in his dispensary practice. He believed that the point of interest in the case was that the convulsions, which were more than ordinarily severe, ceased immediately after puncturing the membranes, and allowing the liquor amnii to escape. He had tried various remedies, but they were unsuccessful.

PROFESSOR DILL remarked that bleeding in convulsions had been too much set aside of late years, not only in this affection, but in other diseases. He thought that convulsions were due to one of the following conditions:—1. Hyperæmia; 2. Anæmia; 3. Toxæmia. When the os uteri was rigid, bleeding should be resorted to. Braun, of Vienna, recommends benzoic acid and counter-irritation over the kidneys.

DR. FAGAN thought that the urine should have been examined in the early stage.

SURGEON RANKIN said that treatment directed to the kidneys in the early stage, in the case under notice, would not have been of any service.

DR. CHARLES stated that benzoic acid is converted into hippuric acid, which acts as a diuretic.

Paralysis Agitans.—SURGEON RANKIN brought under the notice of the Society a case of paralysis agitans, occurring in a man aged seventy-two, by occupation a carpenter, and which disease he had treated by the hypodermic injection of arsenic. The patient, he said, first came under his care for bronchitis, he then complained of great and increasing tremor in both hands and arms. This lasted for some time. He could not even lift a cup of water to his mouth. Tonics were tried, which improved the general health, but had no effect on the shaking. About this time Mr. Rankin saw a notice in the *Dublin Medical Journal* regarding the hypodermic injection of arsenic in similar cases, and it occurred to him to give that remedy a trial. He made a solution of equal parts of water and the liquor arsenicalis, of which he injected subcutaneously into the neck 5 minims every second day, to commence with. After the third injection the patient was able to lift a tumblerful of water to his mouth, and could close both his hands without tremor. He complained after the second injection of tenderness of the conjunctiva of both eyes, showing that the arsenic was beginning rapidly to take effect. He can now (April) work at his employment. Whether the improvement will remain permanent or not it is difficult at present to say.

DR. CHARLES asked what advantage the hypodermic injection of arsenic had over giving the medicine by the mouth.

DR. H. S. PURDON said that one objection he had to the hypodermic injection of arsenic (which he had tried in psoriasis) was, that it was apt to occasion little superficial abscesses; however, the remedy seemed to act more rapidly when administered subcutaneously. As for it (the Fowler's solution) not disordering the stomach when so given, he believed that if the compound spirit of lavender was left out in its preparation, and ordinary care used in its administration, derangement of the stomach was seldom likely to occur when the remedy was given by the mouth. For neuralgia and tremor, the hypodermic injection of caffeine had succeeded well.

Strages Medicorum ; otherwise Exercise for the Heart. By HENRY
MAC CORMAC, M.D.

“Neque imitare malos medicos qui in alienis morbis profitentur
tenere se medicinæ scientiam, ipsi se curare non possunt.”—CICERO,
Epistolæ ad Familiares.

THE word heart, at least in the English vernacular, has a two-fold signification, one applying to the physical heart through whose instrumentality the blood is constrained to circulate, the other to the moral heart, “the man within the breast,”—briefly, the sum of human feelings, duties, and affections. As the moral heart dwindles and declines by reason of insuflciening scope and effort so, I maintain, does the physical.

I am aware of no treatise, ancient or modern, within the range of medical literature, in which, in short, no writer by whom, exercise as such for the heart has been expressly recommended. And it is only after years of speculation and inquiry, coupled with the opportunities which hospitals and private practice confer, that the extreme, nay, the imperative necessity of exercise for the heart has come to command my most earnest attention. The occasion, however, which perhaps more than anything else elicited this conclusion was the case of a medical man one, indeed, among many, who was an especial sufferer from the heart's irregular and excessive action with, however, entire absence of actual appreciable structural disease. Reflecting earnestly on the matter during the waking hours of the night, all at once it flashed upon my perceptions that the symptoms adverted to were to be ascribed were, in fact, alone ascribable, to simple inadequacy of the heart's action, owing to, and arising from, the insufficiency of general effort, that effort in which the heart, in common with every organ, is bound to take a part, and live.

I am only too well aware of the striving, anxious existence which so many medical men are required to lead. One's sympathies, in truth, are lacerated when one comes to think of those, the many, who within a comparatively recent period, have been snatched away by a condition vaguely termed “disease of the heart,” yet not the less one in only too frequent instances, fatal to physician and patient alike. The number of those so cut off, were people only once made sufficiently aware of it, would indeed startle the least reflecting.

It is a common saying, and here at least one apposite enough, that we often cannot see the wood for the trees. For most true, indeed, it is that persons engaged in a daily routine of given action very frequently fail to discern facts which lie, as it were, at their feet, and before their very eyes. It is hard, in truth, to get out of the rut. But why, it may be asked, regard being had to functional irregularity of the heart at least, why should we not endeavour to remedy a state of things so disastrous. It is easy to ask. First, if you care to do so, invite a lawyer to revise

the code; a divine to change his creed. One will, perhaps, reply that the code is perfect; the other, that his creed is not fallible. But the doctors, why the doctors are mainly like the rest of the community, and do not, in general, care for change or inquiry until, at least, they know the reason why. In short, human nature is conservative, and, for the most part, dislikes nothing so much as novelty.

It might be imagined that the heart, in incessant, or nearly incessant action, as it is at all times, was exercised abundantly. But it is really far otherwise, for the ordinary cardiac action is virtually a passive one, needs, in fact, to be supplemented. Increased periodic effort, in reality, is needful, in order effectively to promote the circulation and aeration of the blood. It is also further requisite, in respect of the integrity of the heart's action itself, requisite, in short, to prevent this all important viscus from sinking into languor and relative inaction, as well as to equip it for any sudden encounter or unwonted demand upon its energies. Now, if not entirely unaware, we are too often, at least, almost entirely heedless as to the really pressing necessity there is for vigorous supplemental effort in aid of the ordinarily still and, as contrasted with its requirements, over passive life of the heart.

The malady, then, to which I would here desire especially to advert, if indeed malady it may be termed where structural change is not necessarily present is one, nevertheless, productive of much distress, and very often real danger. Fatty heart, weak heart, feeble heart, flaccid heart, conditions more or less concurrent, name them as you will, conditions attendant on our civilization, so esteemed, do not, however, much trouble navvies, sailors before the mast, common soldiers, or labourers afield. The derangement, as I have said, is for the most part functional, and yet is productive of greater suffering and potential risk than what in many cases attend actual structural cardiac disease itself. In a word, the action of the heart has become enfeebled, its action is no longer normal, but has become shabby and degenerate instead. Women, it is true, at least speaking of more dangerous extremes, are far from being exempt, but the causes or, at least, some of the causes, which conduct to weak heart are, on the whole, less common among them than among men. In any case, whatever may be alleged in respect of the relative liability of the sexes, I have no hesitation in affirming that too long sustained mental effort, coupled with insufficient bodily effort, and, therefore, insufficient heart's action, and inordinate personal indulgence, taken altogether, suffices fully to explain the greatly increased frequency of destructive functional cardiac insufficiency.

The literary classes, lawyers, clergymen, teachers, and others, are very far indeed from being exempt, but medical men, I have arrived at the conclusion, prove especial sufferers, to such an extent, indeed, as fully, I conceive, to justify the heading which I have selected. For a

time, and so long as he remains young and active, trudging about on foot, and obliged to rough it a good deal, the "doctor" gets on well. The heart, like the rest of the economy, is constrained to exert itself, has no time, in short, to relax, and become fat and flabby. By-and-bye, however, the doctor gets into request, is borne about on wheels in his all too comfortably cushioned box, consumes highly azotised fare, drinks a generous glass of wine, but otherwise does no work, at least such work as nature requires and as a medical man, himself a victim, recently wrote to me, "comes to suffer for his sins of omission and commission accordingly."

It is, in fact, impossible, under such circumstances, that the heart should escape. This so important organ, failing adequate muscular effort, like the rest of the body, grows fatty, flabby, faint, and weak, until some day, a greater strain being laid upon its energies than usual, nay, perhaps without any strain at all, it gives up work for ever. Possibly, nay, probably, there was no structural, at least no serious structural change whatever, no regurgitation, no aortic or mitral insufficiency, but, coddled and cockered to excess, the heart pretermitted effort, simply because it was no longer equal to effort. In strictness there was not much to do, but that much it had become unable to perform. Insufficient general action then leads to insufficient cardiac action, and insufficient cardiac action, in its turn and, in the long run, leads to death.

The especial case, one however out of many, already adverted to was that of a physician, who had been engaged in a treatise involving laborious inquiry and protracted research. He rose early, in fact at four in the morn, in order, as he hoped and believed, to gain time, and not to trench upon the daily routine of his professional duties, arranging notes, consulting a multitude of authors for long hours together, and that without partaking of food or refreshment of any kind. Locomotion in the way of his business was performed in a carriage or on horseback. As for foot exercise or other protracted bodily effort, there was little or none of it. The result, after this regimen had been pursued for some time, was the production and progressive increase of faltering in the heart's action. It was not, indeed, severe or distressing at first, but eventually it became both, until at last the anguish proved such as perforce to constrain a complete, or all but complete, abstention from all desk work. There then ensued a partial amendment, but on resuming literary effort the symptoms, as described, recurred, with fresh aggravation and increased persistence. In the street or on the highway, whether walking or riding, they often sufficed to bring the sufferer to a complete standstill, occasionally even the nights were passed without sleep, spent, indeed, in pacing up and down the apartment, or sitting on the bedside until it was time, so far as might be, to resume the business of the day. On one occasion there was a risk of drowning, the heart's

action having become so irregular and distressing, while bathing in deep water, as to render it no longer possible to swim. Happily, the sufferer could float, and with the water awash with his face, he drifted with the tide towards the open sea, until his companions, wakening up at length to some dim perception of danger, put off in a boat, and enabled him to return.

Life, in fact, had grown burthensome, and the patient, doctor though he was, no longer knew exactly what to do. At last a little light became visible amid the darkness, and the first result of this new insight was to discontinue literary work, at least for the nonce, entirely. Relinquishing riding and driving as exclusive modes of conveyance, lengthy walks were taken, the lofty hills were clomb, the sea-shore was frequented, and daily recourse was had to the oar, the dumbbell, the club, and other moderate gymnastic efforts. The sufferer, when in the country, would also descend from the saddle or the driving seat, and run a mile or a couple of miles at a stretch, as the horse trotted slowly along. In other respects, the appetite was left sharpset; the breakfast, however, was abundant, but the diuner was invariably sparing. At first, indeed, all this proved a little difficult, but by degrees nature accommodated herself to every restriction as persevered in, not only for months, but for years. The once so persistent and sadly worrying cardiac irregularity gradually, but completely, ceased, yielding place to a prolonged, and, it is believed and hoped, a lasting immunity. Late or early the labours of the desk are now pursued without a colour of inconvenience. No day, however, is permitted to pass without its complement of bodily effort, and, as for the food restrictions, they have long become habitual. In a word, a most distressing, not to say dangerous, infliction has disappeared, and the whilom sufferer, although no longer what would be esteemed young, goes through an amount of bodily and mental effort not very usual at any period of life.

The weak, the fatty, and the flabby heart, one condition or all, is, indeed, the especial malady of indolent persons. I speak of bodily indolence, in persons of easy circumstances and, commonly at least, it does not assail the hardworking, the abstinent, and the poor. Members of the medical profession, as already stated, so far at least as my observation extends, are peculiar victims. Many, alas, too many, are they beside whose couch I have sat who perished of it, while others there are who, to my cognizance, now labour under it. Writers on diseases of the heart are full of details of structural cardiac disease, while this so serious, because destructive, affection is left, I speak of weak and fatty heart, I do not say entirely, but comparatively, unheeded. One, for example, shall carefully examine a given heart, and discover no aortic or mitral insufficiency, no buzz, no bruit, nothing at least from a stethoscopic point of view, calculated to awaken serious solicitude, and yet the possessor of this heart peradventure shall perish suddenly.

Exercise for the heart, setting forth its absolute indispensability, is the heading of no essay, the title of no book, at least as known to me; nevertheless, there is no subject whatever more deserving of careful consideration and attention. In respect of the treatment, I desire to be explicit. Every species of guarded prolonged muscular effort, as digging, hoeing, rowing, reaping, felling, chopping, ploughing, is useful, but, to those who labour under functional heart affection, walking, though not to excess, not too fast and not unduly far, over hilly unequal surfaces, swinging the arms, unembarrassed by bond or stay, in the open air, is the best of any. An hour before breakfast and an hour before dinner, one or both, are the preferable periods of the day. Exercise develops and strengthens the cardiac muscular fibres, aerates the blood, at the same time fat is sparingly developed, and, coupled otherwise with cautious and abstinent habits, the heart's action becomes reliably even and, without default, equal to all life's proper exigencies.

By this thoughtful, sparing, and cautious regimen, enough of everything and yet not too much, *ne quid nimis*, the heart no longer saddled, swaddled with useless fat, flabby or feeble, will be found, amid all the varying requirements of this complex, often trying existence, to discharge to admiration its daily allotted task. Living too fast, indeed, as some are fond of saying—why, we cannot live too fast, provided only we live nobly and well. An hour, or I shall say two hours, out of the twenty-four, is not too much, is it, to devote to open air life and effort, in order to promote the healthy action of the most vitally essential integer of our wondrous organism, the heart. Yes, indeed, he, *qui ipsi sibi sapiens prodesse non quit, nequidquam sapit*.^a

^a Cicero, *Epistolæ*, lib. viii.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF
DUBLIN.

DR. LYONS, President.

DR. BENNETT, Secretary.

Injury of the Hand.—MR. WILLIAM STOKES exhibited the mutilated fragments of what once constituted the right hand of a boy who was then under observation in the Richmond Hospital. The lad, aged sixteen, was employed in attending a hay-chopping machine, his business being to push the hay under the blades of the instrument, which was worked by steam. In doing this the two cog wheels at one side of the machine caught the sleeve of his coat, and forced the fingers in underneath the blades. He was quite unable to withdraw his hand. The extremities of the fingers were removed, but the hand continued to be forced in, and the blades went on chopping until first the phalanges, then the metacarpus, and one row of the carpus were taken off. The boy was then rescued. There was copious hæmorrhage at the time, which continued until the patient was brought to the hospital, and there a tourniquet was applied to the arm, and the hæmorrhage arrested. Mr. Stokes was then sent for, and on arriving determined to operate. The operation consisted in removing the first row of the carpus. He did not wish to go further than that, as he was anxious to preserve the inferior extremities of the radius and ulna, so that the movements of pronation and supination might still be performed. He was doubtful whether he would have a sufficient amount of soft tissue to cover the extremities of the radius and ulna, but he succeeded in getting enough to cover them well. He employed during the operation the bloodless method of Professor Esmarch, of Kiel, that being the second time he had employed it. The operation was perfectly bloodless; not a single drop of blood was lost. He could not but think, from the experience of those two operations, that Esmarch's method was a very great advantage in surgical art. He had never seen an example of this form of mutilation before, and it was extremely rare, if not unique. Since the operation the boy had gone on extremely well.—*January 10, 1874.*

Thoracic and Abdominal Aneurism.—DR. LYONS exhibited the morbid specimens illustrating a very remarkable case of aneurism, which had been under observation for a period of more than a year and a half. The patient was a man aged forty-two, described as a labourer, but occasionally

occupying himself in other pursuits. The history of his disease was as follows:—That on one occasion, when dressing a horse in stable, the animal lashed out from behind and struck him in the middle of the breast bone. He was knocked down partially insensible, but recovered in a short period, and did not immediately complain of any serious distress. In about four months subsequent to this injury (which might be taken as the point of origin of the disease) he noticed a tumour gradually forming, thrusting itself forwards, becoming enlarged to the size of an orange, and in three or four weeks subsequently he sought admission to the Whitworth Hospital. An aneurism of very considerable dimensions was now observed occupying the upper portion of the sternum, manifestly having made its way through the bone, thrusting itself forward, and day by day increasing in size, until eventually it reached the enormous dimensions which were only partially represented in the *post-mortem* appearances now laid before the Society. He suffered from the most aggravated lancinating pains, chiefly referred to the anterior portion of the chest. He made no complaints of pain referable to the back—had not at any time the dull, aching, boring pain usual in such cases (and this was, as will be subsequently seen, a remarkable feature of the case), but complained of severe pains all over the front and upper portion of the chest; he became sleepless and constantly called for relief. Medicines of various kinds were used with variable success—at one time opium was so employed, at another time chloral, and at other times iodide of potassium, digitalis, &c.; the surface was also painted with tincture of aconite. The application of ice over the tumour for a long period gave him considerable relief, and was continued assiduously for over three months. There was during this period a remarkable absence of some of the eccentric phenomena of aneurism. There was, it was true, a large tumour, showing the double impulse and double sound of this form of thoracic aneurism, but at no time any remarkable difference between the radial pulses, nor at any time was there any inequality of pupil. The tumour slowly increased in size, and with the increase the patient's sufferings became more aggravated, and it now became necessary to employ the hypodermic injection of morphia, which might truly be said to have been the means of prolonging the poor man's life for a very considerable period. For seven months, night and morning, half a grain of morphia in solution had to be injected, and it had the effect of giving him, within ten minutes, marked and continuous ease. He fell into a comparatively tranquil state, not sleeping, and showing no evidence of the action of the drug on the pupils, but passing into a quiet tranquil condition, in which his pains were allayed, reduced to almost nothing, and his condition he described as being a very tolerable one. After the lapse of some two months, it became necessary to employ the injection of morphia three times a day, and for the last three months he seemed to

live only by these three daily hypodermic injections. The period of ease after injection commenced at first in ten minutes and it lasted ten hours, and then was reduced to six hours, and he required the attention of the clinical clerks, who certainly paid the most devoted attention to this case, and had undoubtedly assisted to prolong his life, and cause his last days to pass with as much of ease and tranquillity as possible, considering the terrible form of disease under which he suffered. He now began to present great debility, and a new feature was reported. Notwithstanding careful nutrition, and an abundant supply of animal food, wine, and other stimulants, and the use of medicines of every kind, his blood assumed a thin quality, and a marked hæmorrhagic tendency began to exhibit itself—so much so that, from the punctures made for the injection of morphia, a considerable amount of hæmorrhage occasionally took place, and he began to spit up a fluid more or less coloured with blood, in considerable quantity. It was very remarkable that in an aneurism of such a size as that presented there never was, at any time, any large amount of expectoration of blood or any hæmorrhage of any considerable degree. A marked amount of œdema of the right side now became noticeable; his face assumed a bluish and livid tint; and there was also œdema of the arm and neck of the right side. It became evident that he was suffering from a chronic form of pleurisy, and eventually a considerable amount of effusion took place into the left pleural cavity. Pericarditis, with intense *bruit de cuir neuf*, but without pain, was also present for many days. He lingered on, his death being hourly expected, for four months, nothing but the devoted care paid to him keeping him alive. He died without rupture of the sac, and without the occurrence of any additional or any marked symptoms, in a quiet and nearly painless condition in the course of the previous day (23rd January). Dr. Lyons proceeded, with great interest, to make a *post-mortem* examination. The Society saw before them a tumour of very considerable dimensions, but by no means as large as in the condition in which it was presented during life. Owing to the extreme fluidity of the blood, notwithstanding that great care was taken to ligature every vessel of notable dimensions, it was not found possible to keep in the sac the blood which it contained; the blood was in such a diffuent condition that it escaped through the minute vessels, and the aneurismal sac was evacuated. Dr. Lyons had endeavoured to reproduce the prominence it presented, before removal, by plugging the tumour with tow. On raising the ribs and sternum, there was found to be a second sac, partly in the cavity of the abdomen. On looking closely into the primary tumour, the point of origin of the original disease was seen, two and a half inches above the orifice of the aorta. At that point they saw the place where the original injury was sustained, causing a rupture of the internal and middle coats, and the gradual formation of a tumour, in the first instance confined to the intra-thoracic

cavity. Lower down there was a sac of great dimensions within the cavity of the thorax, eating its way through the sternum by a tolerably well-defined aperture, an inch and a half in diameter. It made its way to the sternum, and formed the great sac they now saw before them, half the size of a child's head. On examining the right pleural cavity, Dr. Lyons found the right lung compressed by a very considerable effusion of serum, the pleura-costalis and the pleura-pulmonalis being greatly thickened. On looking at the heart, evidence was found of attacks of a sub-acute form of pericarditis, lymphic exudations here and there over the surface, and also spots of a purpuric character on the surface of the pericardium. On passing down the aorta there was found a diseased condition of the vessel till they came to the aortic ring. The valves were not much engaged. This did not complete the whole of the interest of this remarkable case, for now came the curious thing, that there was found a second aneurism, of still larger dimensions, still further down on the trajectory of the vessel. This, like the other tumour, had been filled with fluid blood, which escaped wholly, and it had to be packed with tow to preserve somewhat of the appearance which it presented when the body was opened. It was situated partly within the left cavity of the thorax and partly within the abdomen; it lay behind the left ala of the diaphragm, thrust itself upwards, encroaching on the left cavity of the thorax, and thrust itself downwards into the left side of the abdomen. It was also found that this aneurism had bored its way backwards, and had eaten through a considerable portion of the substance of the bodies of the three last dorsal and the first two lumbar vertebræ—the inter-articular cartilages escaped to the last. Dr. Lyons frankly confessed that he had no suspicion of the existence of a second aneurism in this situation. The man never made any complaint that he (Dr. Lyons) heard of in reference to the cavity of the abdomen. He certainly made no complaint of pain in the back; and Dr. Lyons was, therefore, surprised to find such an enormous amount of disease existing without any of that dull, boring, aching pain which was generally found when an aneurism pressed on the body of the vertebræ. The case was worthy of notice in a number of points of view. It was remarkable from the disease taking its origin from an injury directly rupturing the aorta, in all probability then in a state of atheromatous degeneration. This supposition was sustained by the fact that a large amount of deposit was found in the vessels running a course towards a calcareous degeneration; and some evidence of calcareous deposit was found in the sigmoid valves; and, no doubt, the force of the horse's foot on the over-distended artery caused the giving way of the vessel. But he (Dr. Lyons) could not understand the occurrence of this second aneurism, unless the patient was under the influence of an aneurismal diathesis. Another remarkable feature in the case was the absence of hæmorrhage, and death taking place without rupture of a sac of such

large dimensions. Death was caused by pressure of this enormous mass on the lung and the pulmonary plexus—so that this was a case of death brought about by indirect causes, and not by rupture of the sac. Another remarkable point was the total failure by all means to produce consolidation of the blood by deposit of laminated masses of fibrin. The case was treated in every way to produce consolidation of the blood; he got repeated doses, for considerable periods, of iodide of potassium. He had a great intolerance of that drug, and could not continue it for more than ten days or a fortnight. There was, however, a total absence of any attempt to form a coagulum. There was no clot in the heart, and no attempt at consolidation in either of the two great aneurismal tumours. The absence of coagulum, the tendency to death by interference with respiration, the absence of hæmorrhage, the absence of inequality of the pupils, and the marked absence of inequality in the radial pulse, formed remarkable symptoms. The tracings of the pulse which had been taken (exhibited) only showed great but uniform debility of the cardiac impulse. The *post-mortem* examination had been made with extreme care by Mr. Lamprey, Dr. Lyons's clinical clerk, to whom he expressed his obligations.—*January 24, 1874.*

Calculous Disease of the Urinary Organs.—DR. T. E. LITTLE exhibited the urinary organs which he had removed from the body of an unusually well-nourished and healthy-looking dissecting-room subject, of the age of seventy-five. There was evidence of purulent pyelitis in both kidneys, which differed much however in character and degree of disease on the two sides. On the left, the kidney was enormously dilated into the form of an irregularly-shaped lobulated sac. It was adherent at its upper and posterior surface to the abdominal parietes, and in this situation a small peri-nephritic abscess existed, which communicated with the interior of the gland, by means of a couple of small ulcerated openings. On cutting into the expanded kidney, its contents were found to consist of urine mixed with pus and a single, small, flat, oval-shaped calculus, of yellowish white colour, with rounded edges, and exactly resembling in shape a small pebble off the sea-shore, it lay loose and free in the large cavity. The mucous membrane of the dilated pelvis and infundibula was comparatively healthy and uninfamed, and was not ulcerated in any place, except where a couple of small perforations (already alluded to) existed, connecting their cavity with that of the small peri-nephritic abscess mentioned. The glandular renal tissue was in great part absorbed, but in some places a thin layer of the cortical substance remained, which presented wonderfully healthy appearances, and whose persistence accounted for the presence of urine in the contents of the sac. The ureter, though somewhat narrowed, was perfectly pervious to the bladder. On the right side, the kidney was not enlarged, and was of tolerably

natural shape; it had a few small cysts studding its surface; its pelvis was dilated, and through its walls could be detected the presence of a large calculus. A section of this kidney when made, was found to expose a large branched calculus, which almost completely filled, and was moulded to, the pelvis and infundibula; one of the branches apparently had become detached during life, and articulated with the mass of the calculus by a well marked facet. Several minute calculi—faceted in the manner so commonly met with in cases of multiple gall-stones—were found in the deeper portions of the infundibula. This calculus was of white colour, and rather friable, and glistened on the surface in the light. The small space available around, was full of urine, mucus, and pus. The mucous membrane on this side, was more inflamed than on the other. Notwithstanding this extent of disease, it was remarkable how free from any degenerative process the glandular tissue of the kidney had remained. Except for the slight change of shape produced by the dilatation and filling up of the pelvis and infundibula, the cortex and medulla were quite normal and healthy. The ureter presented nothing unusual. The bladder was found to contain a large oval calculus of white colour, of slightly rough surface, and of moderate hardness. It was brittle, and broke down into several pieces in the process of removing the viscus; the central portions of it were much softer and more friable than the cortex. It contained no central nucleus of a perceptibly different character, or consistence from the rest of the stone. A chemical analysis of a portion of it, yielded the following result:—

Ammonio-magnesian phosphate,	-	-	-	90.50
Tribasic calcium phosphate,	-	-	-	5.15
Lithic acid,	-	-	-	0.80
Potassium and sodium salts,	-	-	-	1.02
Moisture and organic matters,	-	-	-	2.53

100.00

Thus it may be looked upon as a fairly pure specimen of the triple phosphate calculus. A piece of the branched renal calculus, also submitted to analysis, yielded an almost identical result. The muscular walls of the bladder were somewhat hypertrophied, and the mucous membrane a good deal inflamed, presenting in places numerous small punctiform ulcerations of some depth.

Remarks.—This specimen was remarkable for the extent and generality of the calculous disease found present. This was the more remarkable when taken in connexion with the healthy, and indeed almost robust condition of the body from which the parts were procured; a fact which might be attributed to the immunity from degenerative disease, which—for whatever reason—was enjoyed by the renal glandular tissue. The uniformity of physical characters, and of chemical composition of the

calculi in all the places where they occurred, seemed—in the absence of any local conditions such as commonly give rise to phosphatic concretions—to point to the existence of a special (so-called) phosphatic diathesis in this case. The varieties as to shape found in the calculi here, gave a good illustration of the effect of ordinary mechanical laws, upon the confirmation of these concretions: thus, in the left kidney, where a solitary calculus was subjected to conditions of free and constant movement, in a comparatively large cavity, we had a stone produced of uniform shape, smooth surface, and rounded edges; on the other side we had an immovable stone, moulding itself to the shape of the contracted cavity in which it was fixed, and impressed more or less with the shape of that cavity; and we have further here illustrated the effect of friction within a limited space of several concretions, enjoying a certain amount of motion one upon the other, in the development of facets upon them.—*January 31, 1874.*

Encysted Hydrocele of the Testicle.—DR. WALTER SMITH said the same subject which yielded the specimen just exhibited by Dr. T. E. Little also afforded the specimen he now brought under the notice of the Society—one of encysted hydrocele—which was met with in the course of dissection, in the right testicle. On examining the body an ovoid swelling was noticed, which appeared rather as a marked fulness over the testicle than as a distinct tumour. On cutting down to it, a sac was exposed, about the size and shape of a small hen's egg, and situated on the upper part of the testicle. It was free from the testicle, except in one place; had no connexion with the vas deferens, and the body of the testicle was displaced, so that the globus major of the epididymis lay almost horizontally. He examined the fluid which the sac contained, and found it crowded with spermatozoa. The age of the man was seventy-five. When the fluid was allowed to stand for a time, the sediment consisted entirely of spermatozoa. No cholesterin was observed. It appeared then that the hydrocele had its origin from the globus major of the epididymis.—*January 31, 1874.*

Disease of the Knee-joint: Ulceration of Cartilage.—DR. ROBERT M'DONNELL exhibited a recent specimen of a knee-joint, which he had excised that morning, and which showed in a very perfect way some not very unusual, but exceedingly interesting, conditions connected with the diseases of joints. The history of the case left it doubtful whether the disease began in destruction of the synovial membrane, or in chronic osteitis. It had been very slow in its progress, and was accompanied by osteocopic pains—pains of fatigue, rather than of acute suffering. An abscess had formed on the inside of the knee-joint, which was of considerable size, and was emptied at one time by the aspirateur. It

filled again, and when the boy was admitted some months ago to Steevens' Hospital there was matter in it. He was a scrofulous boy, with superficial lupus of the face, and under treatment the abscess slowly underwent absorption, and the lupus of the face got well. The specimen was an admirable one of the osteitic conditions on one side, and of great thickening of the synovial membrane on the other.

On the one side the cartilage was gone entirely; on the other it was thinned away, and it could be raised easily with the finger, as one would peel the skin off a potato. On the other side the cartilage was entirely gone, and the fibrinated edges of the synovial membrane might be seen hanging over it. The bone was quite smooth. Upon the tibial side the cartilage was entirely gone, and the whole of the surface was occupied by granulations which had grown up from the bone. It was not easy to say whether a disease like this had begun as an articular osteitis, or commenced in the synovial membrane; but there was one very remarkable clinical symptom connected with the case to which he wished to draw attention. Few persons looking at a joint like this would not say that the patient had suffered extreme pain; yet in fact he had never suffered from painful startings in the limb, or from making such movements as the joint was capable of. Yet they saw the two surfaces that came in contact with each other both entirely devoid of cartilage. As on the surface of the body they found some ulcerations that were exceedingly painful and sensitive, they found the same thing existing in bones. Ulcers resulting from burns, for example, were extremely painful, while on other occasions they would meet with granulations equally florid, but without pain, and over which the finger might be passed without causing uneasiness. The condition of a knee-joint like the present only proved that the same thing which had been observed as to ulceration of the surface likewise applied to the joints. Few persons, he repeated, would look at such a joint who would not think that there were painful startings, and, above all, pain on striking the heel, or making movement of the joint, and yet these symptoms were absolutely wanting. The limb was a useless one. The case never would have gone on to ankylosis, the joint being in an unfavourable condition for it, and it was considered desirable to perform the operation of excision. In doing so he used the elastic bandage of Esmarch with perfect success, almost equalling that which Mr. Thompson had attained in the case which he had recently brought before the Society. He also carried out the carbolic antiseptic treatment with care.—*January 31, 1874.*

Bronchitis and Emphysema; Tricuspid Regurgitation.—DR. NIXON exhibited a heart illustrative of the occurrence of tricuspid murmur of dynamic origin. He recently brought before the Society a specimen of a similar nature, and also some cases in which a functional mitral murmur

was developed. In this case a woman, aged about fifty-five, was admitted into hospital, suffering from capillary bronchitis and emphysema. The right side of the heart was dilated, the liver congested, and the kidneys eliminated but a small amount of urine. When these conditions had existed for a time a systolic bellows murmur was heard at the junction of the left fifth costal cartilage with the sternum; it was faintly audible at the ensiform cartilage, and was lost towards the mitral area. Synchronous with the development of the murmur double pulsation was observed in the distended external jugulars. This murmur was looked upon as a functional tricuspid murmur, and as such was frequently demonstrated to the hospital class. The woman gradually sank. Both lungs were emphysematous, and congested at their bases. The bronchi were inflamed, and filled with a reddish and frothy mucus. The liver and spleen were enlarged and congested. The heart was square-shaped, and weighed 15 ozs. The left chambers and the auriculo-ventricular orifice were normal; the mitral valve was unaltered in structure. The aorta was healthy, but apparently somewhat small in calibre. The right ventricle and auricle were manifestly dilated; the walls of the ventricle were considerably hypertrophied. The right auriculo-ventricular orifice admitted with ease the tips of the four fingers and thumb. The curtains of the valves seemed normal. The pulmonary artery presented at its root several patches of atheroma.

Dr. Nixon believed that tricuspid murmurs of dynamic mechanism were most frequently produced in the advanced stages of chronic bronchitis, emphysema, and dilated right heart. The site of the murmur is generally at the fifth left costo-sternal articulation, or in the epigastrium; it becomes lost towards the region of the impulse beat. It is frequently not constant in existence. It is usually soft in character, and varies somewhat in altered positions of the body. It is invariably accompanied by a double pulsation in the external jugulars, the first wave in the vessel being due to the arrested descent of the blood during the time of the auricular contraction; the second, to the regurgitating wave sent into the auricle, and up along the superior cava, during the contraction of the ventricle. This double pulsation is specially noted by Parrot in the *Archives de Médecine*. He, however, holds that all functional murmurs are developed at the right auriculo-ventricular orifice. It is difficult to say why a tricuspid murmur exists in some cases, and is absent in others of an apparently similar nature. Possibly the explanation may be found in the condition of the right ventricle—as to whether it has undergone hypertrophy or atrophy. In the one case its more effective and vigorous contraction may generate a regurgitant murmur, which an attenuated and dilated ventricle is incapable of producing.—*January 31, 1874.*

Enteric Fever ; Intestinal Hæmorrhage.—DR. STOKES.—The parts I exhibit were taken from the body of a man who died lately in the Meath Hospital. The case presents some peculiarities illustrative of the prevailing epidemic type. This patient was a fine looking fat man, and was admitted to hospital on the eighth day of enteric fever. About the first period of his illness, it is to be remarked, that he did not altogether leave his work. It was, what we call in the hospital, a “spoiled case,” or a case “put astray,” for he was first ill, then went back to his work, and then got ill again. This man was occupied in the laboratory of one of the medical halls of this city, and was principally occupied in the manufacture of tinctures. He confessed to us that he had been in the habit of consuming rectified spirits of wine—he did not say to what extent—but, probably, in considerable quantity. Still, he had the art of drinking without getting unfitted for his work ; but when he went home he used to become intoxicated. He drank at home, and I believe this was a habit of very long duration. His temperature on the morning of admission was 104.7° ; the pulse was 134. He complained of nothing except extreme prostration. He had had no diarrhoea from the time of his illness. The abdomen was flat, and was not painful on pressure. He was not long in bed until he became delirious, and this continued to the end of his life—four days after admission. He remained in the same state with delirium and slight swelling of the belly ; but without pain. On February 2nd, he had hæmorrhage from the intestines to the amount of half a pint, and again on the morning of the 3rd to the extent of a few ounces. On that morning he presented a remarkably anæmic appearance, so that we might have supposed the man to have lost a great quantity of blood, but he had not. His heart was then weak ; his pulse, 160. He was very delirious, and had considerable *subcultur* of the upper extremities. There were two rose-coloured spots on the front of the abdomen ; but I did not see others. On the afternoon of the 4th he died ; his temperature before death having risen to 106° , and his pulse to 160. The heart was weak and at the same time excited. He slept badly throughout, although he got chloroform draughts. I present the small intestine and part of the colon. The colon was immensely distended with air, and contained a quantity of blood. The vermiform appendix was completely filled with dark blood. Throughout the entire course of the ileum are a great number of follicular ulcerations. The mucous membrane of the colon was deeply tinged with blood. There are a very few slight ulcerations in the colon, but no appearance of abnormal vascularity was observed in it or in the ileum. The question arises was this blood from the ulcerations of the ileum, or was it, as sometimes happens, simply a sanguineous exhalation from the mucous membrane of the colon. In the present state of our knowledge, I would not venture to give an opinion. The hæmorrhage by exhalation from the mucous

membrane of the rectum may sometimes be enormous. I have known a case in which a large *pot-de-chambre* was completely filled with blood, and yet no trace of ulceration could be found in the colon. This case illustrates very remarkably the fact which Broussais was the first to announce, long ago, that ulceration of the intestine may take place without pain. The old description of inflammation, as consisting of *dolor, calor, tumor*, and *rubor*, is not applicable in this case; and this was one of the great points on which Broussais relied. On the other hand, it may be a question whether the absence of pain and of tenderness in this case was not due to the internal loss of blood. We know very well that in other diseases hæmorrhage greatly masks the ordinary symptoms. This is remarkable, even in cases of pulmonary tubercle; where repeated and copious hæmorrhages occur, the symptoms and physical signs are greatly masked—they may be said for a time to be absent, in consequence of the loss of blood. The case is interesting as illustrating the present constitution of the epidemic, at all events; and also as illustrating the fact that there may be very abundant hæmorrhage in the ileum, without pain or tenderness, or anything that would lead one to suspect the existence of mischief in the intestine. There were, in fact, only two points in the case to attract attention—one that the patient had hæmorrhage, the other that he had symptoms of typhoid fever.—*February 7, 1874.*

Enteric Fever, fatal by Hæmorrhage.—DR. HAYDEN said the specimen he was about to exhibit, had a remarkable interest after the communication just made by Dr. Stokes. It was an example of death by hæmorrhage in typhoid fever, on the 13th day, without ulceration of the bowels, in fact a copious hæmorrhagic flux from the bowel, without a breach of mucous surface, as far as he could ascertain. The patient was a cabinet-maker, aged twenty-five, of temperate habits, and in good health, except in so far as he was then the subject of typhoid fever. He was admitted into the Mater Misericordiæ Hospital under Dr. Hayden's care, on the 2nd of February, and the tenth day of his illness. His condition was that presented by an ordinary case of enteric fever. He had a copious eruption of rose-coloured spots, especially on the trunk. He had diarrhœa, not very urgent, however—not more than three stools in the twenty-four hours. There was slight ileo-cæcal tenderness, and the tongue presented the ordinary characteristics—moist, with a red margin, and furred centre—he was slightly incoherent. When admitted on Monday, his temperature in the evening was 102°, and the pulse 112. On Tuesday, his temperature was 102°, pulse 108; and in the evening, temperature 102°, pulse 106. On Wednesday morning, the temperature was 101°, the pulse 98, and in the evening, the temperature was 103°, pulse 116. On Thursday morning, the temperature was 101½°, and the pulse 104. At 3 o'clock on the afternoon of Thursday, the 13th day of his illness, with-

out any previous warning whatever, without any apparent deterioration in his condition, without any complaint of pain, hæmorrhage suddenly set in—first as a slight weeping of blood from the bowel. He became somewhat depressed. The hæmorrhage was arrested for a short time, but it returned, and was so copious, that it dropped through the bed and spread over the floor. The loss of blood could not have been less than from three to four pints. The man became collapsed, his temperature sank, the pulse became exceedingly rapid, and he died at 8 o'clock that evening. An examination was made under his direction, by his resident Mr. Alexander Dempsey, with very great care. Dr. Hayden was quite prepared to find ulceration of the small intestine, but there was nothing of the kind, beyond a slight superficial erosion of about two lines in diameter, and without vascular injection or blood stain, at the lower end of the ileum. In addition to the slight erosion just mentioned, only one of the Peyer's patches presented typhoid deposit, and that in an early stage, and without ulceration. The mucous lining of this portion of the canal was free from vascularity and blood-stain throughout, with the exception of slight hyperæmia of the ileac surface of the valve. The large intestine contained at least a pound of clotted blood, and on washing it out, the entire mucous tract from the ileo-cæcal valve to the anus, presented a deep crimson tint. The solitary glands were perceptible, but presented nothing remarkable. No ulceration whatever was to be discovered, and no source of hæmorrhage, except the capillary engorgement of the mucous surface of the large intestine. What is remarkable about the case is that there was no warning hæmorrhage—no trickling of blood in the first instance, premonitory of the fatal discharge. It appeared to be a sudden efflux of blood, by exhalation from the large intestine, causing fatal collapse.—*February 7, 1874.*

Morbid Anatomy of Scarlet Fever.—DR. A. W. FOOT exhibited specimens, illustrative of the morbid anatomy of scarlet fever, taken from the body of a boy, aged twelve, who had died on the fourth day; and from that of another, aged seven, who had died on the third day of illness. The elder boy had early and severe throat symptoms, commencing simultaneously with the initial rigors; the eruption was copious and dark coloured; profuse pharyngeal catarrh with immense swelling of the tonsils and adjacent parts greatly impeded respiration; œdematous pulmonary râles supervened; the temperature rose to $105^{\circ}7$; and he died in a semi-comatose, lethargic condition, without any struggle. The younger boy presented no specific cutaneous manifestation of the disease, but there was a purplish hyperæmia of the skin; his morning temperature on the third day was $106^{\circ}4$ F.; convulsions came on early on this day, and continued, with very short intermissions, for about seven hours, when he died. In both cases the solitary follicles were universally

enlarged throughout the small intestines, but especially in the first and last portions of the bowel, and the tumefaction of the mesenteric glands corresponded in degree to the local manifestations of disease in the solitary follicles. The agminated follicles were morbidly prominent and distinct. The tongue, pharynx, etc., of the elder boy were exhibited. The tonsils were seen in a condition of necrosis; numerous frayed rents on the internal aspect of their investments led into irregular excavations containing masses of dead tissue in the form of shreddy sloughs. In neither of the cases were the renal organs abnormal in size or weight, and their vascularity was but slightly increased. Those of the elder boy were of average weight; the right was $3\frac{3}{4}$ inches long by $2\frac{1}{4}$ inches broad, the left $3\frac{3}{8}$ inches long by $2\frac{1}{8}$ inches wide. The capsules proper peeled off with ease, except in one or two places where they dipped into fissures due to congenital lobulation, their colour was a rich mahogany brown; there was no sanguineous drip from them; on section, the mucous membrane of the pelvis was uncongested. Fresh sections showed unusual proliferation of the glandular epithelium. The kidneys of the younger boy weighed together $3\frac{1}{2}$ oz.: and in internal and external appearances were similar to those of the other case. The liver of the boy aged twelve weighed $36\frac{3}{4}$ oz., the convex portion of the right lobe was adherent for a considerable extent to the diaphragm, the gall bladder, grass-green in colour, contained 7 drachms of a syrupy, greenish-brown bile; no calculi. The soft, violet-grey spleen weighed $3\frac{1}{2}$ oz. The brain, weighing $52\frac{1}{2}$ oz., exhibited considerable fulness of its venous system, but no other anomaly was observed in its dissection. The brain of the younger boy who had suffered from convulsions, was remarkably anæmic, internally as well as externally; no evidence of any inflammatory or tubercular irritation of the membranes could be anywhere discovered; there was a small amount of ventricular effusion, and a limited central softening in the fornix—it weighed 46 oz. His liver weighed $24\frac{1}{4}$ oz., and was of a rich reddish-brown colour, the grass-green gall bladder contained 7 drachms of thin, light olive-brown, syrupy bile; no calculi. The firm, purplish-red spleen weighed $4\frac{1}{2}$ oz. The heart, empty of clots, weighed 3 oz. The enlargement of the solitary follicles and of the mesenteric glands was less conspicuous in the younger boy than in the elder one. Dr. Foot considered that the profuse and widely disseminated affection of the lymphatic glands in both these cases—which had died so quickly from different effects of the scarlatina poison—tended to show the propriety of the pathological name suggested by Dr. Harley for scarlet fever of “*febris lymphatica*.” The remarkable amount of anatomical change in the intestines after death, at such early stages of the disease, also suggested the question, whether much of it had not occurred before the period of invasion.—*February 7, 1874.*