or never fatal *per se*, it is frequently so owing to its complications, which get the credit of causing death, and the original cause escapes mention in the death-certificate. Apart from the liability to death from the complications associated with the disease, rickety children are much less able than others to withstand the numerous and manifold ills that the infantile flesh is heir to. In spite of this, too often the comforting assurance is given to mothers "that the child is only rickety, and will get all right in course of time, and no further anxiety or trouble need be incurred." That this masterly inactivity and trust in time is often disastrous in its results is only too well known to both physicians and surgeons connected with children's hospitals. Moreover, that 10 per cent. of adult epilepsies, on high authority, have their origin in rickets, should call also for a more guarded prognosis in many cases of the disease, more especially when it is allied with convulsions. The all-prevalence of rickets, and its association with the English name, still remains a reproach to us as medical practitioners.

ON THE UNSATISFACTORY RESULTS OF UNILATERAL REMOVAL OF THE UTERINE APPENDAGES.¹

By LAWSON TAIT, F.R.C.S.,

Surgeon to the Birmingham and Midland Hospital for Women.

In previous publications I have had repeated occasions to point out that, under the term "removal of the uterine appendages," in order to keep a clear logical notion of the actual details of the proceedings, it is necessary to make such subdivisions as will indicate the purpose for which the operation is undertaken.

One writer has maintained that operations should not be classified on any other grounds than their mere anatomical relations, and that the intentions and purposes of the operation should not enter into the element of classification at all. This, of course, is a conclusion which will not bear investigation for a moment, for we are at once met by the difficulty that it would be impossible to recognise any distinction between the operation for the induction of premature labour and the crime of abortion-mongery, unless we had distinctly in mind the intentions and purposes of the operation. Not only so, but in the case of an amputation at the lower third of the thigh for a smashed knee-joint, there are precisely the same anatomical relations as when the operation is done at the same point for chronic inflammatory disease, yet it has long been the practice to separate in statistical tables primary amputations from those of a secondary character. We have therefore many points to take into consideration besides mere anatomical details in the classification of operations. This is strikingly the case in the operations for removal of the uterine appendages, where we have a clear and precise division at once rendered necessary by the fact that, in certain groups of cases, it is absolutely essential to remove the appendages on both sides.

Thus if we operate for the arrest of the hæmorrhage of a myoma, or for the purpose of reducing its size, it would be perfectly futile to remove the appendages on one side only, unless those of the other side were already absent. So if we desire to prevent impregnation in such rare cases of deformity as I think may justify the removal of the uterine appendages, in order that risk of life may not be incurred, both sides of the uterus must be rendered sterile.

On the other hand, actuated by the sound principle that no organ should be removed which is not diseased, in all the cases of the various forms of chronic inflammatory mischief in the uterine appendages which have come under my care, I have not in a single instance removed the second set of appendages when they have been ascertained to be healthy. At first sight it would appear as if there is no need for interfering with the second side when only one side is diseased, whether the disease be characterised by occlusion and distension of the tube, or by dense adhesions which render the functions of the organ impossible, and give rise to such intolerable suffering as to make life a burden. But first-sight conclusions and *a priori* arguments are often found, upon larger experience and more careful research, to be fallacious; and I greatly fear that the conclusions which I have arrived at on this point, and upon which I have up to the present acted, are not likely to bear the test of careful investigation. I have been made painfully familiar with the frequency with which operations of this kind have proved absolutely useless for the pur-

poses of the operation, and where the disease has recurred on the other side, and demanded a second surgical interference.

The time has therefore come when I should put on record the evidence in my possession, and leave for the judgment of my professional brethren a question which is certainly novel and startling. The question is whether it would not be better to advise the complete removal of the uterine appendages in any case where an operation is demanded by the presence of serious disease on one side only.

As the first contribution to the solution of this important problem, I have submitted the histories of all the cases of unilateral removal of the uterine appendages on account of chronic inflammatory disease operated upon by myself up to December 9th, 1884, at which time I completed my first series of one thousand cases of abdominal section. The reasons for this selection are, I think, sufficient, the strongest of them being that the time which has elapsed from then till now gives me a fair period, though by no means a complete one, at the conclusion of which to give the after-histories of the cases. It will be seen from what I have to say of some of these cases that the complete results will probably not be evident for two or three years to come, and by that time the evidence will be stronger, I believe, in the direction, which is clearly indicated at the present moment, that if we have to remove one set of appendages for chronic inflammatory disease, it will be far better to remove them both.

The cases are twenty-seven in number; and as the operation proved fatal in one of the cases the inquiry is limited to twenty-six. This group may be subdivided as follows:

	Cases.
Abscess of ovary	1
Chronic ovaritis with adhesion	2
Hæmatosalpinx	4
Hydrosalpinx	4
Pyosalpinx	15

These twenty-six cases form, curiously enough, as nearly as possible, one-fourth of all the cases that I operated upon, during the period of one thousand cases, for chronic inflammatory disease of the uterine appendages. But the relations which this group of twenty-six cases have to the general relations of the total cases of this kind operated upon indicate very remarkable conclusions. Thus pyosalpinx is unilateral relatively to hydrosalpinx as about seven is to four; hydrosalpinx is unilateral relatively to hæmatosalpinx as about four is to one; and hydrosalpinx is relatively frequent to chronic ovaritis with adhesion as eight is to one. Without being exactly cognisant of what these relations might prove to be on careful examination, I was abundantly aware that the commonest cases of pelvic suffering amongst women, matting of the pelvic contents, or glueing of the ovaries and tubes to all the other organs, with the occlusion of the tube and its distension either by serum or pus, were almost uniformly bilateral.

I was also perfectly aware of the fact that hydrosalpinx was almost uniformly symmetrical, but I have been profoundly struck with the curious fact that we may find a large pyosalpinx densely adherent, with its corresponding ovary, to other organs on one side, and a perfectly healthy set of appendages on the other, and it was the frequent recurrence of second operations in this class of cases which struck me so forcibly as to lead me into this special research, the more so as it was also in this group that I met with cases of death from neglect of second operations.

We now know that pyosalpinx has a lethal significance far more serious and extensive than any of us could have dreamt of in the beginning of this kind of practice, some seven or eight years ago. On the contrary, whilst I cannot say that I am free from suspicion that hydrosalpinx is occasionally fatal, I cannot be very well brought to believe that its risks are great, and I do not think that we could imagine chronic ovaritis with adhesion having a fatal result. But the curious thing is that, over the whole group of these diseases, the amount of suffering is not in proportion to the risk of life which is run, but is directly the reverse.

I have over and over again removed large rotten Fallopian tubes, distended with eight or ten ounces of pus, when there has been hardly any pain at all, and where the symptoms have been almost entirely confined to mere general constitutional disturbance.

Only a few weeks ago I removed from the wife of a medical practitioner in this town a huge unilateral pyosalpinx just on the point of bursting, which undoubtedly had not existed more than twelve or fourteen days. With equal certainty this pyosalpinx would have burst and killed the patient within a week, and yet she had no great pelvic pain from the beginning of her illness to the end of it. I had the utmost difficulty in persuading her husband to permit me to perform the necessary operation; but when it came to be performed in his own presence, nothing could exceed his expressions of gratitude for

¹ Abstract of paper read before the Birmingham and Midland Counties Branch.

the successful firmness with which I pressed the interference which was urgently demanded.

In analysing the list to see in what direction light can be shed upon this interesting group, it is first of all to be noted that of the twenty-six women only four were single, and I happen to know that of these four two were not virgins. Of the twenty-two women who were married, nine only had had children before being operated upon at all, and as they had all, with the exception of one, been married a number of years, this large disproportion of sterility, nearly 42 per cent., has a very palpable significance. Of these twenty-two women, all, with one exception, so far as I know, maintained marital relations after the first operation, but in only three cases have they since become pregnant, that is, there has been a contingent fecundity of little more than 14 per cent. Of the twenty-six, a second operation has already been required in one case of hydrosalpinx, one case of hæmatosalpinx, one case of chronic ovaritis, and one case of pyosalpinx. In the cases of pyosalpinx there are five of them already dead, under such circumstances as make it absolutely certain that the other side had become diseased, ruptured, and given origin to acute peritonitis. I know that this is the case in four of them, and Dr. Thelwell Pike, in the following letter, gives fairly conclusive evidence that this was the case in the fifth.

"Malvern, December 24th, 1886.

"MY DEAR TAIT,—Miss C. died some two years ago, and I have never ceased to regret that both appendages were not removed at the time of operation. She went away into Devonshire, and when there, so far as I can get the history, she was seized in the same way as when you saw her, and died in forty-eight to sixty hours from, it was stated, acute peritonitis; in fact, I have no doubt the other appendages became diseased, and if she had been here, I have no doubt you would have relieved her. Never again will I consent to only one set of appendages being removed under similar conditions."

From recent examination of seven of the cases on the list, I am perfectly satisfied that they are in such a condition as to warrant the belief that they will all require a second surgical interference. It will thus be seen that the unilateral operation has already been proved in thirteen out of twenty-six cases to be an absolute failure, and to have been successful in the sense that it has left the functions of the other side unimpaired, the disease not having there recurred, in only three out of twenty-six. It will be remembered that, in one of these latter cases, the husband and medical attendant of the patient strongly objects to that particular form of success.

The confusion into which this kind of gynaecological work has been thrown by the introduction of such unfortunate terms as "Battley's operation," "spaying," "normal ovariectomy," and "oöphorectomy," is very well illustrated in the group of cases now under consideration, and it justifies me in making another plea for the use of a term such as "removal of the uterine appendages," or any such other which will not involve either personal association or theoretical conclusions, so far as a term can do so, of the operations performed. To term these operations by the name of any particular person is, of course, ridiculous; to speak of the removal of a suppurating Fallopian tube as an "oöphorectomy" is nonsensical, and still more absurd would it be to speak of such an operation as a "spaying" or "castration."

All other methods of cataloguing these cases than the one I suggest are open to this initial difficulty, that cases in which the removal of the uterine appendages is undertaken, group themselves, from one point of view, at once into two classes—those in which it is absolutely essential to remove the appendages on both sides, and those in which it may be possible to remove only the appendages of one side. But here we come to a group in which the question has yet to be decided as to whether it is necessary or advisable to make the operation of necessity bilateral. So far as I know, the present contribution is the first and only evidence to be obtained on the subject, and it is quite

The following table is an abstract of the cases :

No.	Initials.	Residence.	Medical Attendant.	Age.	Married or Single.	Disease.	Operation.	Date.	Recovered.	Remarks.
<i>Abscess of Ovary.</i>										
1	C. P.	Smethwick . .	Dr. Payton . . .	25	S	Right side	Removal .	August 14th, 1883	R	Will require second operation.
<i>Chronic Ovaritis, with Adhesion.</i>										
2	C. A.	Nottingham . .	Dr. Howitt . . .	30	S	Left side	Removal .	April 8th, 1884	R	Will require second operation.
3	— L.	Leamington . .	Dr. Eardley Wilmot	28	M	"	"	May 27th, 1884	R	Second operation has been performed.
<i>Hæmatosalpinx.</i>										
4	S. R.	Stafford . . .	Dr. Cookson . . .	40	M	Left side	Removal .	November 1st, 1883	R	Will require second operation.
*5	H. B.	Dudley Port . .	Dr. Price	30	M	"	"	December 17th, 1883	R	Has never become pregnant.
6	E. K.	West Bromwich .	Dr. Lawson . . .	30	M	"	"	July 12th, 1884	R	Second operation performed.
*7	M. H.	Smethwick . . .	Dr. Pitt	31	M	"	"	October 29th, 1884	R	Requires second operation.
<i>Hydrosalpinx.</i>										
8	E. T.	Birmingham . .	Mr. Watkin Williams	28	M	Right tube	Removal .	May 23rd, 1879	R	Has never become pregnant, and still suffers.
9	E. W.	"	Mr. James Tait . .	37	M	Left "	Opened and drained.	April 13th, 1880	R	Has never become pregnant.
*10	H. P.	"	Sir James Sawyer	39	M	Right "	Removal .	September 27th, 1882	R	"
11	E. B.	"	Dr. Pugh	36	M	Left "	"	May 5th, 1884	R	Second operation performed.
<i>Pyosalpinx.</i>										
12	M. F.	Birmingham . .	Mr. Greene . . .	26	M	Left tube	Opened and drained.	March 28th, 1881	R	Died for want of second operation.
*13	E. T.	Walsall	Dr. Sharpe . . .	—	M	Right "	Removal .	October 7th, 1881	R	"
14	L. W.	Birmingham . .	Mr. Newton . . .	18	S	Double	Opened and drained.	December 30th, 1881	R	Died "subsequently from incomplete operation.
15	E. B.	"	Mr. Briggs . . .	27	M	Left tube	Removal .	August 17th, 1882	R	Never been pregnant.
*16	A. A.	Longton	Mr. Ashwell . . .	36	M	"	"	October 15th, 1882	R	Has had two children since, and is again pregnant.
17	H. C.	Malvern	Dr. Pike	19	S	"	"	November 7th, 1882	R	Died for want of second operation.
*18	J. K.	Birmingham . .	Dr. Kenny . . .	39	M	"	"	November 22nd, 1882	R	Has not been pregnant; will probably require second operation.
19	E. G.	"	Dr. Welch	21	M	Left "	"	April 3rd, 1883	R	Has had one child since.
20	M. L.	"	Mr. Hallwright . .	20	M	Right "	"	July 26th, 1883	R	Second operation performed.
*21	E. S.	"	Dr. Wilson . . .	30	M	"	"	August 28th, 1883	R	Has had one child since.
22	E. M.	"	Mr. Mann	36	M	Left "	"	January 29th, 1884	R	Has not menstruated since.
23	J. S.	Nuneaton . . .	Mr. Nason . . .	24	M	"	"	April 7th, 1884	R	Will require second operation.
*24	M. G.	Fillongley . . .	Dr. Beadnell . . .	25	M	"	"	April 17th, 1884	R	Died for want of second operation.
25	M. B.	Birmingham . .	Dr. Taylor . . .	29	M	Right "	"	July 7th, 1884	R	Cannot be traced.
*26	B. B.	Edinburgh . . .	Dr. Hart	26	M	Left "	"	October 11th, 1884	R	Requires second operation.

The asterisks indicate those patients who had been pregnant before operation.

likely that opinions may vary as to the conclusions to be derived from it; and I for one am quite prepared to admit that, so far as it has gone, by itself it is not large enough to base any absolute conclusion upon. But the opinion which I have formed from it—which is substantiated by more recent investigation not yet mature enough for publication, and which has made an increasingly strong impression on my own mind—is that, if a patient is suffering sufficiently to justify abdominal section for chronic inflammatory disease of the uterine appendages, and only one side is found to be affected, the operation, to be of that lasting and complete benefit to the patient which we desire all our operations should be, must be made bilateral. On such a point as this, of course, the desire of the patient must be paramount, as upon most others; and, if a patient places herself under my care for such an operation, and makes it an imperative condition that I should not under any circumstances remove the second set of appendages if they were found healthy, I should yield to her decision; but I should argue the question with her, and advise her not to subject herself to the risks of a second operation, as seems to be by far the greater tendency in unilateral operations. The list that I now present puts such incomplete operations in a very unsatisfactory light.

ENTIRE FREEDOM FROM PAIN AND UNDUE REACTION AFTER EVISCERATION AND INTRODUCTION OF THE GLASS VITREOUS.

By P. H. MULES, M.D.,

Surgeon to the Manchester Royal Eye Hospital.

I AM unwilling to delay in making generally known a means of relief from pain and undue reaction after eviscerating the contents of the globe. I am certainly indebted to Mr. Lang for a hint, the correct interpretation whereof remains with me, for, whilst I drained the globe without benefit in my early cases, he drained the subsceral space by removal of the whole sclera, and to that attributed his success. Severe pain has always followed evisceration, which the introduction of the glass sphere in nowise diminishes or increases.

The pain is due to a rapid pouring out of serum into the subsceral space, with subsequent infiltration and tension of the orbit; it is a pressure, not an inflammatory pain. To avoid this, after completing all the steps of the operation as hitherto conducted, cut the external canthus, burrow freely back into the orbit with a pair of sharp scissors to the back of the sclera, taking special care to open the subsceral space; introduce an antiseptically horsehair drain, the cut ends just passing through the cut canthus; apply a dry, thin, absorbent pad, and an ice-bag over all.

There has not been the slightest pain or undue reaction in the two cases I have just completed, and I submit these suggestions with a feeling of hope that we have overcome the only contra-indication of the operation.

SURGICAL MEMORANDA.

SUB-PERIOSTEAL EXCISION OF SHOULDER-JOINT.

ON September 14th, 1885, W. C. applied to me; his shoulder-joint was swollen, hot and painful; its mobility was much curtailed, the movements being limited to abduction in common motion with the scapula, and a slight power of advancing and retracting the elbow. The ankylosis was almost complete; there was very great nocturnal pain, and over the insertion of the coraco-brachialis was a sinus of some age, still discharging; this led, through a distance of five or six inches, to the inner side of the shoulder-joint.

He was placed under the influence of iodide of potassium, and rested for three weeks, when, the nocturnal pain still remaining great, I resolved to remove the head and neck of the humerus.

On October 28th, with the assistance of Mr. Watson and Drs. Connan and Vise, I proceeded to perform Ollier's sub-periosteal operation, with proper antiseptic precautions, under the carbolic spray, the skin-incision reaching from the outer side of the coracoid process to the insertion of the pectoralis major, the latter not being cut; the periosteum was then incised along the inner edge of the bicipital groove, and the tendon turned out with a retractor. The usual rotations in and out enabled me, by means of the raspatory, to separate the thickened periosteum with great facility; the head of the bone was then pushed out of the wound, and the saw applied just below the great tuberosity; two inches and a quarter of bone were then removed. The inner side of the periosteal pouch thus made was seen

to be covered with nodules of new bone. The glenoid surface was healthy.

A drainage-tube was conducted down the sinus over the insertion of the brachialis anticus, from the wound. Some iodoform was placed in the gap, which was carefully closed; healing took place in about ten days; passive motion was commenced about the fourteenth day. The head and neck of the bone were covered by pits and depressions, soaked in pus, and deeper in the cancellous substance were many loose sequestra.

On March 25th, 1887, there was no tenderness; abduction could be effected nearly to the shoulder-line; he could place the forearm behind his back, and could advance the arm well to the front; was beginning to recover the power of rotation; had great purchase in lifting from the ground, and was doing a good day's work. A new joint apparently existed between the coracoid and acromion processes.

Tunbridge Wells. CLELAND LAMMIMAN, F.R.C.S.

LATE RICKETS.

THE following case may be of interest as bearing on Mr. Clutton's paper on Late Rickets in the *St. Thomas's Hospital Reports* for 1886.

K. P., aged 25, consulted me in 1883 for extreme genu valgum, the inner malleoli being sixteen inches apart when the knees were close together and the thighs parallel. She also suffered much pain in her knees, which often gave way under her suddenly, throwing her to the ground with much violence. The previous history is of much interest, for up to 14 or 15 she was as well formed as the rest of her family, but at that time her health failed, she became weak and listless, her wrists and ankles became enlarged, and her knees distorted. She had cod-liver oil and tonics given her, but was told that nothing could be done for the deformity. When she consulted me she was quite strong in health, but most anxious to be relieved from her pain and crippled condition. On August 23rd, 1883, I did a double McEwen's operation for her, with the result of making her three inches taller, and enabling her to get about actively and well—in fact, as well as her sisters.

The evidence of rickets in this case rested chiefly on the swollen condition of the epiphyses of the wrist and ankle; but, if I had seen Mr. Clutton's paper before, I might have found other evidence.

T. D. RANSFORD, F.R.C.S.,

Assistant-Surgeon, Royal United Hospital, Bath.

CLINICAL MEMORANDA.

HYPODERMIC INJECTIONS OF CUCAINE IN FACIAL NEURALGIA.

COLONEL G., an old and well-known campaigner in South Africa, has for the last eight years suffered most acutely at varying intervals from this disease. During the attacks, which lasted from a few days to three weeks, the spasms occurred nearly every ten minutes. The right side was the one affected, and while the attack lasted, merely touching the moustache was sufficient to bring on acute spasm. This was so marked in some of the attacks that taking food became an almost unbearable process.

During the eight years in different parts of the country, and at different hands, every variety of treatment had been adopted, even to the extraction of all the teeth in the right half of the upper jaw. Morphine, even in large doses, never gave more than very temporary relief, a very strong current from a battery being, in the patient's experience, the only remedy of the least value, and this at best but a slight one.

In November, 1886, during an attack which had already lasted a fortnight, I saw the patient for the first time, and he then sent for me to request me to divide the nerve. This operation, however, according to most writers, is not attended with very satisfactory or permanent results, and I persuaded him to allow me to try the effect of cucaine before proceeding to this last resource. One-sixth of a grain injected into the cheek hypodermically gave on the first day relief for several hours. For three successive days after this one-third of a grain gave relief only for an hour or so. After this I injected half a grain night and morning with the most completely satisfactory results. After three days at this rate I gradually diminished the dose, and the pain ceased entirely.

Since this occasion, during the last six months, two attacks have begun, but have in both cases been stopped at once by the injection of cucaine in half-grain doses.

During the intervals of attack no cucaine is ever used, but, armed with a hypodermic syringe and a few of Burroughs and Wellcome's