mortality following the operation for anus preternaturalis will diminish greatly when cases are selected, the patients properly prepared for the operation, and the minute details of that procedure accurately carried out.

The above list is very encouraging, especially as it includes a number of cases quite beyond the reach of treatment by Dupuytren's or other methods. At least two-thirds of the cases recorded have recovered. Now this state of affairs, when compared with that shown in Section A., is a startling proof of the folly of subjecting patients suffering from gangrenous strangulated hernia to a lengthened operation.

[*To be continued.*]

ART. II.—*The Treatment of Mammary Tumours.*^a By JOHN FAGAN, F.R.C.S.I., Surgeon to the Royal Hospital and Belfast Children's Hospital.

THE study of the nature and treatment of mammary tumours is of the deepest interest to the scientific and practical surgeon. Their ætiology is still obscure and unsatisfactory, their pathology ever shifting, their diagnosis in many cases most difficult, and their treatment unsatisfactory in the highest degree. Eminent workers in this field of science are ever advancing new theories, only to be upset in a very brief period by newer still.

Professor Billroth, in his "Essay on Tumours," quotes the following definition of a malignant mammary growth from the classical work of Lorenz Heister, in the year 1731 :—"The name scirrhus is given to a painless tumour that occurs in all parts of the body, but especially in the glands, and is due to stagnation and drying of the blood in the hardened part." And he adds—"In a hundred years will they laugh at our present anatomical and clinical definition as we do now at good old Heister?"

Interesting as the consideration of the ætiology and pathology of this subject would be, I mean to confine my remarks at present to that part of it which possesses the greatest practical interest for us, busy workers, who are daily brought in contact with the cases that come to us seeking relief.

I do not know any more trying position than that of the medical adviser who is consulted by a woman concerning a tumour in the breast of a doubtful nature, and is asked by her if it is dangerous,

^a Read before the Ulster Medical Society.

and if it can be cured? So much hangs on the opinion formed, and the advice tendered, that it should stimulate us to perfect ourselves on this subject by close observation of our own cases and a careful study of the experiences of other observers in the same field. I mean to treat this subject not in accordance with the methodical classification of the text-books, but from my standpoint as a clinical observer; and if I omit or pass over lightly many of its important features, it is because it would be impossible to deal with the whole within the narrow limits of a paper read under the conditions now imposed on me. I propose to consider it under the three following heads—viz., the treatment of—

1. Tumours potentially malignant, but usually classed as non-malignant.

2. Well-defined malignant tumours, that are usually subjected to operation.

3. Tumours in a very advanced stage, ulcerating or accompanied by great cachexia, that are usually considered unfit for operation.

I propose to deal with each heading separately, and in the inverse order I have here given them.

Commencing with the third, or those very advanced forms of malignant disease, I think it hardly necessary for me to describe for you what I mean to be placed under this category—unfortunately most of us are but too familiar with such. I do not know of any condition that is more capable of exciting our tender sympathy, and stimulating us to adopt means for its alleviation, than that of a poor patient suffering in the final stages of an ulcering, painful, malignant mammary tumour. The commencement of this stage is usually attained about the second year after the manifestation of the growth, when the neighbouring axillary glands are matted into a hardened mass, the skin around infiltrated, and that over the breast fissured or ulcerated. A little later the ulcer becomes wide-spread and deeply excavated; a fungus-like protrusion of the cancerous mass takes place, gangrenous shreds of which, bathed in a most offensive secretion, are being constantly cast off; repeated and sometimes alarming hæmorrhages occur; and the pain, never ceasing, producing restless days and sleepless nights, becomes intense. In this last stage the appearance of the patient undergoes a marked change; she becomes rapidly emaciated; the skin grows sallow and clayey; each day finds her weaker; and soon the scene closes in a painful death.

Such is an imperfect picture of a typical case of scirrhus of the

breast, in its final stage, that has been allowed to run its natural course.

In such cases the indications for treatment are—to relieve pain, to neutralise the offensive odour, and to prevent and restrain hæmorrhages.

To relieve pain we must have recourse to opium and its preparations, administered by the mouth or hypodermically. Locally I found a most effectual and soothing application in a lotion of dilute solution of subacetate of lead with laudanum. Another useful application is one part each of extracts of belladonna and stramonium to eight parts of vaseline. If the breast is not tender, ice-bags give great relief.

To correct the fœtor, Esmarch uses a powder composed of one part each of arsenic powder and muriate of morphin, eight parts of calomel, and forty-eight parts of powdered gum-arabic, of which he sprinkles daily half a teaspoonful on the surface, until a yellowish, leathery crust forms, which, on dropping off, leaves a clean granulating surface. This, he says, is safe, painless, and disinfecting. Five grs. of chloral hydrate to an ounce of vaseline is an effectual deodoriser, and allays pain as well. It is unnecessary for me to mention various other applications that may be used to meet the requirements of individual cases.

There are various hæmostatics used when hæmorrhage complicates the case, such as ice, Ruspini's, Richardson's, and various other styptics; but the most effectual for restraining hæmorrhage, and serving at the same time as a grateful soothing application, is the puff-ball, some time ago introduced into practice by Dr. Thompson, the distinguished surgeon of the Tyrone Infirmary.

There is yet another mode of treatment for these hopeless cases that perhaps you will be surprised to hear advocated. I mean their removal by the knife. It is unnecessary for me to say that this is only palliative, and can be had recourse to only in certain conditions of this advanced stage. In acute cases of rapidly growing surcomata, and in all cases where the viscera are seriously involved, and where the dyscrasia and marasmus are extreme, no such line of treatment should be for a moment entertained; but there are cases, of not infrequent occurrence, where the patient, worried and tortured by the continuous pain and loathsome fœtor of an ulcerating, bleeding, cancerous mass, anxiously appeals to have something done for her, not so much with a view of prolonging her life as to render what little span of it still remains more tolerable.

I believe a great deal of good can be done by removing the cancerous breast in such cases. The following that occurred in my practice in hospital some years ago, will serve as a type of a class that may with advantage be subjected to operation in advanced stages of cancer of the breast :—A woman from Ligoniel, about fifty years of age, came under my care. She had a worn, sallow, anxious look. She got no rest, and suffered intense pain. Her axilla was bound up by the matted hardened glands. Her breast was converted into a hard scirrhus mass, ulcerating and fungating, bleeding, and emitting a most fœtid odour. The skin around was infiltrated, and the arm was swollen. Her appetite was good, and there was no evidence of any of the viscera being involved. She was quite prepared for the gloomy prognosis I gave her, but begged to have the breast removed, in the hope of thereby getting some respite from her agonising pains. After explaining to her the great and immediate risks incurred by, and the barren results that might follow from, the operation, she still persisting, I removed the mass. The exposed raw surface resulting was the size of a dessert plate. In tearing the indurated mass from the chest wall portions of three ribs were laid bare, and the intercostal muscles were infiltrated at several points. Some two or three intercostal arteries, that broke off flush with the ribs, gave some trouble before they were secured.

She was exceedingly low after the operation, but in a few hours rallied, and daily gained in strength, and expressed herself as not only free from pain, but feeling comfortable and happy. In the course of a fortnight she went home, improved in every way, thankful for the relief afforded her, which was so striking that it engendered in her a hope of possible recovery from her malady. Two months afterwards the district nurse reported to me that she was still living, and free from pain. I did not again hear of her, but I presume she soon died. The operation, I believe, prolonged her life, and not alone saved her from a protracted period of intense suffering, and a painful death, but enabled her to pass what remained of it in comparative ease and comfort.

I have since that time operated on two somewhat similar cases with very gratifying results.

There is a condition known as atrophying scirrhus, which is a very rare occurrence, and one that it is better not to interfere with by operation. I have met with one well-marked case of the kind. An old lady, seventy-five years of age, was under my care for a

fractured clavicle. While examining her I noticed a puckered nodule on the site of the breast. It felt quite hard and shrivelled. Before I asked any questions, she said, "Dr. — wanted to take that away twenty years ago, but I would not let him, and I think I was right." Judging by the result, I thought so too.

The later the manifestation of the disease, the slower, it is supposed, is its progress; and when we meet with a small knotty solitary tumour in a woman of fifty or fifty five years of age, we should hesitate before recommending its removal, for many of them, like the case of the old lady I have mentioned, exist for ten, fifteen, or twenty years without giving any trouble—the only treatment necessary, as in her case, being a little flannel round this part to protect it from injury, and keep it warm.

Acute forms of mammary scirrhus or sarcoma, and especially if they occur in pregnant or nursing women, should not be subjected to operation. It gives no relief to the symptoms, and almost invariably leads to a fatal issue in a very short time. Several such cases are mentioned in the works of Billroth and other eminent authorities.

I will now take up for consideration the treatment of well-defined malignant tumours that are usually subjected to operation; this class I have placed under my second heading.

As in all forms of disease or injury, so it is in the case of malignant mammary growths, the sooner they are detected, and their true nature recognised, the more effectually can they be treated, and the quicker and more decided the treatment the more successful will be the result.

It is unnecessary for me to describe the appearance of an ordinary scirrhus of the breast, that usually presents itself to us when it is sufficiently advanced to make the patient feel there is something seriously the matter with her. The nipple is, probably, retracted; the skin adherent to the hard, irregular glandular mass; and, perhaps, a few glands in the axilla are enlarged and indurated. It is a pity that women, through false delicacy or carelessness, do not attend to these growths on their first manifestation; if they did so, and if their medical attendants were more decided in dealing with them, a great amount of mental and physical suffering would be spared them. I will suppose that a woman about forty-seven years of age, the mother of a large family, who suffers from a small, hard, nodular solitary tumour, inseparably connected with the mamma, with slight retraction of the nipple, and occasional

shooting pain, presents herself for an opinion. The diagnosis is carcinoma. What shall the treatment be? This is simple. It resolves itself into either of two methods—the palliative or the radical. The physician or surgeon who adopts the first of these methods must either have unbounded faith in the potency of his drugs, a diffidence in his diagnostic powers, or a very indifferent knowledge of the pathology and clinical history of cases of the kind; or else he may say—I am fully alive to the gravity of the case, but I decline to admit that your so-called radical method is by any means radical, and I believe that by judicious general treatment my patient will live as long and suffer less than if she is subjected to your painful and dangerous mode of treatment.

I am fully aware there are many medical men who view the treatment of cancer cases in this light, and act in accordance with it. While respecting their honest convictions, I pity them for entertaining such; but I pity still more their confiding patients who have the misfortune to be under their guidance for this particular affection. It is not my intention to notice the various nostrums that are lauded as cancer cures, or the local applications, mechanical or otherwise, that have been used. I am ready to admit that judicious medication and local applications are capable of dispersing some tumours that are not malignant, and may even temporarily stay the progress of malignant ones, and in the rare instances of atrophying scirrhus may have the credit attributed to them of modifying the action of the growth. That the radical method—that is, the free removal of the cancerous breast and all the affected parts that are accessible—is the best form of treatment, I have not the slightest doubt. It is the opinion of many surgeons of eminence, with whose writings I am acquainted, and it astonishes me that notwithstanding this very decided approval of the propriety of operating in such cases, medical men are found who temporise with those cases in their early, and disapprove of operative interference in their more advanced, stages. For this reason it is no wonder Billroth expressed himself in the following way:—“Few as are the complete recoveries from cancer of breast after operation, I believe they will grow more frequent when the family doctor, to whom they are generally first shown, urges operation earlier, for at present they usually let the best time for operation slip by, till the local disease and the affection of the axillary glands are so far advanced that a complete operation is no longer practicable.”

The main objects aimed at by all forms of treatment are—

1. To eradicate the disease with the prospect of its non-recurrence.
2. To prolong life, and render it useful and enjoyable.

Is the disease ever thoroughly eradicated? Surgeons differ on this point.

Sir J. Paget says:—"I am not aware of a single clear instance of recovery—of such recovery, that is, as that the patient should live for more than ten years free from the disease." Yet he mentions a case where he removed a scirrhus breast, and the woman lived eleven and a half years afterwards; and after death, from other causes, no trace of cancer was found except a few hard white masses in the liver and omentum.

It must, however, be remembered that when Sir J. Paget wrote this the mode of operating was not so thorough as has been practised lately, nor were tumours usually subjected to operation at the very early stages of their manifestation.

The experience of the most prominent British, American, and European surgeons is, that in many cases a timely and thorough operation begets immunity from the disease in a considerable number of cases. What I mean by thorough operation I will explain further on.

Dr. Gross, in his admirable work on "Mammary Tumours," after giving statistics bearing on this point, says:—"A radical cure may be assumed if the patient has survived the disease over three years without local or general recurrence after the last operation." And comparing 47 patients who were free from the disease three years after the last operation with 67 whose cases were allowed to run their natural course, he says:—"As a further proof of the influence exerted upon the duration of life by radical operation, attention may be called to the fact that nearly one-third were free from the disease after the lapse of six years, while of the 67 patients in whom no operation was practised, only one survived after that period."

Surgeons, when operating in cases of cancer, except very advanced ones, should always aim at effecting a radical cure, and not be influenced by the statistics and views of Paget and some other eminent authorities who advise interference more with the view to avert mental anxiety and physical suffering, and to prolong life.

Eighteen years ago a paper appeared in the "Medico-Chirurgical Transactions," by Mr. Moore, on "The Influence of Inadequate

Operations upon the Theory of Cancer." In his paper he insists that not only the whole mamma, but that all involved adjoining textures—as skin, fat, pectoral muscle, and lymphatic glands—must be extirpated, and that the tumour should not be cut into nor be seen.

This thorough and sweeping method is of late years growing into greater favour, and is widely practised by the foremost surgeons of this Continent and America.

One recent authority says—"This view (the curability of cancer) is now rapidly gaining adherents among the best minds in all parts of the world, and surgeons are beginning to know that cancer can be cured by thorough operations, if it be attacked before it has disseminated itself extensively locally, or has tainted the general system." And, again—"This decision is not only based upon the study of its general pathology, but is confirmed by the practical tests of the results of operations."

The second object aimed at by operation is to prolong life and render it useful and enjoyable. That it fulfils these requirements anyone who consults statistics on the subject, or has watched cases that have, and those that have not, been operated on, will find no difficulty in convincing himself of such.

Most surgeons agree that a comparison of the two averages of cases operated on and those not operated on indicates that operation adds twelve months to the life of the patient.

As regards the comfort and convenience of the patient, I think there can be no doubt that by operation such conditions are more effectually secured than if the cases are allowed to take their natural course.

In two cases that lately came under my observation, where patients were the subjects of advanced mammary scirrhus, and where operation would not be submitted to, the pain they endured, notwithstanding careful medication, was intense, and their sufferings increased till death put an end to them. I need not draw a picture of such cases, for most of you are but too familiar with them.

In contrast with such, let me state the result in five private cases on which I operated during the first six months of 1882. One case died two years after the operation, and up to a very short time before her death was absolutely free from pain and discomfort, and was able to enjoy life and go through her ordinary duties in an efficient manner.

The second case progressed equally favourably till about a year and a half ago, when a nodule the size of a walnut showed itself at the lower border of the pectoral muscle on the opposite chest wall. This I removed, together with the axillary glands, some of which were indurated. The breast was free. She made a good recovery, and is still in a fairly good state of health.

The third case I heard of about a year ago as doing well in every way.

The fourth and fifth cases were progressing favourably some months ago, with no apparent return of the disease.

All my cases (and I have up to this operated on about 50) have not progressed as favourably as those mentioned, but I might say I have never had reason to regret operating, inasmuch as I felt that by doing so my patient was placed in every way in a better condition than if her disease was allowed to follow unchecked its natural course. If further proof were wanting of the benefit of operating in this disease it is only necessary to turn to the writings of Billroth, Paget, and most eminent authorities, to be convinced of such.

Billroth, in the course of his remarks on the subject, says:—"It would be very unjust to consider such operations useless because they cannot cure the disease, for they render the patient's life easier and more agreeable—if only for a time, still, possibly, for the greater part of the time that he has to live. We might be very glad if, by an operation or other treatment, we could temporarily restore to the pleasures of life a patient with advanced tuberculosis of the lungs, as is the case in operating for some cancerous tumours."

And Paget says:—"In cases of acute hard cancer the operation may be rightly performed, though speedy recurrence and death may be expected. Its performance is justified by the probability that it will in some measure prolong life, and will save the patient from dreadful suffering. On similar grounds the operation seems proper in all cases in which it is clear that the local disease is destroying life by pain, profuse discharge, or mental anguish, and is not accompanied by evidences of such cachexia as would make the operation extremely hazardous."

Time will not allow me to dwell on other forms of malignant growths that attack the female breast. Suffice it to say that it is well to remove all such as soon as there is the slightest suspicion of their malignant nature. Regarding the local recurrence of the

disease, I think it good practice to remove every manifestation of it as soon as possible, if it is in a position that it can be removed with safety.

In July, 1883, I was consulted by a lady for a hardened gland mass in her axilla. She had her breast excised a year previously, and had some glands removed from her axilla three months later. I recommended the removal of the new growth as well as the old cicatrix that was beginning to ulcerate at a few points. I was assisted by her medical advisers who performed the two previous operations, and after a tedious process of dissection, during which the axillary vein was exposed for more than an inch, I succeeded in clearing out the axilla, and removed the old breast cicatrix. She made a good recovery. Three years after I operated on her, and four after the first operation, in reply to a letter which I sent her medical attendant, asking about her condition, he says:—"The disease has returned about the cicatrix. I am glad to say, however, that her general health keeps good."

In the case of recurrent sarcomatous tumours, they should be removed as fast as they appear. Gross succeeded, after removing 52 of these, by 23 distinct operations, in a period of four years and a half, in checking their reproduction, and the patient was perfectly well nearly eleven years subsequently.

Removal of breast tumours by caustics and cautery find still some advocates, and in certain cases not suited for the knife may be found of advantage.

The next class I have to consider embraces the most usual forms of non-malignant neoplasms, as the fibromata and adenomata. These I called tumours potentially malignant, but usually classed as non-malignant. It is an interesting practical point to determine whether mammary neoplasms, simple in their first stage of existence, finally degenerate into those of a malignant nature. Almost all recent authorities agree that they do so. The tendency of true adenoma to pass into carcinoma is a well-established fact. Billroth, Labbè, Coyne, and Duplay are of opinion that the metamorphosis of fibroma into sarcoma is so frequent that primary sarcoma of the mamma is very rare; and Paget, in the "*Bartholomew Hospital Reports*," has lately pointed out that not only hard, mammary glandular tumours, but certain ill-defined and tough, rather than hard indurations, may become carcinomatous.

We know that youth is the period for the appearance of these non-malignant neoplasms, and that with increase of years do they

become more doubtful in character, and more apt to assume the malignant form.

The two great features that should influence the treatment in this class of cases are—the age of the patient and the progress of the growth. In very young girls invariably, I may say, the growth is a fibroma, and may disappear under suitable treatment, general and local. Among the local measures compression is most efficacious, and may be carried out by means of spring pads, air cushions, or strapping. I was consulted about ten years ago concerning a young girl, sixteen years of age, who had a hard lump in one of her breasts. I diagnosticated a fibroma, and ordered suitable treatment. She married at nineteen, and died at twenty-five. She had two children. I saw her before and after her marriage till a short time before her death, and there was no perceptible change in the lump. Pregnancy and lactation seemed to have had no effect on it. It was a potentially malignant tumour, and in all probability, had the woman lived, would have developed into a carcinoma. From twenty-five to forty is the age for the doubtful growths, or those that pass quickly into the malignant forms. These are the adenomata and fibro-sarcomata. This is the class that puzzles the medical man what to recommend for them. If they remain stationary, they may improve under medication; but if they show a tendency to increase in size and hardness, no time should be lost in extirpating them.

For such growths Sir James Paget recommends with great confidence the strapping of the breast with belladonna plaster, and the administration of a drachm of liq. potassæ and two grains of iodide of potassium three times a day after meals. If this fails, he advises excision. He says:—"It may seem an unreasonable thing to perform a serious operation for a disease which may never, or only at some uncertain time, become cancerous. Yet, I cannot doubt that the operation should be advised for such an induration of the breast as I have described, if there be great difficulty of diagnosis between it and scirrhus cancer."

I must apologise for the hasty and ill-digested way in which I have brought this subject under the notice of the profession, and I will now conclude by summarising the views I have formed, based on my own limited experience, as well as on the study of the teachings of others, on the subject of the treatment of malignant mammary tumours.

1. That in many of the very worst forms of advanced painful,

ulcerating scirrhus, where there is no immediate danger of death from marasmus or visceral complications, the breast may be removed with great benefit and relief to the patient.

2. That all cases of malignant growths of the breast, as soon as they are diagnosticated, should be removed at once by operation and in the thorough manner I have described.

3. That all doubtful cases should be dealt with in the same way.

4. That all recurrent growths should be removed at their earliest manifestation.

5. That all non-malignant neoplasms, as soon as they show a tendency to enlarge, and especially between the ages of twenty-five and forty years, should be removed without delay.

The following quotation from the writings of Mr. Jonathan Hutchinson bears forcibly on this point:—"Too late! too late! is the sentence written but too legibly on three-fourths of the cases of external cancer concerning which the operating surgeon is consulted. It is a most lamentable pity that it should be so; and the bitterest reflection of all is that usually a considerable part of the precious time which has been wasted has been passed under professional observation and illusory treatment."

When the doctrine of the precancerous stage shall be widely adopted, and when surgeons generally shall recognise the propriety—let me say the duty—of operation for purposes of prevention, then, and I believe not till then, shall we witness a considerable reduction in the mortality of cancer.

ART. III.—*Strangulated Hernia, with some Statistics and Remarks based upon the result of Sixty Operations; also General Remarks relative to the subject of Strangulated Hernia.*^a By J. WALTON BROWNE, B.A., M.D., Surgeon, Belfast Royal Hospital; Surgeon, Belfast Ophthalmic Hospital.

THE common occurrence of hernia, and the frequency with which various states of it demand treatment for the relief of conditions which, if unrelieved, shortly endanger the life of the patient, render it necessary for the surgeon to acquaint himself with all that can be known of the morbid processes, and the best remedial management of such processes.

In November, 1879, I read a short paper before the Ulster Medical Society upon the results of 20 herniotomies performed in hospital and

^a Read before the Ulster Medical Society.