Anjaja Rajót 1917

THE CHIRURGICAL WORKS

OF

PERCIVALL POTT, F. R. S.

SURGEON

TO ST. BARTHOLOMEW'S HOSPITAL.

A NEW EDITION, WITH HIS LAST CORRECTIONS.

To which are added,

A SHORT

Account of the Life of the Author,

A METHOD OF

CURING THE HYDROCELE BY INJECTION,

AND OCCASIONAL

NOTES AND OBSERVATIONS.

BY

SIR JAMES EARLE, F.R.S.

SURGEON

EXTRAORDINARY TO THE KING, *&c. &c.*

A certis potius et exploratis petendum esse præsidium; id est, his quæ Experientia in ipsis curationibus docuerit; sicut in cæteris omnibus artibus: nam ne agricolam quidem aut gubernatorem disputatione, sed usu fieri. A. CORN. CELSUS.

IN THREE VOLUMES.

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AN

ACCOUNT

OF THE

METHOD OF OBTAINING

A PERFECT OR RADICAL CURE

OF

THE HYDROCELE,

BY

MEANS OF A SETON.

CURE OF HYDROCELE

BY A SETON.

An Hydrocele is so irksome a disease to the indigent and laborious, furnishes even the easy and opulent with such disagreeable ideas and apprehensions, and is to all who are afflicted with it so troublesome and inconvenient, that every rational attempt toward relieving mankind from such an evil, will, I make no doubt, be favourably received.

It is now some years since I first began to make particular inquiry into the nature of this, and some other diseases of the testicle, and the usual methods of treating them; an inquiry, which they appeared to me, for many reasons, both to deserve and require. The result I communicated to the public, under the title of "A Treatise on the Hydrocele, or Watery "Rupture, and other Diseases of the Testicle, "its Coats, and Vessels;" in which I endeavoured to be as precise and as explicit as I could.

One part of this tract contains an examination of the various means, which, at different times, have either accidentally produced a radical cure, or have been professedly proposed and practised for such purpose.

Among other means used to obtain this end, I mentioned the Seton; and spake of it as that which, for many reasons, appeared to me to be preferable to all others; as a method which I had for some time practised with great success; and as that which, if nothing should occur to induce me to change my opinion, I should continue to make use of.

Since that time I have had frequent opportunities of repeating the experiment; and it has so constantly and uniformly answered my expectation, that my opinion concerning it is determined; and I am convinced, that it is the most successfully efficacious of any.

This might be urged, and would perhaps be admitted, as a good reason for laying my thoughts on the subject again before the public; but I have others also to plead in vindication of the few following pages.

In the first place, I think that I have considerably and materially improved the operation and process; and have rendered it less painful and more certain.

In the second, I find, that what I said of it in the general treatise, has not been so clearly and perfectly understood as I could have wished; and in consequence either of brevity and obscurity on my part, or misunderstanding on the part of some of my readers, my true meaning has not been received; and I have been subjected to the frequent interruption of troublesome correspondences on the subject.

And, in the third place, I might add, that

some few gentlemen of consequence, who have by this means been cured, have requested this publication.

A minute account of the nature and circumstances of the disease, would be a mere repetition of what I have already said at large in the book referred to; would be therefore unnecessary, and beside my present purpose: a short and cursory one may perhaps throw just as much light on the subject, as may serve to render the description of the operation, and the treatment after it, more easily intelligible.

The common bag in which both the testicles are included, is called the scrotum, and consists of epidermis, skin, and that loose cellular membrane, which is here called the dartos; to which might perhaps be added the expanded fibres of the cremaster muscle on each side. The proper coats of the testicle are, the tunica albuginea, and the tunica vaginalis. The former of these immediately invests the vascular compages of the testis, and is that coat with which it is covered while within the cavity of the abdomen, before birth. The latter is formed on the outside of the said cavity, is a process of the peritoneum, and is placed ready for the reception of the testicle when it shall be thrust forth through the groin into the scrotum. Between the vascular structure of the testicle, and the tunica albuginea, there is no vacuity; but the external surface of the gland is in every part firmly adherent to, and connected with, the internal one of the investing coat: the tunica vaginalis

forms a hollow cavity, or bag, which loosely and unconnectedly envelopes the testicle, covered by its albuginea.

When I say loosely and unconnectedly, I would wish to be understood aright. I do not mean that the testicle hangs in the middle of the tunica vaginalis (like a clapper within a bell), and has no connexion with it—I mean that all the superior, anterior, and lateral parts of the tunica vaginalis are loose from, and unconnected with, the testicle, which is at the same time firmly united to its posterior part, in such manner, that if the cavity of the tunica vaginalis was to be distended with wind, such wind would occupy or fill all the loose and unconnected part, and produce a tumefaction not unlike to a hydrocele, while the testicle would be found firmly and immoveably attached to the hinder part of the said cavity so distended.

To prevent the accretion of these coats in those parts where they ought to be unconnected, and perhaps for some other purposes, the cavity of the tunica vaginalis is furnished with a fine lymph constantly exsuding into it; which lymph is as constantly absorbed by proper vessels; so that, in a healthy and natural state, there never is any more of this fluid within the bag at a time, than may just serve (beside what other purpose it may be intended for) to keep the two membranes from coming into immediate dry contact and cohesion with each other. This small quantity is sufficient to preserve the proper and natural cavity of the tunic; but never oc-

casions any degree of intumescence, or any unnatural or diseased appearance of the part.

A deficiency, or total failure of the secretion of this fluid, will be followed by a partial or total coalescence of the two coats with each other; and consequently a total or partial abolition of the cavity. A superabundance, or a secretion of more than the absorbent vessels can take up, must, on the other hand, enlarge and distend the said cavity, by carrying all the loose unconnected part of the bag further and further from the testicle, in proportion to the quantity accumulated. The former, I do know to be sometimes, and I verily believe most frequently is, the consequence of a severe hernia humoralis, as well as of other inflammations of the testicle. The latter, among other diseases, produces the hydrocele or watery rupture.

This being the case, that is, the intumescence of the scrotal bag being caused by the gradual accumulation of a fluid, which ought to have been absorbed, it is almost always produced gradually; and therefore has, in most instances, made some progress before it is taken notice of; especially by careless and inattentive people. For the same reason it will be found, that as it depends upon the circumstances of secretion and absorption, it will, in different people, make quicker or slower progress, according as the deposition shall happen to be quicker or slower, and the absorbent faculty only more or less impaired, or totally obstructed. As this disease is confined to the cavity of the tunica vaginalis testis, and

as this bag has no communication with the cavity of the belly, the tumefaction can never be lessened by any attempt toward reducing or returning it into the abdomen. For the same reason, it never is, nor can be liable to any alteration of size, or temporary distention, from the efforts or actions of coughing, sneezing, expulsion of fæces, &c. For the same reason (I mean the confinement of the fluid within the cavity of the tunica vaginalis), the intumescence, when early attended to, will always be found in the lower part, and does not rise above the upper part of the testicle, until the disease has made some progress, and the quantity is become considerable: therefore the spermatic process will always, in the early stage of this distemper, be capable of being felt perfectly and distinctly; although when the tumor has arrived to any considerable degree of size, the fluid does so conceal the testicle, as to render it not a very easy matter to find it. The three last circumstances, well attended to, will always serve to distinguish the hydrocele from the intestinal hernia or common rupture, at least in the beginning. To these might be added, several other characteristical marks of this distempor; such as: That being neither accompanied by, nor occasioning any inflammation or irritation, it never gives pain, unless it be very rudely handled, or be permitted to attain such size as to be troublesome from its weight, or to be subject to excoriation from its magnitude; which may serve to distinguish it from the hernia humoralis, an inflammatory,

and often a very painful disorder. That if the fluid be thin and limpid, and the vaginal coat and membranes of the scrotum not thick, the tumor is often in some degree transparent; that is, the light of a candle or lamp may be seen through it. That constipation of the belly does not render it at all more tense, or produce any uneasiness in it while it lasts; neither does the removal of such obstruction or constipation at all lessen its volume, or make any alteration in it, either to the eye or to the finger. To all which ought always to be added, the *fluctuation of the fluid.*

The size and figure of the tumor, caused by this disease, are liable to considerable variety, dependent upon the quantity and consistence of the fluid accumulated; the time such accumulation may have taken up; the thickness or thinness of the vaginal bag and membranes of the scrotum; and the equal or unequal manner in which these parts may have given way to the distention. Hence the tumor will be larger or smaller, round, flattish, pyriform, or globular; will be firm, tense, and resistent, or lax, soft, and easily compressible; smooth and regular in its surface, making one uniform figure, or divided by a kind of depression or stricture, which will make it appear as if the water was in two distinct sacculi or bags; it will also be more or less tense, as well as regular in its surface, as the contractile power of the scrotum, by means of the cremaster muscles, shall be more or less.

The qualities of consistence and colour in the

contained fluid is also various: it is thin, aqueous, ropy, viscid, limpid, citrine, greenish, brown, bloody, clear, or turbid; from each of which some small differences in the aspect, feel, weight, transparency, or obscurity of the tumor will arise; but are of no consequence with regard to any method of treatment, palliative or radical.

The methods of cure of a hydrocele are said to be two, one called the Palliative, the other the Radical; the latter of which alone deserves the name of cure.

The former consists merely in letting out the water occasionally, and is so simple and so trifling an operation, that I shall say nothing more of it, than that I think a small trochar a much preferable instrument for this purpose, on all accounts, to the lancet, or any other.

The radical cures, as they are called, may be collected from the writings of several of our predecessors. The general means they made use of were cautery, caustic, ligature, and tent. For the particulars relative to each of these, I must beg leave to refer my reader to the writers themselves, a minute detail of them not being consistent with the plan of these few sheets. But without entering into such disquisition, I believe I may venture to say, that whoever will give himself this trouble, will find, that all the means which were either professedly used to obtain a radical cure, or which ultimately and accidentally produced such event, were put in practice for three general reasons, or under the influence of three general opinions; the first of which was,

that the fluid found in the sac of a hydrocele was always originally formed in the cavity of the belly, and descended from thence into the scrotum; the second, that it was a disease of the habit, as well as of the particular part, that is, that it was general, as well as local; the third, that the collection of liquor found in it was either the necessary cause, or the consequence, of a diseased state of the testis.

From these flow the applications of cautery and caustics to the groin, and of ligatures on the spermatic process. From these are derived all the cautions to undertake the cure guardedly, to conduct it slowly, and to attend rigidly to the patient's general state by cathartics, alteratives, specifics, issues, &c. &c. &c.; and to these we owe the experiments made to induce suppuration from the parts affected.

Not being acquainted with the anatomical structure and disposition of the parts concerned in the disease, they had very terrible as well as very erroneous notions concerning it. They supposed that the fluid contained in the cyst was thrown off from the habit as a kind of crisis; that the general constitution of the patient was by such deposition much relieved; that it prevented many other and those worse disorders; and, either that a morbid state of the testicle and epididymis concurred in producing the fluid, or that the same parts necessarily became diseased from lying in it. They therefore concluded, that although a radical or perfect cure might be obtained by certain means, or that certain means

having been found now and then to have produced such event, they might with probability be expected to answer such purpose, yet the attempt ought never to be made without a strict attention to the general evils which might ensue, as well as to the particular ones proceeding from the supposed morbid state of the parts.

Inquiry and experiment have taught us better; have given us truer notions of the nature of the complaint; have induced us totally to lay aside many of the means used by our fore-fathers; and although we do still in some sort continue some of them, yet it is upon different principles, and with very different views.

The noxious quality of the fluid; the diseased state of the parts whence it proceeds, or wherein it is deposited; the critical, or depuratory nature of the deposition; the necessity of drawing off the water partially and at short intervals; and the fear of curing it locally, lest the general habit should suffer, are all now known to be groundless apprehensions: and it being also known, that the collection of fluid is originally made in the tunica vaginalis only, and that it does not descend from the belly, all attempts towards preventing such descent are become equally absurd.

The testicle, although frequently somewhat enlarged in its dimensions, and relaxed in its texture, is known to be sound, to be otherwise unaffected and unaltered, and to be fit for and capable of performing the functions it was designed to execute; the fluid is acknowledged to

be innoxious in its nature, neither proceeding from parts in a diseased state, nor causing any disease in the parts in which it is deposited, and with which it is in contact; but being accumulated in consequence of constant secretion, and deficient or non-executed absorption, the intention of every rational practitioner, when he aims at a radical cure, is, to abolish the cavity of the tunica vaginalis, and thereby to prevent any future collection.

Whatever means can accomplish this end with the least fatigue, pain, or hazard, are certainly the best.

Of the incision, I shall in this place say nothing, except that it lies under so many restraints from a variety of circumstances, is so improper for the majority of persons afflicted with the disease, and requires such nice attention and such judicious management, that it never can be recommended as fit for general practice.

The caustic, upon the rational principle of which I am now speaking, *viz.* that of abolishing the cavity of the tunica vaginalis, has been practised by many; and that with such success as to induce some to think it the best and most eligible method. Among these is Mr. Else, who has lately published his opinion on the subject.

The introduction of suppurative medicines, by means of a tent, was practised by some of even our remote predecessors; and, as they tell us, with success, even in complicated cases;

that is, in cases where a diseased state of the testicle has been added to the hydrocele. But whoever will attentively consider their accounts of this matter, will see, that this method, whatever might be its accidental consequence, was not intended for the purpose which I am now speaking of.

Perhaps there is no part of surgery which was less understood by our ancestors, or concerning which they expressed themselves with so little precision, as the subject of diseases of the testicle: they have multiplied and confounded them in such manner, and speak of them in such a jargon of unintelligible terms, that it is next to impossible to understand often what they really mean.

For a particular elucidation of this subject, the chirurgic world are much obliged to the late Professor Monro of Edinburgh, and Mr. Samuel Sharp, late of Guy's Hospital, now of Bath.

The accounts which many of the best among the writers in surgery, even quite into our own time, have given of the diseases of these parts under the terms sarcocele, fungus attached to the spermatic vessels, fungus arising from the testis, hydrocele, and hydro-sarcocele, are error itself; and the operations which they describe and recommend are many of them coarse, and either impracticable or very unfit for practice. But however, from these accounts, strange and irrational as they are, we may collect that they conceived the diseases which they call the hydro-sarcocele, and the caro adnata ad vasa sperma-

tica, to be (in contradistinction from the sarcocele and the fungus springing from the testicle) curable diseases, the one by extirpation of the fungus, the other by suppuration.

No precise definition of what they have thought proper to call the hydro-sarcocele has been given by them, and therefore we have no better method of forming a judgment concerning it, than by considering the event and success of their method of treating what they have so called, with what we know concerning the structure of the testicle, its disorders, the means which we now find to be successful in them, and the disappointments and disagreeable circumstances which sometimes occur in them.

Fabritius ab Aquapendente has been particular on what he calls the hydro-sarcocele, and has given an account of his method of curing it; but whoever is acquainted with diseases of the testicle, and will compare with such knowledge what Fabritius has said concerning his method and its success[a], will, I am inclined to believe, think on this subject as I do; that the disease which he gave this hard complex name to, is nothing more than true, simple hydrocele, in which the testis is somewhat enlarged beyond

[a] "Si carnosa simul et aquosa sit hernia, ego talem adhibeo "curam. Seco cutem et incisionem facio et exiguam, et in "loco potius ultiori quam in fundo, inde turunda imposita, "cum digestivo et pus movente medicamento procedo, neque "unquam totum pus extraho, sed perpetuo bonam partèm intus "relinquo, quod sensim carnem corrodat et ita sanat."

FAB. AB AQUAPENDENTE.

its natural size, and perhaps somewhat relaxed in its texture, in consequence of such enlargement; but still sound, and free from disease; still fit for, and capable of, executing its office.

That by his method he obtained a radical cure I make no doubt: his 'turunda digestivo et pus movente medicamento imbuta,' would most probably occasion a sloughing of the tunica vaginalis, and consequently an abolition of the bag or cavity. But whoever knows any thing of these matters, must know, that a testicle really and truly diseased would not bear such treatment; and therefore, that his success was owing to the state of the testicle *not being* what he supposed it to be, and what the term he makes use of implies.

The method of Fabritius was within a few years past adopted and practised by Ruysch[b].

The means and conduct were nearly the same, and I have no doubt that the success was equal. But the same objection still remained; which was, that not only a suppuration was brought on, but the whole tunica vaginalis was so irritated and inflamed, that it necessarily

[b] "Sanara quidem valet id mali pertuso scroto ope instrumenti "trochert dicti, vel lanceola phlebotomica, ut aqua vulnere "exeat, sed cito plerumque recrudescit *malum*.

"Si *autem* curationem aggrederis aperiendo scrotum a parte "superiori, ad latus, tumque vulnus turunda oblonga, unguento "rosaceo mercurio præcipitato rubro inuncto oppleveris, donec "lenis inflammatio, eique succedens suppuratio parva, mem- "branules stillantes putrescerit, tuncque eas tenaculo eduxeris," &c. RUYSCH.

became sloughy, and was entirely destroyed: an objection which had been made to the method by caustic; and which, I must acknowledge, is, in my opinion, an objection to it still.

The late professor Monro, whose observations on the diseases of the testicle are very pertinent and very ingenious, seemed to think that it was by no means impracticable, by means of a slight degree of irritation, to excite such an inflammation both in the tunica vaginalis and albuginea, as might occasion a coalescence of them with each other, and thereby answer the end of abolishing the cavity, without destroying any part of either tunic.

I made the experiment proposed by him, and found it sometimes successful, never hazardous or prejudicial, but by no means certainly efficacious, or to be depended upon. The cannula, by its hardness and resistance, was a very unpleasant guest within the vaginal coat; and from its inflexibility, upon any unguarded motion of the patient, injured the testicle, and gave very acute pain; and the tent and bougie, which I occasionally substituted in its place, although they did not give so much pain, were liable to a considerable degree of uncertainty.

Uncertainty and hazard are certainly very different things, and the latter much preferable to the former: not to have injured a man by an experiment, affords some degree of consolation under a disappointment: but yet, when it is considered, that an operation and process of this

kind is submitted to from choice, and not from necessity, if it fails of success, although no real harm be done either to the part, or to the constitution of the patient, both the loss of time and the confinement will become doubly irksome, as they will be found not only not to have answered the end proposed, but not to have brought the patient at all nearer to a cure than he was before the attempts. The reflexion is unpleasant to both parties.

Being, from the effects both of the cannula and tent, satisfied that there was no kind of hazard in the introduction of a foreign body into the cavity of the tunica vaginalis, nor from its remaining there; and having many opportunities of meeting with this disease in St. Bartholomew's, I determined to try what a seton would do toward raising such a degree of inflammation as might occasion a coalition of the two membranes, and effect the purpose proposed by professor Monro[c]. The success fully answered my expectation.

[c] His words are, " Considering how readily contiguous in-
" flamed parts grow together, and how many instances there are
" of people having a radical cure made of this hydrocele by in-
" flammations coming on the part, it would seem no un-
" reasonable practice to endeavour a concretion of the two coats
" of the testicle when they are brought contiguous, after letting
" out the water through the cannula of a trochar, by artfully
" raising a sufficient degree of inflammation.

" This to be sure must be done cautiously, and so that the
" surgeon can reasonably expect to be master of the inflam-
" mation; and therefore the application of all irritating medi-
" cines, the operation of which he could not immediately stop,

In my general treatise on the diseases of the testicle, I mentioned and recommended it: but as I could not be certain what a greater length of time might produce to make me change my opinion, I mentioned it with some degree of caution.

Since that time I have embraced every opportunity, both in the hospital and out, of practising it, and that under some improvements; and as I can now speak positively to its success, I thought it right to give it to the public, who are always intituled to every benefit arising from the labours of every man whom they have honoured with any degree of confidence; and this as well on a principle of humanity as of gratitude.

What I have said of it in the general treatise is in the following words, p. 443: "The point "to be aimed at is, to excite such a degree of "inflammation, both in the tunica vaginalis "and tunica albuginea, as shall occasion a "general and perfect cohesion between them; "and this, if possible, without the production "of slough or abscess; without the hazard of "gangrene; and without that degree of symp-"tomatic fever which now and then attend both

"or any single mechanical effort, the effect of which he could "not be sure of, are not to be employed.

"Suppose the cannula of the trochar was to be left, by the "extremity of it rubbing against the testicle, an inflammation "might be artfully raised, the cause of which might be taken "away as soon as the surgeon thought fit."

MEDICAL ESSAYS.

" the caustic and the incision; and which, when " they do happen, are so alarming both to pa- " tient and surgeon.

" These ends I have frequently obtained by " the use of a seton.

" It is a method of cure mentioned by Aqua- " pendens from Guido, and others before him, " though their process was somewhat different " from mine. I have several times tried it on " subjects of very different ages, some of them " more than fifty years old. It requires confine- " ment to bed only for a few days, after which " the patient may lie upon a couch to the end " of the attendance, which is generally finished " in about three weeks or a month at furthest, " and during all that time no other process or " regimen is necessary, than what an inflam- " mation of the same part from any other cause, " (for example, a hernia humoralis) would " require.

" The manner of performing it is as follows: " Choose a time when the vaginal coat is mode- " rately distended, and having pierced it with a " trochar of tolerable size, draw off the water; " when that is done, introduce into the cannula " a probe armed with a seton consisting of ten or " twelve strings of candle-wick cotton; pass " the probe as high to the upper part of the va- " ginal coat as you can, and on the end of that " probe make an incision of such size as to enable " you to pull it out easily, together with a part " of its annexed seton; then cut off the probe, " and tie the cotton very loosely, covering the

" orifices with pledgets. By the next day the
" seton will be found to have contracted such
" an adhesion to the tunica albuginea as would
" cause a great deal of pain to detach: but this
" it is perfectly unnecessary to do, and it should
" be suffered to remain without molestation. In
" about forty-eight hours the scrotum and tes-
" ticle begin to swell and inflame; the patient
" should then lose some blood, and have a
" stool or two, and the whole tumefied part
" should be wrapped in a soft poultice, and sus-
" pended in a bag-truss. The disease from this
" time bears the appearance of a large hernia
" humoralis, and must be treated in the same
" manner, by fomentation, cataplasm, &c.

" The adhesion of the seton to the albuginea
" generally continues firm, and I never meddle
" with, or move it, till it becomes perfectly
" loose, which it seldom does for the first fort-
" night, or until the inflammation is going and
" the tumor subsiding. By the time the seton
" becomes loose, the coalition of parts is univer-
" sally and firmly accomplished: I then withdraw
" it, and heal the orifices with a superficial
" pledget, &c."

This method was, as I said, in general very successful; but repeated trials furnished me with objections to some parts of it, and induced me to think that such parts might be amended.

I found that cutting upon the end of the probe was troublesome, both from its smallness and from its flexibility, and also that it was sometimes

difficult to keep it steady for the same reasons, and that it always required the assistance of another person's hand besides that of the operator—a circumstance one would always wish to avoid when possible. I found also, sometimes, that the seton of a candle-wick cotton did not pass so easily as I could wish; and by rubbing the tunica albuginea too rudely, gave more pain than I liked. The seton, as made of cotton, adhered, in some instances, too long and too firmly. From the intimate connexion of the parts of the wet cotton with each other, it could never be brought away but entire; which, in some cases, occasioned an unnecessary waste of time. And, what was still worse, in two instances it adhered so firmly, that I was obliged to make a small incision to get it away at all.

All these inconveniences and objections I have now obviated and removed.

The instruments I now make use of are in the annexed plate, and are:—

A trochar, the diameter of whose cannula is very nearly, but not quite, one fourth of an inch; another cannula, which I call the seton-cannula, which is made of silver, and is of such diameter as just easily to pass through the cannula of the trochar, its length five inches; and a probe of six inches one half long, having at one extremity a fine steel trochar-point, and at the other an eye which carries the seton; which seton consists of just so much strong, coarse, white sewing-silk as will without difficulty pass through

the latter cannula, but at the same time will fill it.

With the trochar, the inferior and anterior part of the tumor is to be pierced, as in common palliative tapping. As soon as the water is discharged, and the perforator withdrawn, the seton-cannúla is to be passed through that of the trochar, until it reaches the upper part of the tunica vaginalis, and is to be felt in the very upper part of the scrotum. This done, the probe armed with its seton is to be conveyed through the latter cannula, the vaginal coat and teguments to be pierced by its point, and the seton to be drawn through the cannula, until a sufficient quantity is brought out by the upper orifice. The two cannulæ are then to be withdrawn, and the operation is finished. It is executed in two or three seconds of time, and with little more pain than is felt in common tapping.

By this method, every advantage which attended the former operation is obtained, and every inconvenience which it was liable to, is obviated and provided against.

The seton-cannula, by its firmness, bears tight against the place where the seton should be brought out; the trochar-point of the probe is kept from deviating by its confinement, and its point pierces through the skin immediately and exactly in the place intended; while the seton, by passing through the cannula, is prevented from rubbing rudely over the testicle.

As soon as the operation is finished, I put the patient into bed, and immediately give him

twenty or twenty-five drops of tinctura thebaica, which I repeat or not, pro re nata.

About the third day the testicle and scrotum begin to inflame and swell, and to put on the appearance of a hernia humoralis, or the swelled testicle which now and then attends a gonorrhea; and requires the same and no other kind of treatment; that is, fomentation, poultice, a suspensory bag, a cool, temperate regimen, and an open belly.

By these means the inflammation is soon and easily appeased. As soon as this end is accomplished, I permit the patient to get out of bed, and lie on a couch, or sit in a great chair with his legs up; and I generally give the cortex in some form or other twice or thrice a day.

The soreness and tumefaction now diminish apace; and as soon as the parts are quite easy, which is generally about the tenth or twelfth day, I begin to withdraw the seton, taking out four, five, six, or seven threads of it at each dressing, which dressing consists of nothing more than a superficial pledget upon each of the orifices while they continue open, and a discutient cerate (such as the ceratum saturnin.) to cover the scrotum.

The discharge of matter from the orifices is small and trifling, no more than might be expected; the tunica vaginalis does not become sloughy, but is preserved entire; and the cure is accomplished merely by the coalescence or cohesion of the tunica vaginalis with the tunica albuginea—an event, which, from what has

fallen within my observation, I am inclined to believe, is most frequently the consequence of a severe hernia humoralis.

In this circumstance, *viz.* the accomplishment of the cure, by adhesion of the two coats together, without any destruction of parts, consists the material difference between the method of cure by seton, and that by caustic.

All the practitioners who make use of the latter allow, that it produces a slough of the whole tunica vaginalis; that it destroys the whole bag or cyst; and that it is used with intention so to do.

In the cure by seton no slough is produced (at least I have never seen one), nor is the vaginal coat destroyed in any part of it; a firm cohesion is made between the two membranes, occasioned by the inflammation; and the cure is effected solely thereby.

I shall always most gladly embrace any opportunity to improve so noble and so really useful an art as surgery; but, at the same time, should be very sorry to have it supposed, that any partiality to my own opinion would make me misrepresent, or deviate from truth.

Since this pamphlet first appeared, Mr. Else has published a second edition of his account of the cure by caustic.

In this he has recited two attempts by the seton, which were under the conduct of Mr. Martin, in St. Thomas's hospital.

I make no doubt that the circumstances were as Mr. Else has related them: but I must take the liberty of saying, that although I have practised the method of cure by seton on a very considerable number of people, both in the hospital of St. Bartholomew, and out of it, of all ages and in all circumstances, I have never yet met with that trouble, or those disagreeable symptoms which Mr. Else has related as happening to Mr. Martin's two patients: on the contrary, I am, from very frequently repeated experience, convinced, that the cure by the seton is by much the least hazardous, painful, or fatiguing, as well as the most expeditious and certain of any yet proposed[d].

[d] Although I am as much a friend to simplicity in chirurgic operations as any man can be, and think that whatever can be well done by means of one instrument, is most frequently better done than by means of several; yet, in this instance, I cannot help thinking otherwise.

The intent of the seton-cannula is to defend the tunica albuginea testis from the rude passage of the silk over it. From the pain and other disagreeable circumstances which I have seen attend the omission of it, I must again recommend its use, though it does add to the instrumental apparatus. From frequent and repeated experience, I must also advise the using a skein of white silk instead of ribband or tape.

Whatever is used will necessarily contract some degree of adhesion to the testicle during its inflamed state; and this adhesion will unavoidably create some little trouble and uneasiness whenever the seton is withdrawn; but this pain and trouble will necessarily be least when the seton is composed of such materials as are capable of being taken away at different times instead of all at once.

When a seton of any kind is used for the purpose of making, or of continuing, a drain of matter, it is right to move it daily,

and frequently to shift it: but in this case, as the intention is different, so should our conduct be. The intention is merely, by the residence of the seton, to excite such a slight degree of inflammation as shall occasion an adhesion of the tunica albuginea testis to the tunica vaginalis, and not a suppuration: the moving it daily, or even at all, until the proper time of taking it quite away, can do no good; and must, by exciting unnecessary pain, do harm.

I therefore must repeat my advice, to let it remain unmoved for a week or ten days, at the end of which time it will have accomplished its end, and then had better be removed than not.

Suppuration is not only not intended, but should, as much as it may be in our power, be guarded against.

RADICAL
CURE OF THE HYDROCELE,

BY

MEANS OF AN INJECTION.

BY THE EDITOR.

CURE OF HYDROCELE

BY INJECTION.

THE inconveniences attending the usual methods of treating the hydrocele are well known to those who are engaged in the practice of surgery. The disease itself is attended with little pain and no danger: many of the remedies now in use for it are productive of considerable pain, and are not totally destitute of hazard.

The proper object of all operations for the radical cure of the hydrocele, is, to produce such an adhesion of the distended vaginal coat of the testis with the gland, or such a consolidation of the contiguous parts, as shall annihilate the cavity in which the water constituting this disease is contained. We know that this effect may be produced by a certain degree of inflammation, and are unacquainted with any other process, either natural or artificial, by which it can be brought about. Before the method by the seton was recommended by our author, the necessary inflammation was excited by dividing the scrotum and the vaginal coat, or by destroying a part of them by the knife or caustic.

Mr. Pott took no small pains to mitigate the severity of this operation, and to raise inflammation in a more simple manner, by the introduction of a foreign body without destruction of parts. With this view he preferred the seton. This he soon discovered to be productive of more inflammation than was necessary; and, after a series of trials, he suggested many very ingenious directions for performing and conducting this operation, in such a manner as to produce the least possible irritation. We must allow that he carried the process he recommends to a great degree of perfection; and if the operation be performed without deviating from the directions he has laid down, I am convinced it will be found preferable to any of the methods which have been usually practised in this country; yet it must be observed, that even this remedy goes beyond the proper intention, as the seton not only excites adhesive inflammation, but is necessarily attended with some degree of suppuration, at least in the track of it, before it can be removed: add to this, an objection of much more practical consequence, that even in its present state the inflammation produced by the seton sometimes runs much higher than is intended, and demands the attentive administration of antiphlogistic remedies.

The late Mr. Else's method, by the application of a small caustic, has the same inconveniences, and is liable to a much greater objection; as it is not only attended with more inflammation than is necessary, but also un-

necessarily causes a painful, offensive sore, producing a slough of part, if not the whole, of the tunica vaginalis testis.

The human frame is liable to few diseases which have more frequently exercised the ingenuity of practitioners, to find an easy and effectual cure for them, than this. Among the various methods which have been proposed, an external discutient has of late been strongly recommended. It would certainly be a most desirable plan, to get rid of the disease without any operation; but we know too well how confined our powers are in dispersing collections of fluids within sacculi mucosi, and some kinds of encysted tumors, whose integuments are comparatively thin, and therefore must conceive that much greater power would be requisite to act through the scrotum and thickened tunica vaginalis, so as to produce absorption of the fluid and cohesion of the tunics.

Hydroceles have been accidentally dispersed by various means, particularly by a blow, by a fever, and by sickness at sea. I do not entertain the smallest doubt, that the above remedy, which has been proposed by an ingenious and able practitioner, has produced the same effect; but I cannot help doubting its capability of frequently producing it, having myself tried it, and known it tried by others, several times without success.

The proportional merit, however, of different remedies, can never be exactly determined: few men have opportunities of seeing a variety of

remedies repeatedly tried, and perhaps still fewer possess a sufficient share of candour, to weigh the merits and defects of each in an equal balance; consequently medical practice is never settled in any case till it be nearly perfect, or at least till some one proposed remedy bears no comparison, in point of excellence, with the rest. Thus, in regard to the treatment of the hydrocele, though the methods of Mr. Pott and Mr. Else are certainly great improvements; yet, as some objections may be made to them, there are at this time surgeons who have returned to the old painful practice of incision, and cutting away a part of the scrotum and vaginal coat.

In this unsettled state of practice it will not, I hope, be thought improper to subjoin some observations of my own, on this subject, to those of Mr. Pott; which, however, I should not take the liberty of intruding into this work, had not Mr. Pott himself so far approved of the method which I am going to recommend, as to declare to me, not long before his death, his intention of giving it a fair trial.

It is well known that our forefathers made use of injections for the cure of hydroceles, and this method is now not out of practice on the continent; but it is wonderful that a remedy which may be made to answer the intention of exciting inflammation to any degree, and is attended with no inconvenience, present or future, should have fallen almost into total disuse in this country: some of the later English

writers on the hydrocele do not mention it; and if it be noticed by others, it is only to show their disapprobation of it.

Injections introduced within the tunica vaginalis testis, into the urethra, or into any cavity of the body, natural or formed by disease, are certainly capable of doing mischief; but the mischief must arise from the nature of the injection: if it be violent and irritating, it may produce too great inflammation. It is very probable that the caustic, and highly stimulating ingredients, which have been sometimes most injudiciously injected, and confined an unreasonable and an unnecessary length of time, have done harm, and have been the cause of bringing injections in general, and for the cure of the hydrocele in particular, into discredit; but it is extremely absurd to infer, from such instances, that all kinds of injection must be pernicious: in the use of them we are not limited to any degree of stimulus. Injections may be found so bland, as not to offend the most sensible membrane or surface in the human body; on the other hand, they may be prepared so corrosive as to inflame, and even to dissolve the most indolent parts; and they be made to produce any intermediate effect. There is no kind of stimulus which admits of such various modifications.

Another great advantage of injections is, that they apply themselves equally and universally over the whole cavity into which they are thrown, which no solid body can do.

As I had frequently succeeded in procuring an adhesion and consolidation of parts in sinuses and other large cavities, by injections of various kinds, without causing great inflammation, and had by those means avoided the necessity of extensive divisions of the skin and integuments, which should be avoided as much as possible in every part, I conceived that the cure of hydroceles might be effected by the same gentle means, without deranging, more than is necessary, the economy of those tender and sensible organs which are the seat of the disease, and I determined to make the experiment.

The injection I employed for this purpose is wine, which I made choice of for several reasons; it had been used with success in France; the strength of it is never so great as to render it an unsafe remedy, and it may be readily lowered, according to the different sensibility of the parts. Thus a vinous injection appeared capable of producing all the good effects which could be desired, with scarce a possibility of doing harm. The success which has attended it, has more than answered my expectation; and, from every trial I have made, I have no reason to wish for a different one: the pain which is produced by it is incomparably less than by any other operation: it does nothing more than is intended, and the curative effect is equally certain.

In my last edition of these works I inserted a circumstantial account of my method of using the injection, which was then in its infancy, and of which I then had doubts; but I have since experienced such success, that I thought proper to publish a separate account of it, which has been repeated in several editions, and is now so well known and so universally practised in all parts of the world, that I think it unnecessary to swell this work with a repetition of it—I must therefore beg leave to refer whoever wishes to be further informed of the cure of the hydrocele by injection, to my Treatise on that subject.

A TREATISE ON THE FISTULA IN ANO.

PREFACE.

It has been said, that when a man thinks that he can, by publishing his opinion, derive any benefit to his fellow-creatures, he has no reason to be anxious about making an apology for such publication.

This, within a certain limitation, is true; but, taken in its full extent, may be urged as an excuse for obtruding that on the world which may not be worth its acceptance.

Possibly the following sheets may be thought to come within that predicament.

The only defence I have to make for them is, that from the most diligent and most frequent inquiry into the general method of treating the disease in question, I am convinced, that such method may be considerably improved; that is, may be rendered less painful, more expeditious, and more successful.

I should be very sorry to have it thought, that I meant, by this, to signify, that my opinion on this subject is different from that of all my brethren: I know it is not; I know that there are some gentlemen

of the profession who think of it as I do: but I also know, that a very different doctrine is inculcated, and a very different method followed, by the majority of writers, practitioners, and teachers.

The number of those who have had frequent opportunities of seeing this kind of disease, is not large, compared to that of those who are daily liable to be called to the care of it: the number of those who reflect on what they see or read, and who take the liberty of thinking for themselves, is still smaller; so that the precepts delivered by such as have obtained any degree of reputation, do almost necessarily become rules of practice to the multitude.

I have, on this occasion, carefully perused almost every writer of character on the subject; and think, that I may venture to say, that they are all either defective, or erroneous: they either pass the disease over slightly, and without that regard which it certainly requires and deserves; or subject it to a method of cure, which is operose, painful, tedious, and unnecessarily productive of future evil.

The term Cutting for a Fistula, conveys to a patient a terrible idea; and this terror is not a little increased by his incapacity of seeing the part diseased. The majority of writers have greatly increased, rather than lessened, this dread; and as the operation is (under their directions) sometimes performed, it is, indeed, a very severe one. A great part of this severity appears to me to be unnecessary; and I cannot help thinking, that a more serious reflexion on the parts concerned in the disease, and on its different nature in

different states and circumstances, would lead us to a more rational method of treating it, and to a more easy and expeditious cure.

To point such method out is the intention of the following Tract.

In the execution of it, I have sometimes found myself under a necessity of controverting the opinion of some gentlemen of deserved eminence: if I have done this with decency and good manners, no apology is necessary. The honour of our art, and the moral characters of its professors suffer, whenever we pay so blind deference to any one, as prevents us from using our own judgments, and from declaring freely the results of our inquiries or experiments. Truth, as Lord Bacon has said, is not the child of authority, but of time. And were we to allow ourselves to suppose (let the subject be what it may, provided it be liable to experiment), that nothing more or new could be taught, it is pretty clear, that nothing more or new would be learned.

I therefore hope, that the fredom which I have used, either in relating the opinions, or in objecting to the practice of others, will not be attributed to an invidious disposition to find fault; but merely to a desire of being serviceable to mankind in that way, in which, I flatter myself, that I may be in some degree capable; and of improving, as much as in me lies, the very necessary, and universally useful Science of SURGERY.

FISTULA IN ANO.

SECT. I.

CLEAR and precise definitions of diseases, and the application of such names to them as are expressive of their true and real nature, are of more consequence than they are generally imagined to be: untrue or imperfect ones occasion false ideas; and false ideas are generally followed by erroneous practice.

It would be no difficult matter to produce instances of disorders, whose treatment has, for a great length of time, been accommodated more to the titles imposed upon them, than to their true and real character: among these my present subject is a most glaring proof.

The custom of giving the appellation of Fistula to every imposthumation, and to every collection of matter formed near to the anus, has, by conveying a false notion of them, been productive of such methods of treating them, as (though, perhaps, suited to such idea) are diametrically opposite to those which ought to be pursued: such as have often rendered those cases tedious and painful, which might have been cured easily and expeditiously; and conse-

quently such as have brought disgrace on our art, and unnecessary trouble on mankind.

A small orifice or outlet from a large or deep cavity, discharging a thin gleet or sanies, made a considerable part of the idea, which our ancestors had of a fistulous sore, wherever seated. With the term fistulous, they always connected a notion of callosity; and therefore, whenever they found such a kind of opening yielding such sort of discharge, and attended with any degree of induration, they called the complaint a Fistula. Imagining this callosity to be a diseased alteration made in the very structure of the parts, they had no conception that it could be cured by any means, but by removal with a cutting instrument, or by destruction with escharotics: and therefore they immediately attacked it with knife or caustic, in order to accomplish one of these ends; and very terrible work, by their own accounts, they often made, before they did accomplish it.

Several of the above-mentioned circumstances do frequently attend collections of matter near to the rectum; and therefore, for want of proper attention to the true nature of the case, the custom of calling them all Fistulæ has generally prevailed, though without any foundation in truth or nature.

That abscesses, formed near the fundament, do sometimes, from bad habits, from extreme neglect, or from gross mistreatment, become fistulous, is certain; but the majority of them have not, at first, any one character or mark

of a true fistula; nor can, without the most supine neglect on the side of the patient, or the most ignorant mismanagement on the part of the surgeon, degenerate, or be converted into one.

Collections of matter from inflammation (wherever formed), if they be not opened in time, and in a proper manner, do often burst. The hole, through which the matter finds vent, is generally small, and not often situated in the most convenient, or most dependent, part of the tumor: it therefore is unfit for the discharge of all the contents of the abscess; and, instead of closing, contracts itself to a smaller size; and, becoming hard at its edges, continues to drain off what is furnished by the undigested sides of the cavity.

This is often the case in the most muscular or fleshy parts of the body, where the cellular and adipose membrane does not abound; but is more particularly so in the neighbourhood of the anus, where that membrane is large in quantity, well stocked with fat, and not compressed by the action of any large or strong muscles.

Why critical defluxions and abscesses are frequently formed in this part, is so obvious to every one, who considers its natural structure, that it must be quite unnecessary to enter into an explanation of it: I shall therefore only observe, that when it becomes the seat of such kind of defluxion, it can make little or no resistance, but immediately swells, and becomes hard to a considerable extent; and although im-

posthumation is very frequently the consequence, yet the induration extending itself a good way beyond the bounds of the abscess, the first suppuration is by no means equal to the dissolution of such hardness; especially, if instead of being opened properly, the skin has been suffered to burst.

The smallness of this accidental orifice, the hardness of its edges, its being found to be the outlet from a deep cavity, the daily discharge of a thin, gleety, discoloured kind of matter, and the induration of the parts round about, have all contributed to raise and confirm the idea of a true fistula.

To this idea, the general treatment of these cases has therefore been made to accord: upon this has been built the prevailing doctrine of free excision, or as free destruction, without any regard to the original production of the complaint, its particular seat, its date, or any other attendant circumstances; and without examining, whether it would not admit a more easy and a more expeditious method of cure. In short, this notion, that all sinuses near the rectum are necessarily fistulous, has occasioned the prescription of such a manner of treating them, from their very first appearance, as they can hardly ever stand in need of at any time; and a mere ill-founded supposition, that the induration of the parts about may be owing to a diseased callosity, is urged as a reason for using them with more severity than even such state would require.

SECT II.

WHOEVER would obtain a true notion of the disease in question, must consider it under all the forms in which it makes its appearance. These, which are many and various (both with regard to aspect, situation, and symptoms), are what show the different nature of the complaint in different states, and are the circumstances which ought to regulate a surgeon's conduct in the care of it.

Sometimes the attack is made with symptoms of high inflammation; with pain, fever, rigor, &c. and the abscess proves truly critical; that is, it becomes a solution of the fever.

In this case, a part of the buttock near to the anus is considerably swollen, and has a large circumscribed hardness. In a short time, the middle of this hardness becomes red and inflamed; and in the centre of it matter is formed.

This (in the language of our ancestors) is called in general a Phlegmon; but when it appears in this particular part, a Phyma.

The pain is sometimes great, the fever high, the tumor large, and exquisitely tender; but however disagreeable the appearances may have been, or however high the symptoms may have risen, before suppuration, yet when that end is fairly and fully accomplished, the patient generally becomes easy and cool; and the matter

formed under such circumstances, though it may be plentiful, yet is good.

On the other hand, the external parts, after much pain, attended with fever, sickness, &c. are sometimes attacked with considerable inflammation, but without any of that circumscribed hardness, which characterised the preceding tumor; instead of which, the inflammation is extended largely, and the skin wears an erysipelatous kind of an appearance. In this the disease is more superficial, the quantity of matter small, and the cellular membrane sloughy to a considerable extent.

Sometimes, instead of either of the preceding appearances, there is formed in this part what the French call *une suppuration gangreneuse;* in which the cellular and adipose membrane is affected in the same manner, as it is in the disease called a Carbuncle.

In this case, the skin is of a dusky red or purple kind of colour; and although harder than when in a natural state, yet it has by no means that degree of tension or resistance, which it has either in the phlegmon, or in the erysipelas.

The patient has generally, at first, a hard, full, jarring pulse, with great thirst, and very fatiguing restlessness. If the progress of the disease be not stopped, or the patient relieved by medicine, the pulse soon changes into an unequal, low, faultering one; and the strength and the spirits sink in such manner, as to imply great and immediately-impending mischief. The matter formed under the skin, so altered,

is small in quantity, and bad in quality; and the adipose membrane is gangrenous and sloughy throughout the extent of the discolouration. This generally happens to persons, whose habit is either naturally bad, or rendered so by intemperance.

In each of these different affections, the whole malady is often confined to the skin and cellular membrane underneath it; and no other symptoms attend than the usual general ones, or such as arise from the formation of matter or sloughs in the part immediately affected. But it also often happens, that, added to these, the patient is made unhappy by complaints arising from an influence, which such mischief has on parts in the neighbourhood of the disease; such as the urinary bladder, the vagina, the urethra, the hæmorrhoidal vessels, and the rectum; producing retention of urine, strangury, dysury, bearing down, tenesmus, piles, diarrhœa, or obstinate costiveness: which complaints are sometimes so pressing, as to claim all our atention. On the other hand, large quantities of matter and deep sloughs are sometimes formed, and great devastation committed on the parts about the rectum, with little or no previous pain, tumor, or inflammation.

Sometimes the disease makes its first appearance in an induration of the skin, near to the verge of the anus, but without pain or alteration of colour; which hardness gradually softens and suppurates. The matter, when let out, in this

case, is small in quantity, good in quality; and the sore is superficial, clean, and well-conditioned. On the contrary, it now and then happens, that although the pain is but little, and the inflammation apparently slight, yet the matter is large in quantity, bad in quality, extremely offensive, and proceeds from a deep crude hollow, which bears an ill-natured aspect.

The place also where the abscess points, and where the matter, if let alone, would burst its way out, is various and uncertain. Sometimes it is in the buttock, at a distance from the anus; at other times near its verge, or in the perineum: and this discharge is made sometimes from one orifice only, sometimes from several. In some cases, there is not only an opening through the skin externally, but another through the intestine into its cavity: in others, there is only one orifice, and that either external or internal.

Sometimes the matter is formed at a considerable distance from the rectum, which is not even laid bare by it; at others, it is laid bare only, and not perforated: it is also sometimes not only denuded, but pierced; and that in more places than one. The original seat of the mischief is, in some cases, high up in the pelvis, near the lower vertebræ of the loins, and the os sacrum; and the matter comes from parts so diseased, and so out of reach, that the case is hopeless from the first. These discharges are to some persons salutary, and prove solutions of general diseases, which have long infested the habit: to

others, they often prove fatal, by exhausting the small remains of strength. If the disease has its foundation in the lues venerea (which is not a a very uncommon case), it frequently communicates with the urethra and neck of the bladder, producing great disturbance and misery to the patient. And sometimes it happens, that fistulous openings, near the anus, give discharge to a sanies, proceeding from a cancerous state of some of the parts within the pelvis.

Whoever attends to this variety of states and circumstances, must be convinced, that no one particular method can suit them all; but that in this, as in many other cases, the surgeon's conduct must be varied occasionally, and adapted to the exigencies of each individual.

SECT. III.

It very seldom happens, when inflammatory defluxions are made on the cellular membrane surrounding the intestine rectum, that it is in our power to prevent the formation of matter; nor, if it was, would it often be right so to do; as these abscesses seldom happen to any body, to whom they are not, at least, a temporary relief.

All consideration, therefore, of that kind is generally out of the question; and our business, if called to it at the beginning, must be to moderate the symptoms; to forward the suppuration;

when the matter is formed, to let it out; and to treat the sore in such a manner, as shall be most likely to produce a speedy and lasting cure.

When there are no symptoms which require particular attention, and all that we have to do is to assist the maturation of the tumor, a soft poultice is the best application. When the disease is fairly of the phlegmonoid kind, the thinner the skin is suffered to become, before the abscess be opened, the better; as the induration of the parts about will thereby be the more dissolved, and, consequently, there will be the less to do after such opening has been made. This kind of tumor is generally found in people of full, sanguine habits; and who, therefore, if the pain be great, and the fever high, will bear evacuation; both by phlebotomy and gentle cathartics; which is not often the case of those, who are said to be of bilious constitutions; in whom the inflammation is of larger extent, and in which the skin wears the yellowish tint of the erysipelas: persons of such kind of habit, and in such circumstances, being in general seldom capable of bearing large evacuation.

The observation is general with regard to erysipelatous inflammations in any part of the body, and is by no means confined to this.

I may, possibly, be censured, for stepping out of my way to mention it; but it is a truth of so much importance to many, and I have

seen such melancholy instances from its being not known, or not attended to, that my intention must plead my excuse.

This kind of inflammation (I mean the erysipelatous) generally makes its attack with nausea, vomiting, slight rigor, heat, thirst, and restlessness.

The quickness of pulse, and heat of skin, are indications for some degree of evacuation, and indeed sometimes render it requisite; but it is a very prevailing opinion with many practitioners, that these evacuations should be freely made, and frequently repeated: in short, that the cure of this kind of inflammation is safely to be effected by them; which is so far from being true, that the practice has proved fatal to many. If, for instance, blood be drawn off in such quantity as that the patient's pulse sinks suddenly, or if his strength be considerably reduced by purging, it is no very uncommon thing for the inflammation to leave the part first affected, and for such complaints to come on immediately, as soon prove destructive, and afford no opportunity to repair the mischief which the evacuation has produced.

When the inflammation is of this kind, the quantity of matter formed is small, compared to the size and extent of the tumor; the disease is rather a sloughy, putrid state of the cellular membrane, than an imposthumation; and therefore, the sooner it is opened, the better. If we wait for the matter to make a point, we shall wait for what will not happen; at least not till

after a considerable length of time: during which, the disease in the membrane will extend itself, and, consequently, the cavity of the sinus, or abscess, be thereby greatly increased.

When, instead of either of the preceding appearances, the skin wears a dusky, purplish-red colour; has a doughy, unresisting kind of feel, and is very little sensible; when these circumstances are joined with an unequal, faultering kind of pulse, irregular shiverings, a great failure of strength and spirits, and inclination to dose, the case is formidable, and the event generally fatal.

The habit, in these circumstances, is always bad; sometimes from nature, but much more frequently from gluttony and intemperance. What assistance art can lend, must be administered speedily; every minute is of consequence; and if the disease be not stopped, the patient will sink. Here is no need for evacuation of any kind; recourse must be immediately had to medical assistance; the part affected should be frequently fomented with hot spirituous fomentations; a large and deep incision should be made into the diseased part; and the applications made to it should be of the warmest, most antiseptic kind.

This also is a general kind of observation, and equally applicable to the same sort of disease in any part of the body. Our ancestors have thought fit to call it in some a Carbuncle, and in others by other names; but it is (wherever seated) really and truly a gangrene of the cellular

and adipose membrane: it always implies great degeneracy of habit, and, most commonly, ends ill.

Strangury, dysury, and even total retention of urine, are no very uncommon attendants upon abscesses forming in the neighbourhood of the rectum and bladder; more especially, if the seat of them be near the neck of the latter.

They sometimes continue from the first attack of the inflammation, until the matter is formed, and has made its way outward; and sometimes last a few hours only.

The two former most commonly are easily relieved by the loss of blood, and the use of gum arabic, with nitre, &c. But the last (the total retention) is (while it continues) both fatiguing and alarming.—They who have not often seen this case, generally have immediate recourse to the catheter; and for this they plead the authority of precept: but the practice is so essentially wrong, and I have seen such terrible consequences from it, that I cannot help entering my protest against it.

The neck of the bladder, from its vicinity to the parts where the inflammation is seated, and from its being involved in the same common membrane, does certainly participate, in some degree, of the said inflammation. This will, in some measure, account for the complaint: but whoever considers the extremely irritable state of the parts composing that part of the urethra (if I may be allowed so to call it), and will, at

the same time, reflect on the amazing and well-known effects of irritation, will be convinced that the principal part of this complaint arises from that cause; and that the disease is, strictly speaking, spasmodic. The manner in which an attack of this kind is generally made, the very little distention which the bladder often suffers, the small quantity of urine sometimes contained in it even when the symptoms are most pressing, and the most certain as well as safe method of relieving it, all tend to strengthen such opinion[a].

But whether we attribute the evil to inflammation, or to spasmodic irritation, whatever can, in any degree, contribute to the exasperation of either, must be palpably and manifestly wrong. The violent passage of the catheter through the neck of the bladder (for violent in such circumstances it must be) can never be right. I will not say that it never succeeds; but I will say, that it can hardly ever be proper to make the attempt.

If the instrument be successfully introduced, it must either be withdrawn as soon as the bladder is emptied, or it must be left in it: if the former be done, the same cause of retention re-

[a] Great and acute as the pain is in the neck of the bladder, and about the pubes, in a retention of urine, it is not greater, nor more acute, than is sometimes felt in the same parts by those in whose bladder no urine is to be found, and in whom the catheter may be passed with very little trouble or resistance. This complaint, which I have more than two or three times seen, is truly spasmodic; and, accordingly, always gives way to opium, more especially if used in the form of a clyster.

maining, the same effect returns; the same pain and violence must again be submitted to, under (most likely) increased difficulties. On the other hand, if the catheter be left in the bladder, it will often, while its neck is in this state, occasion such disturbance, that the remedy (as it is called) will prove an exasperation of the disease, and add to the evil it is designed to alleviate. Nor is this all; for the resistance which the parts, while in this state, make, is sometimes so great, that if any violence be used, the instrument will make for itself a new rout in the neighbouring parts, and lay the foundation of such mischief as frequently baffles all our art—an accident, which I have known happen to those whose judgment and dexterity have never been doubted.

The true, safe, and rational method of relieving this complaint is by evacuation and anodyne relaxation: this not only procures immediate ease, but does, at the same time, serve another very material purpose; which is that of maturating the abscess. Loss of blood is necessary; the quantity to be determined by the strength and state of the patient. The intestines should also be emptied, if there be time for so doing, by a gentle cathartic: but the most effectual relief will be from the warm bath, or semicupium, the application of bladders with hot water to the pubes and perineum, and, above all other remedies, the injection of clysters, consisting of warm water, oil, and opium. There may have been cases which have resisted and

baffled this method of treatment; but I have never met with them.

On the other hand, I have seen so great and permanent mischief from the premature use of the catheter, that it would have been better for the patient to have sunk under the first evil, than to have lived to experience that variety of misery, to which all they are subject who are afflicted with a diseased or injured neck of the bladder.

A painful tenesmus is no uncommon attendant upon an inflammatory defluxion on the parts about the rectum. The frequent use of the muscles, whose office it is to expel from the gut whatever is troublesome to it, and by whose action the parts which make the seat of the disease must be continually compressed, make this, while it lasts, a very disagreeable complaint.

If a dose of rhubarb, joined with a warm anodyne, such as the conf. mithrid. or such like, does not remove it, the injection of thin starch and opium, or tinctura thebaic. is almost infallible.

The bearing down, as it is called, in females, as it proceeds, in this case, from the same kind of cause (*viz.* irritation), admits relief from the same means as the tenesmus.

In some habits, an obstinate costiveness attends this kind of inflammation, accompanied, not unfrequently, with a painful distention and enlargement of the hæmorrhoidal vessels, both internally and externally. While a quantity

of hard fæces are detained within the large intestines, the whole habit must be disordered; and the symptomatic fever, which necessarily accompanies the formation of matter, must be considerably heightened. And while the vessels surrounding the rectum (which are large and numerous) are distended, all the ills proceeding from pressure, inflammation, and irritation, must be increased. This is too obvious to need any explanation; and it must be as obvious, that phlebotomy, laxative clysters, and a low, cool regimen, must be the remedies; while a soft cataplasm applied externally serves to relax and mollify the swollen, indurated piles, at the same time that it hastens the suppuration.

These are, I think, the most material of the complaints which attend inflammatory deductions and formations of matter about the anus and rectum. They are indeed most of them symptomatic, or accessory to the original disease: but they are frequently of such immediate consequence to the ease, and sometimes even to the safety of the person afflicted, that they require all our attention. Whoever neglects or mis-treats them, will cause his patient to suffer a great deal of unnecessary pain, fatigue, and even hazard: whoever attends to, and treats them properly, will find that, by relieving and appeasing these accidental ills, he will assist the cure of the principal complaint, and gain time, instead of losing it.

SECT. IV.

LET us now consider this disease, when the first symptoms attending the inflammation are gone off, and matter is either formed and collected, in such manner as to be fit for a surgeon to give discharge to it: or (that opportunity having been avoided or neglected) it has burst through the parts containing it, and has made its own way out.

The different states and circumstances produced, either by the collection of this matter, or by the manner in which it has made its escape, will necessarily occasion a difference in the manner of treating the case; and may, for method-sake, as well as for the more perfectly understanding the true nature of the disease, be reduced to two general heads; *viz.*

1. Those, in which the intestine is not at all interested; and,

2. Those in which it is either laid bare, or perforated.

Let us first suppose the matter to be fairly formed; to have made its point, as it is called; and to be fit to be let out.

Where such point is, that is, where the skin is most thin, and the fluctuation most palpable, there the opening most certainly ought to be made.

Some of our predecessors, either from a fear

which almost necessarily accompanies the want of anatomical knowledge, or from an aukwardness attending the disuse of a cutting instrument, adopted the method of opening these (as well as most other abscesses) by caustic.

With all due deference to authority, I will venture to say, that it is in general wrong; and particularly so in the present case.

It often gives unnecessary pain; and it produces a loss of substance, and a kind of cicatrix, which is not only unseemly, but frequently proves a lasting inconvenience.

Some of the patrons of potential fire do, indeed, give a specious kind of reason for its use; *viz.* that it makes a more large and free opening for the discharge; and that, by the time the eschar is separated, the hollow underneath is generally more than half filled up.

In a few (very few) particular cases, where the destruction of glandular parts may become necessary, after the eschar is thrown off (as in the case of venereal buboes), there may be some force in this argument, and caustics may be found useful; but in the present case, and in most others, in which they are freely and frequently applied, they appear to me to be highly improper; as they necessarily occasion a loss of parts, and a kind of eschar, which is, in general, an indelible blemish, to say no worse. And with regard to the particular circumstance of the hollow being filled almost up, by the time the eschar is separated, if the surgeon will dress an abscess, opened by incision, in the same easy,

superficial manner he does one opened by caustic, he will find the consequence to be the same. But (I know not why) a notion has long prevailed, that an abscess opened by a knife must be immediately crammed and stuffed with dressings, while that on which a caustic has been applied must be let alone until the eschar casts off. Let the one be treated as the other is (and as they both ought to be), and the event will be found to be alike in each; excepting this material difference in favour of the knife, that it will not necessarily occasion any destruction of parts, loss of substance, nor any deformity which is at all comparable with what must follow the use of the caustic.

In making the opening, the knife or lancet should be passed in deep enough to reach the fluid, and, when it is in, the incision should be continued upward and downward [b], in such a manner as to divide all the skin covering the matter. By these means, the contents of the abscess will be discharged at once; future lodgment of matter will be prevented; convenient room will be made for the application of proper dressings; and there will be no necessity for making the incision in different directions, or for removing any part of the skin composing the verge of the anus.

Notwithstanding that all these collections of

[b] When I say upward and downward, I suppose the patient to stand on his feet, with his legs and thighs straight, and his body leaning forward over a table, or a bed; which posture gives the fairest view of the parts; and puts them into the best position for the operation, as well as for the operator.

matter are generally called by the name of Fistulæ, and are all supposed to affect the intestinum rectum, yet it is very certain that the seat of the abscess (the place where the matter is formed) is sometimes at such distance from the gut, that it is not at all interested by it; and that none of these cases either are, or can be, originally fistulæ.

In this state of the disease, we have no more necessarily to do with the intestine, than if it was not there; the case is to be considered merely as an abscess in the cellular membrane, which will require (in the usual phrase) to be digested, incarned, and (if practicable) healed, without meddling with the rectum in any manner.

As this is a matter of some importance to the patient, it is worth a little consideration.

Suppose an abscess formed in the neighbourhood of the rectum, which, after a certain degree of swelling and inflammation, ripens, or comes to a point, somewhere near to the verge of the anus. Suppose also a large and convenient opening to have been made by a simple incision; the contents of the abscess to have been thereby discharged; and a sore or cavity produced, which is, perhaps, considerable in size: this cavity is to be filled up in such manner, as to produce a firm and lasting cure.

The frequent use of the term filling up, and the generally-received opinion, that the induration of the parts about is a diseased callosity, appear

to me to have been the two principal sources of error and misconduct in these cases.

Wherever matter is formed in consequence of inflammation, it always leaves, upon being let out, a proportional hollow, and some degree of induration. The former of these is of different size, according to the quantity of matter; and the latter depends both on the degree of previous inflammation and the more or less perfect suppuration of the abscess.

The generally-received opinion, with regard to these two circumstances (hollow and hardness), is, that the former is caused entirely by loss of substance; and the latter (as I have already observed) by diseased alteration in the structure of the parts.

The consequence of which opinion is, that as soon as the matter is discharged, the cavity is filled and distended, in order to procure a gradual regeneration of flesh, and the dressings, with which it is so filled, are most commonly of the escharotic kind, intended for the dissolution of hardness.

The practice is a necessary consequence of the theory. Whoever supposes diseased callosity, and great loss of substance, will necessarily think himself obliged to destroy the former, and to prevent the cavity, formed by the latter, from filling up too hastily. On the other hand, he who considers this matter as it really is; that is, he who regards the cavity of the abscess as being principally the effect of the gradual distraction and separation of its sides, with very

little loss of substance, compared with the size of the said cavity; and who looks upon the induration round about, as nothing more than a circumstance which necessarily accompanies every inflammation in membranous parts, more especially in those which tend to suppuration; will, upon the smallest reflexion, perceive, that the dressings applied to such cavity ought to be so small in quantity, as to permit nature to accomplish that end which she always aims at as soon as the matter is let out (I mean, the approach of the sides of the cavity toward each other); and that such small quantity of dressings ought to consist of materials proper only to encourage easy and gradual suppuration.

This is a fact so obvious to common sense, that it must appear to every one who will coolly and impartially consider it.

What is the part in which the disease is seated? and what are the alterations which such disease produces? The part is mere cellular membrane; and the alteration is obstruction and inflammation, ending in the formation of matter. But do these create any new body? do not the sides of the abscess still remain cellular and adipose membrane, only inflamed, thickened, hardened, and rendered purulent? can such alteration require any thing more toward restoring the parts to a natural state, than a free suppuration from the parts so altered? or can it make extirpation or destruction necessary? Most certainly it cannot. How then is suppuration to be

produced and maintained? Not by thrusting in such applications, as by their quantity distend, and by their quality irritate and destroy; but by dressing lightly and easily with such as appease, relax, and soften.

The fact is capable of experiment; and every man who will make it, that is, who will try the different methods, and attend to the consequences, must be able to determine it; unless blinded by prejudice, or influenced by a worse motive.

A moment's attention to the conduct of nature, when left to herself, and not interrupted by art, will, perhaps, set this matter in a clearer light.

When an abscess of this kind is opened by a surgeon, the cavity is found proportioned to the contents; and, consequently, if the quantity of matter be large, the hollow is considerable. If this hollow be immediately filled with dressings (of any kind), the sides of it will be kept from approaching toward each other, or may even be further separated. But if this cavity be not filled, or have little or no dressings of any kind introduced into it, the sides immediately collapse; and coming nearer and nearer, do, in a very short space of time, convert a large hollow into a small sinus. And this is also constantly the case, when the matter, instead of being let out by an artificial opening, escapes through one made by the bursting of the containing parts.

It is indeed true, that this sinus will not always (and particularly in the disease I am

now speaking of) become perfectly close, and heal; but the aim and conduct of nature is not, therefore, the less evident; nor the hint, which art ought to borrow from her, the less palpable.

In this, as in most other cases, where there are large sores, or considerable cavities, a great deal will depend on the patient's habit, and the care that is taken of it: if that be good, or if it be properly corrected, the surgeon will have very little trouble in his choice of dressings; all that he will have to do will be, to take care that they do not offend either in quantity or quality: but if the habit be bad, or injudiciously treated, he may use the whole farrago of externals, and only waste his own and his patient's time.

In short, all these cases are, at first, mere abscesses; the consequences of inflammation, and require no other treatment than what would be proper in the same kind of case in all other parts. Some few of them are so circumstanced, with regard to the intestine, that it is quite unnecessary to meddle with it at all: but whether that be the case, or not; whether the division of the rectum become a necessary part in the cure, or not; they, most certainly, do not deserve the name of fistulæ, nor require that sort of treatment which fistulæ are said and thought to stand in need of; though by being, from their very first appearance, supposed to be such, they are frequently, by mismanagement, rendered truly fistulous.

By this (that is, by light, easy treatment), large abscesses formed in the neighbourhood of the rectum will sometimes be cured, without any necessity occurring of meddling with the said gut. But it much more frequently happens, that the intestine, although it may not have been pierced or eroded by the matter, has yet been so stript or denuded, that no consolidation of the sinus can be obtained, but by a division; that is, by laying the two cavities, *viz.* that of the abscess and that of the intestine, into one.

The necessity of doing this, may, in many cases, be known by the surgeon at first; that is, when he opens the abscess he may find the intestine so bare, and in such state, as plainly to prove that he will not be able to effect a cure without the operation: in other instances, he may have reason at first to flatter himself with success, and be disappointed.

When the former is the case; when the gut is found to be in such state, that there is no reason to expect a cure, without its being divided; that operation had better (on many accounts) be performed at the time the abscess is first opened, than be deferred to a future one. For if it be done in the manner in which, I will venture to say, that it always may, it will add so little to the pain which the patient must feel by opening the abscess, that he will seldom be able to distinguish the one from the other, either with regard to time or sensation: whereas, if it be deferred, he must either be in continual ex-

pectation of a second cutting, or feel one at a time when he does not expect it.

The intention in this operation is to divide the intestine rectum from the verge of the anus up as high as the top of the hollow in which the matter was formed; thereby to lay the two cavities of the gut and abscess into one; and by means of an open, instead of a hollow or sinuous sore, to obtain a firm and lasting cure.

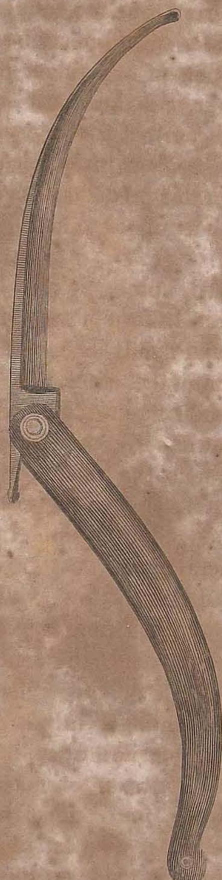
Ingenious, mechanical, and whimsical people[c] have often busied themselves in inventing instruments for this purpose: the syringotomy, the cultellus falcatus, the probe-razor, &c. have all at times been in use; scissors also of various kinds, both straight and crooked, have been employed in this operation: the three first may be made to serve the purpose very well; but for the last (the scissors), there is in this, as well as in almost every operation in which they are frequently used, a palpable objection; *viz.* that by pinching at the same time that they cut, they occasion a great deal of unnecessary pain. They are, I know, in great use with many, who if they were deprived of their probe-scissors, would think themselves incapacitated from doing business; but they are, upon all occasions where mere division is required, a very bad instrument: they may assist an aukward or an unsteady

[c] The late Mr. Freeke invented an instrument for this purpose; but it was, upon trial, found to cut the operator's finger with so much more certainty than the patient's intestine, that it has long been laid aside.

hand, but are more fit for a farrier than for a surgeon.

In all chirurgic operations, the instrument made use of cannot be too simple, nor too keen; and, if possible, should never be out of the sight or the direction of the finger of the operator; and, whenever it is (as must sometimes necessarily be the case), it is liable to some degree of uncertainty. Scissors introduced into the rectum are always in this predicament; and are, therefore (as well as on account of their pinching quality) bad.

The curved, probe-pointed knife, with a narrow blade, I have always found to be the most useful and handy instrument of any. This, introduced into the sinus, while the surgeon's fore-finger is in the intestine, will enable him to divide all that can ever require division; and that with less pain to the patient, with more facility to the operator, as well as with more certainty and expedition, than any other instrument whatever. If there be no opening in the intestine, the smallest degree of force will thrust the point of the knife through, and thereby make one: if there be one already, the same point will find and pass through it. In either case, it will be received by the finger in ano; will thereby be prevented from deviating; and being brought out by the same finger, must necessarily divide all that is between the edge of the knife and the verge of the anus: that is, must by one simple incision (which is made in the smallest space of



time imaginable) lay the two cavities of the sinus and of the intestine into one.

Authors make a very formal distinction between those cases in which the intestine is pierced by the matter, and those in which it is not; but although this distinction may be useful when the different states of the disease are to be described, yet in practice, when the operation of dividing the gut becomes necessary, such distinction is of no consequence at all; it makes no alteration in the degree, kind, or quantity of pain which the patient is to feel; the force required to push the knife through the tender gut is next to none; and when its point is in the cavity, the cases are exactly similar.

This is the only operation which (in the circumstances under our present consideration) ever can be necessary; and this appears to me to be the safest, easiest, and most expeditious method of performing it.

I know that it is contrary to the opinion and practice of many who think that the removal of some part, both of the intestine and of the verge of the anus, is necessary in these cases; but long and repeated experience has convinced me of the contrary; and I shall, in the next section, have occasion to speak more particularly to that point.

Immediately after the operation, a soft dossil of fine lint should be introduced (from the rectum) between the divided lips of the incision; as well to repress any slight hæmorrhage, as to prevent

the immediate re-union of the said lips; and the rest of the sore should be lightly dressed with the same. This first dressing should be permitted to continue, until a beginning suppuration renders it loose enough to come away easily; and all the future ones should be as light, soft, and easy as possible; consisting only of such materials as are likely to promote kindly and gradual suppuration. The sides of the abscess are large; the incision must necessarily, for a few days, be inflamed; and the discharge will, for some time, be discoloured and gleety. This induration, and this sort of discharge, are often mistaken for signs of diseased callosity, and undiscovered sinuses; upon which presumptions, escharotics are freely applied, and diligent search is made for new hollows: the former of these most commonly increase both the hardness and the gleet; and by the latter new sinuses are sometimes really produced. These occasion a repetition of escharotics, and, perhaps, of incisions; by which means, cases which at first, and in their own nature, were simple and easy of cure, are rendered complex and tedious.

That this is the truth, without exaggeration is well known to many; and whoever will look over the writings of some of our immediate predecessors, or even of some of our contemporaries, will find that immediately after pinching and snipping the gut with scissors, we are directed to fill the incisions with lint; and, after having distended the cavity by such means, to dress in

future with such medicines as, though used under the specious names of digestives, detergents, &c. do really inflame and irritate the parts to which they are applied, and retard, instead of encouraging, a kindly suppuration.

Among these, the mercurius præcipitatus ruber stands principal: this seems to have been the great external specific of most of our immediate predecessors, and to have been used by them for the very different purposes of destruction and restoration. With this, either in dry powder, or mixed with unguent, the tents, pledgets, &c. with which they dressed these sores were spread or embued: with this they dressed the recently-divided lips of the wound in the intestine, and with this they filled the whole cavity of the abscess.

That the same practice still too much prevails, they who please may be convinced [d].

I would beg leave to ask any patron of this method of dressing, what he would say to a man, who shall order a large tent, well charged with præcipitate, to be thrust up the undivided, unwounded rectum of a person, who, from any cause whatever, had an inflammatory defluxion on the hæmorrhoidal vessels and inside of the said gut? Would he not say that such tent would prove a fatiguing, inflammatory suppository? and would he not be right in saying so?

[d] Mr. De la Faye says—" Si les chairs s'elevent trop, on les consumera avec la pierre infernale ;" and in many books of reputation, the butyrum antimonii, the trochisci e minio, the pulvis angelicus, &c. are prescribed for frequent use.

Is then the rectum rendered less sensible, and less irritable, by being wounded? Or can that very application, which proves a painful stimulus to a gut not divided, become an easy digestive to one that is? If any man thinks that it will, I would advise him to make the experiment on himself; and I would then appeal to the testimony of his own unprejudiced sensations.

In short, to quit reasoning, and speak to fact only: In the great number of these cases, which must have been in St. Bartholomew's hospital, within these ten or twelve years, I do aver, that I have not met with one in the circumstances before described, that has not been cured by mere simple division, together with light, easy dressings: and that I have not, in all that time, used, for this purpose, a single grain of præcipitate, or of any other escharotic.

Why is it that we hear so much of miracles performed by the paste of one quack? and by the injections, oils, and balsams of others? when we all know, that there is nothing specific for the cure of this disease in their compositions; and when we also know that the venders of these remedies are people whose ignorance in matters of physic and surgery is below all notice.

That these cures are much more frequently talked of than made, I well know; but that some few people, who have been long and unsuccessfully treated by surgeons, have got either well, or better, under the very negligent management

of some of these quacks, is an incontestible truth; and very strange it is, that we do not see why.

Fas est et ab hoste doceri.

The truth is; that, while we are looking for what these people do, we (if I may be allowed the phrase) overlook what they do not do. It is true, we cannot find any specific quality in the strange jumble of ingredients which they put into their internal remedies; nor any particularly sanative one in their injections, balsams, &c. and therefore are surprized at even the few instances of their success: but still overlook the one single circumstance by which the good is produced.

It is, and ever must be, a first principle in quackery, to disapprove and condemn whatever has been done before, be it right or be it wrong; and it is also necessary for quacks, to avoid all connexion with those who are called Regular Practitioners; as well in order to have the sole management of the patient, as to avoid inspection.

For these reasons, they always order all former dressings to be immediately thrown aside and disused; and not having in general ingenuity enough, even to seem to apply others with any degree of judgment or dexterity, they make use of a mere superficial plaster, ointment, or injection: that is, without intending any such thing, upon an honest or a rational principle, they, for

want of knowing what to do properly, leave the conduct of the sore to nature; who, when the impediment of dressings (which often offend either in quantity or quality) are removed, will do much more than her too-officious assistants believe.

That the very few cures, which we have heard so much of, are produced in this manner, I am convinced; and so I am, that many of those which are thought by several practitioners to have been brought about by a multiplicity of dressings crammed in tight, and endeavoured to be kept so, by all the caution of compress and bandage, are very frequently effected by the constant and generally successful endeavours of nature to thrust them forth again; or at least, so to displace them, that she gradually gets opportunities of doing her own business, in spite of the impediments of art. The business of good surgery is to assist nature; but she will, sometimes, get the better even of the worst.

Usque recurret,
Et mala perrumpet furtim fastidia victrix.

SECT. V.

In the preceding section, I have supposed the matter of the abscess to have been formed and collected; but still to have been contained

within the cavity, until let out from thence by an incision.

I am now to consider it, as having made its own way out, without the help of art.

This state of the disease is also subject to some variety of appearance; and these different appearances have produced, not only a multiplicity of appellations, but a groundless supposition also of a variety of essentially different circumstances.

When a discharge of the matter by incision is too long delayed or neglected, it makes its own way out, by bursting the external parts somewhere near to the fundament, or by eroding and making a hole through the intestine into its cavity; or sometimes by both. In either case, the discharge is made sometimes by one orifice only, and sometimes by more. Those, in which the matter has made its escape by one or more openings, through the skin only, are called blind, external fistulæ; those in which the discharge has been made into the cavity of the intestine, without any orifice in the skin, are named blind, internal; and those which have an opening both through the skin, and into the gut, are called complete fistulæ.

This is the language of all writers, as I have already observed; and thus, all these cases are deemed fistulous, when hardly any of them ever are so; and none of them necessarily. They are still mere abscesses, which are burst without the help of art; and, if taken proper and timely

care of, will require no such treatment as a true fistula may possibly stand in need of.

The most frequent of all are what are called the blind external, and the complete. The method whereby each of these states may be known, is, by introducing a probe into the sinus by the orifice in the skin, while the fore-finger is within the rectum: this will give the examiner an opportunity of knowing exactly the true state of the case, with all its circumstances.

Whether the case be, what is called a complete fistula, or not; that is, whether there be an opening in the skin only, or one there, and another in the intestine, the appearance to the eye is much the same. Upon discharge of the matter, the external swelling subsides, and the inflamed colour of the skin disappears; the orifice, which at first was sloughy and foul, after a day or two are past, becomes clean, and contracts in size; but the discharge, by fretting the parts about, renders the patient still uneasy.

As this kind of opening seldom proves sufficient for a cure (though it sometimes does), the induration, in some degree, remains; and if the orifice happens not to be a depending one, some part of the matter lodges, and is discharged by intervals, or may be pressed out by the fingers of an examiner. The disease, in this state, is not very painful; but it is troublesome, nasty, and offensive; the continual discharge of a thin kind of fluid from it, creates heat, and causes excoriation in the parts about; it daubs the linen

of the patient; and is, at times, very fetid: the orifice also sometimes contracts so, as not to be sufficient for the discharge; and the lodgment of the matter then occasions fresh disturbance.

The means of cure proposed and practised by our ancestors were three; *viz.* caustic, ligature, and incision.

The intention in each of these is the same; *viz.* to form one cavity of the sinus and intestine, by laying the former into the latter.

Fear of hæmorrhage, in making a large division of parts, and a design to destroy callosity, gave rise to the use of caustics for this purpose. By the introduction of them in different forms and manners into the sinus, that part of the intestine which divides its cavity from that of the abscess is intended to be destroyed; and thereby the proposed end of making one cavity of two is to be accomplished; while at the same time the supposed callosity is to be wasted. For this purpose, some of the most fatiguing and painful escharotics have been prescribed and used; the pulvis angelicus, the lapis infernalis, and troches and pastes made with sublimate, arsenic, &c. But the method is so cruel, so tedious, and so inexpert, that I hope it is by this time totally out of use: it was founded in error, tends only to mischief, and I will not waste the reader's time in saying any thing more about it[f].

[f] Dr. Daniel Turner, who practised surgery within these few years, used this method in its full extent. In his works may be found an account of his forming tents of the trochisci

The terror which a cutting instrument necessarily carries with it, the fear of a flux of blood from some considerable vessels, together with a strange, nonsensical opinion, that a gradual division of the parts was followed by a more sound cure, than an immediate one by cutting, produced the coarse, unhandy method by ligature. The manner of using it was this: A probe, or needle (according to the complete or incomplete state of the supposed fistula), armed with a strong ligature, was introduced, either naked or in a cannula, by the orifice in the buttock, and brought out at the anus, by the operator's finger: when that was done, the two ends of the said ligature were tied together, in such manner, and at such repeated times, as by degrees to cut through all that was between its loop and its knot; that is, all that part of the intestine which was next to the sinus.

e minio, and thrusting them into the sinus, there to remain till they had produced a sufficient eschar. In the same writer are accounts of strong probe-scissors, made to cut through parts of a considerable thickness, and where the external orifice was at a great distance from the anus; and of an iron scoop, made (to use the doctor's own words) like a cheese-monger's taster, to be thrust up the rectum, and assist in the division of it. What ideas this gentleman had of the disease, or of human sensation, I cannot imagine. The same gentleman, speaking of the use of this iron scoop, tells us, that when he used it on one particular patient, the man thought that the Doctor was only thrusting up the dressings. It is no difficult matter to conceive what kind of dressings this man must have been accustomed to, who could not distinguish between the application of them, and the thrusting up an iron scoop.

Among writers on this subject will be found very formal directions about the proper time of the year for performing this operation; as well as concerning the proper materials wherewith to make the ligature. But as the whole operation is, on every principle of ease, expedition, safety, or certainty, unfit for practice, it would be an abuse of the reader's patience to dwell any longer upon it[g].

The third method is that by incision.

I have already given my opinion on what appears to me to be the best and most proper method of dividing the intestine, in the case of a collection of matter formed juxta anum.

The intention to be aimed at by incision in the present case, is exactly the same, and (I think) ought to be executed in the same manner. I never saw that any other kind of operation was necessary; I have not for many years performed any other; and I do not recollect a single instance in which it has failed to pro-

[g] See Celsus, whose account of the method by ligature has been followed by most of the writers since. "In has "demisso specillo, ad ultimum ejus caput incidi cutis debet; "dein novo foramine specillum educi lino sequente; quod in "aliam ejus partem, ob id ipsum perforatam, conjectum sit: "ibi linum apprehendendum, ligandumque cum altero capite "est; ut laxe cutem, quæ super fistulam est, teneat: idque "linum debet esse crudum, et duplex, triplexve, sic tortum "ut unitas in eo facta sit. Interim autem licet negotia agere, "ambulare, lavare, cibum capere, perinde atque sanissimo," &c.

duce a cure, in such cases as were curable by any means.

If, therefore, I intended to give my own opinion merely on this subject, I should say, the same division of the intestine, and with the same instrument, is all that is required; and, referring my reader back to the preceding section, should give him no further trouble on this head. But as I find my sentiments in this matter are somewhat different from those of many, I must beg leave to be indulged in the use of a few words.

I have said, that in whatever manner, or with whatever instrument, the intestine be divided, the intention is the same; *viz.* to lay the cavity of the abscess into that of the gut, and thereby to convert a hollow sinus sore into an open one; preventing, by the same means, the future lodgment of matter, and giving room for the application of proper dressings.

The two cases (a collection of matter, and a sinus) seem to me to require exactly the same treatment; and I have never found it fail of being equally successful in both; that is, I never found that the matter, having found its own way out, made any other operation on the gut, except the mere simple division, at all necessary.

But it is said, and that by authors to whom great regard is due, that this is not all that is requisite, especially in the present circumstances; that this will not produce a cure, or assure suc-

cess; that mere division of the intestine is not sufficient; and that, unless we cut out, remove, and extirpate a portion both of the said intestine, and the skin constituting what is called the verge of the anus, a firm and lasting cure will not follow. This is the doctrine of writers of eminence, and the practice of a large body of surgeons.

When I have mentioned the names of Cheselden, De la Faye, and Le Dran, I need not cite any others of less note. The first of these was a gentleman whose reputation in his profession was great; the two latter are in as high character now in France. The influence of these upon their readers must be considerable; and therefore it becomes a matter of the more importance that their doctrine be just and defensible.

The methods which these gentlemen have proposed, and which have been by many adopted, are somewhat different from each other, but do all tend to the same purpose; are all calculated to prevent imaginary evils; and are all productive of real ones.

Mr. Cheselden, in the last edition of his Anatomy, says:—" The true fistula runs be-
" tween the muscular and inner coat of the
" rectum: it is cured by opening it the whole
" length into the cavity of the gut; but it is yet
" better, if it can be done, to extirpate all that
" is fistulous and scirrhous; for that is a sure way
" to make one operation perfect the cure."

In his Observations, published at the end of Mr. Gataker's translation of Le Dran's surgery, Mr. Cheselden describes a method of his own inventing, by the introduction of one blade of a pair of polypus-forceps into the sinus, and of the other into the rectum; by which means, a certain portion of the intestine is held fast between the chops of the instrument, in order to be cut out with the scissors.

After having given an explanation of a plate, designed to represent the forceps introduced in such a manner as to hold the piece of intestine fast, he adds:—" I formerly cut out a pyramidal " piece in the manner here described; but I find " this way with the forceps much more conve- " nient, and more easy to be executed."

How much this method may be preferable to that which Mr. Cheselden used to practise, I know not; but I will venture to say, that this more easy method is horridly painful, is operose, and absolutely unnecessary towards obtaining a cure.

The wound, that is, the orifice of the sinus in the buttock, is, by Mr. Cheselden's direction, to be first dilated with a sponge tent; then one of the blades of a pair of large polypus-forceps is to be thrust up the sinus, while the other within the intestine pinches it between them; and then this piece so pinched is to be snipped out by the repeated attacks of a pair of scissors. A very tedious and very painful operation this must necessarily be; and, by Mr. Cheselden's

own account, not always successful: for although he does say—"The operation being thus "performed, I have never found wanting a "second cutting;" yet he immediately adds—"If, after this operation, there is still an in-"ternal discharge into the gut, it may be an "useful issue; and continue the benefit which "nature designed by the disease[h]. We should "also be very careful not to perform it when "the patient is troubled with the piles; for "I have known one in that case bleed to "death."

It would be no difficult matter to make great objections to this method of operating, even if the one thing intended by it was necessary; I mean the extirpation of a portion of the rectum. This end might certainly be obtained by easier means: but as that is not the case, as such extirpation appears to me to be totally unnecessary, I shall not enter into it.

Mr. De la Faye, a practitioner and writer of eminence in France, and a gentleman to whom the chirurgic world is much indebted, is a warm patron of the practice of cutting away both a

[h] This is a method of making an issue to which few people would (I believe) choose to submit; especially if they consider that they might have enjoyed all the benefit of it, without any operation at all; merely by leaving their disease to nature. The same gentleman, speaking of the intestine rectum, tells us, that he once applied a caustic lengthways on the inside of the inverted gut, to cure a prolapsus; and adds, that it proved successful. This I am almost sorry for, lest Mr. Cheselden's authority should tempt any other person to make the same attempt.

part of the intestine and of the skin composing the verge of the anus. After the external incision, necessary for letting out the matter, has been made, he says—"Si les pus a fait un "progrés considerable du coté de la fesse, on y "fera une autre incision, qui tombera perpen-"diculairement sur l'incision longitudinale; on "coupera les angles formez par ces incisions, "pour rendre l'exterieur de la playe plus large "que le fond, et pour panser plus aisement." 'If the matter has extended itself considerably 'toward the buttock, another incision should 'be made, in such manner as to cross the 'former; the angles formed by which incisions 'should be cut away; as well to render the 'external part of the wound larger than the 'internal, as to give room for the more con-'venient application of dressings to the sore.'

If Mr. De la Faye had ever, in his own person, had the misfortune to experience the inconvenience arising from the loss of skin near to the fundament; or had he attended to that which it produces to those, who either from choice, or necessity, ride or walk much, I am inclined to believe he would have been more sparing of it.

For the first three or four days, this kind of incision does, certainly, render the applications of dressings more convenient; because the wound is thereby considerably enlarged: but as soon as digestion has softened the edges of the single perpendicular incision, that difference ceases; and the dressings may be applied with equal facility to the one as to the other.

After this period is past, the difference between the two is, indeed, much more considerable; the cutting away the angles, adding not a little to the length of time requisite for a cure; rendering the sore much larger and more troublesome; and subjecting the patient, very often, to great inconvenience, arising from the kind of cicatrix which it necessarily produces.

Mr. De la Faye, after having described the manner of passing the probe, or the sulcated director, in order to make a simple longitudinal division of the intestine, adds—" On ne se " contente pas aujourdhui de couper la fistule " entre les deux extremités du stilet; on fait une " incision qui renferme dans son circuit ces deux " extremités: et par le moyen de laquelle, en " les tirant en meme temps, on emporte toute la " fistule, qui se trouve comme embrochée dans " l'anse formée par cette instrument[i]: on fait

[i] It might be supposed, from the manner in which this is delivered, that the method was a modern invention: whereas it is, on the contrary, a very old one. Guido's description of it is as follows:—" Penetrantes fistulæ (secundum Rhazin) " non sananter, nisi cum ligatione, et extractione cum falce.

" Modus incisionis cum falce est, quod extrahatur cum " chordula immissa extra quantum possibile erit intestinum " comprehensum per ipsam chordulam; et post intromittendum " positum ab Albucasi bene scindens; totum illud, quod com" prehensum est cum chordulâ scindatur; ita, quod chordula " expediatur." GUIDO.

So also Brunus, having described the method by ligature, goes on to that by incision.

" Operatio autem secundi modi est, ut non stringatur spacus " [the ligature] sicut narratum est ad incidendas carnes, sed

" ensuite, a la partie inferieure de la playe, une
" incision, qui sert comme de goutiere á la
" suppuration." The present practitioners 'do
' not content themselves with merely dividing
' the sinus; but making use of the probe as a
' kind of loop, they pull the parts towards them,
' and then, by a free and almost circular incision,
' cut out the whole fistula; after which they
' make such an incision in the lower part, as
' may best serve the purpose of a free discharge
' of matter.'

This method, as far as regards the mere operation, is certainly preferable to that with the forceps and scissors; but it produces the same destruction of the parts, and the same future inconveniences; like that, it is built upon a supposition, that such a removal of parts is necessary toward a cure; and therefore, like that, stands upon a supposition which is not true.

The same gentleman, in another paragraph, admits, that this method of operating is not pro-

" ligentur tantum ipsius extremitates simul, et ut sit iste spacus
" fortior et grossior illo qui carnes incidit, deinde extende
" spacum cum unâ manuum tuarum versus exteriora, et cum
" alterâ manu tuâ incide illas carnes quæ sunt inter illas duas
" extremitates, spaci, cum instrumento curvæ extremitatis."

This is exactly, what is now by some called Cutting upon the Wire; and I have seen in the hands of a very ingenious gentleman a single instrument, very capable of executing all this purpose; that is, of cutting out ten times as much as ever can be necessary.

The same account is to be found in Lanfranc, Rogerius, and most of the old writers; who in this, as in most other instances, have done little more than copy each other.

per in certain circumstances (which circumstances cannot possibly render the disease easier of cure); and in such case advises the mere longitudinal section of the gut.—" Neanmoins, le " canal fistuleux pourroit etre si profond, ou le " trou exterieur de la fistule dans un lieu de la " fesse si eloigné du fondement, qu' en faisant " l'operation de la maniere qu' on vient de decrire, on emporteroit une trop grande portion " de la substance. En ce cas on ouvre sur une " fonde canelée la fistule dans sa longueur," &c. ' Nevertheless, the fistulous hollow may be so ' deep, or the external orifice in the buttock at ' such distance from the anus, that, if the operation be performed in the manner just described, ' it would occasion too large a loss of substance. ' In this case, the sinus must be opened lengthways by means of a grooved director.' Mr. De la Faye does not indeed say, in express terms, that this longitudinal division will be sufficient for a cure; but I will venture to say for him, that I know, from repeated experience, that it will. The observation, therefore, which this gentleman has made, concerning the loss of substance, is not only just and true in itself; but it is also an observation, which, if properly attended to, will lead to a truth which he does not seem to have been sufficiently apprised of; which is, that every operation of this sort (that is, every extirpation of parts) is unnecessary, and therefore wrong. Large hollows, in which considerable quantities of matter have been formed; whose extent, with regard to the intestine, is deep;

and whose orifice is in the buttock, at a distance from the anus, have always more induration about them, and discharge a larger quantity of gleet, than those which are smaller, more shallow, and thinner; and whose matter has burst its way out, by an opening near to the fundament. If the former then are curable by a mere longitudinal division of the intestine, without excision, which Mr. de la Faye, by his prescription, in some measure allows (and which is a truth beyond contradiction or contest); surely extirpation must be unnecessary in the latter. It can hardly be supposed, that nature will be able to do more in cases attended with increased difficulties and impediments, than in those where every circumstance is more favourable, every hindrance less. And yet, whoever cuts away a portion of the intestine in the latter, and omitting, or not performing such operation in the former, finds that they will do well without it, must reason in that manner, and shut his eyes against conviction.

Mr. De la Faye is indeed sensible of the ill consequences which such treatment produces, and has endeavoured to guard against them as well as he can: but whoever has been so unfortunate as to have been so treated, knows that all these precautions are, in general, ineffectual: his words are—"Lorsqu'on a coupé dans l'operation
"une portion considerable du bord de l'anus, &
"que les chairs commencent à remplir le vuide,
"il faut mettre dans l'ouverture de cette partie
"une tente, un peu courte, qui en empechant

" le retrecissement lui conserve son diametre."—
' When a considerable portion of the verge of
' the anus has been cut away in the operation,
' and new flesh begins to fill up the void space,
' a short tent should be introduced into the
' part, in order to hinder the fundament from
' contracting in its diameter;' but which it will
often do, in spite of all the tents in the world.

Mr. Le Dran, a writer and practitioner of considerable figure in Paris, and whose works have been translated into English by Mr. Gataker, is very particular with regard to this disease, and the method of treating it; and is also an advocate for this exscinding scheme, even more than Mr. De la Faye.

This gentleman uses the term fistula, without any regard to the date of the disease, or any attending circumstances, except the common and almost necessary appearances when an abscess of this kind has been suffered to burst; *viz.* a small orifice, some degree of induration, and a discharge of fæcal matter: all which are circumstances that necessarily accompany every abscess formed in the neighbourhood of, and piercing, the rectum; and this, at the very first hour, full as much as at any time after. So that, according to this manner of using the term, an abscess so circumstanced, and a fistula, are synonymous: which I apprehend cannot be, without confounding together two things materially and essentially different from each other. He says—" Je vois un petit trou a coté
" de l'anus, je sens des callosités autour, et je

" vois sortir par ce trou une assez grande " quantité de pus; je conclus que c'est une " fistule qui peutêtre interesse l'intestin rectum. " Je vois sortir, par ce trou, un peu de matiere " stercorale delayée; ou bien le malade me " dit, qu'il en sorte quelquefois; je ne doubte " plus que le boyau ne soit percé; et je dis que " ce'st un fistule complette."—' When I see a ' small orifice by the side of the anus, and per- ' ceive a hardness round about it, and find that ' it discharges a large quantity of matter, I ' conclude that it is a fistula, which most pro- ' bably affects the rectum. When I find some- ' thing like fæces discharged from this orifice, ' or mixed with what is discharged from it; ' or the patient informs me that such kind of dis- ' charge is made; I call the disease a complete ' fistula.'—This is, undoubtedly, the general custom; notwithstanding which, the disease, in the state Mr. Le Dran has described it, may have no one true characteristic of a fistula; nor require any of that treatment which is said to be necessary and proper in such case — a matter of great consequence to the patient.

In the operative part of the treatment of the disease, Mr. Le Dran warmly espouses the free removal, or extirpation of parts.—" S'il ne l'est " que d'une coté, il faut emporter ce qui est " denué; certain que si l'on le laisse, la playe " restera fistuleuse; et que si l'on se contente " de le fendre, les deux lambeaux flottans, dans, " la playe rendront les pansemens très difficiles, " et meme la playe fistuleuse."—' If the dis-

'ease be on one side only, all that part of the 'intestine, which is laid bare by the matter, 'ought to be cut away; because it is certain, 'that if such part be left in the wound, it will 'become fistulous; and that, if we only make 'a simple division, the divided lips will hang 'loose and floating in the wound; will render 'the application of dressings difficult; and make 'the sore fistulous.'

These are Mr. Le Dran's words and sentiments; and this the method of practice which is taught and followed by the majority.

That some small part of this process may be necessary in the true, old, callous, fistulous sore, I do not deny (though not even then in any degree equal to the above direction); but that the whole of it is absolutely unnecessary in the recent abscess, I can, from repeated experience, venture to affirm. That mere division of the naked intestine (if such division be dressed properly) will not render a sinus fistulous which was not so before, is a truth as clear as any in Euclid; and, indeed, it is to me matter of wonder how such opinion could ever be embraced. The division of the intestine, by laying the cavity of the sinus open, destroys or removes the principal circumstance which can make such a case resemble a fistula, by converting a hollow sinous ulcer into an open one; and with regard to the other characteristic, induration, certain it is, that if the knife does not find the parts hard, it cannot possibly make them so: on the contrary, it puts them under a necessity of under-

going such a degree of suppuration, as, if properly managed, will prove the cure of that very induration.

Mr. Le Dran says, "That the lips of the "wound will hang floating; will render the "dressings difficult, and the sore fistulous." I think I understand what Mr. Le Dran means: the tumid lips of the recently-made incision will certainly be a hindrance to the cramming in a quantity of dressings; and such attempts will, as certainly, increase the tumefaction and hardness; and, if persisted in, with the help of a little escharotic, may bid fair for producing a callous sore: but all this lies at the door of the surgeon, and not of the case: all this is unnecessary, improper, and pernicious. I cannot, under such treatment as I would call good surgery, conceive the tumefaction and inflamed state of the lips of the divided gut to remain more than a few days; during which time, it must be the business of art to appease, relax, and produce suppuration; which, if properly executed, will infallibly prevent all tendency towards a fistulous sore, instead of producing one.

That the lips of the wound in the rectum will not separate from each other, in such manner as to admit a large quantity of lint; and that the membranous structure of the part will render such lips large, and subject to inflammation, until some degree of suppuration comes on, is beyond all doubt; but neither of these are reasons for extirpation: for the inflammation will be full as high where a piece is cut out, as where the

part is merely divided, and all the symptoms of pain and uneasiness full as great, if not greater: and with regard to the impracticability of putting in a quantity of dressing, I repeat, that it is not at all necessary; but that, on the contrary, it is wrong, and tends only to mischief. A dossil or two of fine lint should, immediately after the incision is made, be placed between the divided lips, by passing them from the cavity of the rectum laterally into the cavity of what before such division was the sinus: these should not be removed, until either the begining suppuration, or the necessary action of the gut in going to stool, throws them out; when their place should be supplied with others of equal size, imbued with an easy soft digestive.

If the patient be in health, the lips of this wound, like those in all other membranous parts, after they have been crude, tumid, and inflamed, and have for a few days discharged a thin, discoloured kind of gleet, will begin to suppurate: if such suppuration be by proper, that is, by soft, gentle treatment, encouraged, not only the tumefaction and inflammatory hardness brought on by the incision will soon subside and disappear, but also all the induration which attended the sinus before it was laid open.

On the other hand, if the patient's habit be bad, and no such inflammatory tumefaction succeed to the incision, but instead of it the lips of the wound are soft, flabby, and inclining to be livid, the case has undoubtedly an unpromising appearance; but the remedy is not chirurgical.

Removal of parts will not remove or amend this state of the sore, or at all lessen the hazard arising from it: it may indeed render the introduction of dressings somewhat more easy; but it neither will, nor can make such dressings at all more effectual, or more conducive to the one end which ought to be pursued.

In such case, the remedy must be an internal one; and whoever depends upon externals will give his patient much unnecessary trouble, and only waste his time.

The truth is, this doctrine of the necessity of cutting out a portion of the intestine (though it is as old, or perhaps older, than Celsus[k]) is almost a necessary consequence of the manner in which these sores (upon a supposition of their being fistulous) almost always have been, and do still continue to be, generally treated.—I mean, the custom of cramming them full of lint, and of charging that lint with medicines, which, though used under more gentle appellations, are really escharotics.—Upon this plan, I am willing to allow that the lips of the divided intestine will be in the way, and prove a considerable impediment in the introduction of such dressings; and I will also allow, that by means of such medicines, the whole wound will be irritated, in-

[k] 'In hoc genere demisso specillo, duabus lineis incidenda 'cutis est, ut media inter eas habenula tenuis admodum 'injiciatur, ne protinus ora coeant, sitque locus aliquis lini'mentis, quæ quam paucissima superinjicienda sunt, omnia'que eodem modo facienda, quæ in abscessibus posita sunt.'

CELSUS.

flamed, and hardened; and so far wear the appearance of being fistulous, as neither to yield good matter, nor be disposed to heal; at least, not till nature has got the better of the surgeon.

What Mr. Le Dran says, in another paragraph of the same tract, may serve to strengthen what I have asserted.—" S'il est denué des deux cotés, " il faut, pour le conserver, faire à l'autre fesse " une contreouverture, pres de là, et la faire assez " longue pour pouvoir panser commodement; " puis ecouter ce que la nature fera pour lui."— ' If the gut be denuded on both sides, a counter-' opening should be made on the other side, ' long enough to permit, conveniently, the ' application of dressings; and then we should ' wait, and see what nature will do toward ' assisting the patient.'

A very important piece of advice this; worth all the directions for the extirpation of parts; and which, if timely and duly attended to, will, generally, render all such directions quite unnecessary.

It is, indeed, somewhat remarkable, that the same gentleman should give the above very excellent advice, and, almost in the same breath, add what follows.—" S'il est denué exactement " dans toute sa circonference, et que son de-" pouillement ne s'etend pas plus haut que les " releveurs de l'anus, il faut emporter tout ce qui " est denué."—' If the intestine be bared by the ' matter all round, and this denudation does not ' extend above the levatores ani, all that part which

'is so bared, should be extirpated.' That is, the whole verge of the anus; all that part which is so formed by nature, as by its relaxation to permit the largest and most solid stool to pass out; and by its constriction, to detain and keep in, for a while, the most fluid, sharp, and stimulating one; all that part which, when destroyed or removed, not only never can be renewed, but never can have its place supplied, nor its office properly executed, by what must succeed to it: surely it may, with great justice, be said, that the latter condition of a man in these circumstances is worse than the former, and that his remedy proves a most afflicting disease[1].

[1] In the Memoirs of the French Academy, is a case of this kind, related by Mr. Faget. The patient had an abscess on each side of the rectum; which, before Mr. Faget saw it, had been opened without meddling with the gut.

The two abscesses communicated by a hollow or sinus under the os coccygis; the depth in all the upper part is described to be about two inches, but in the perineum the skin only was separated; that is, the hollow was quite superficial. After five months' attendance, during which time the rectum was never divided, the patient was brought to Paris; where, in a consultation between the Messieurs Faget and Boudon, it was agreed, that the only method of obtaining a cure must be by extirpating, or cutting away, the whole extremity of the intestine, as deep as it was laid bare; which operation is thus described—"Je perçai d'abord le rectum de droit à gauche, avec un gros "stilet; avec lequel je fis l'anse. Je commençais à couper le "lambeau de peau qui tenoit au coccyx, et je continuai tout le "long d'attache des muscles releveurs jusqu' à la parte moyenne du perinée, ou il y avoit beaucoup de dureté, et de callo-

Prejudice often prevents us from seeing truth, though it stands before us: for Mr. Le Dran, though he so strongly recommends the extirpation of a portion of the intestine, yet has made the same observation on those fistulæ, which run too high for extirpation, as Mr. De la Faye: he has very justly remarked, that they will do well without such operation; and has given so good and so true an account of the matter, that it is amazing he should not see, that the same method, both of reasoning and of acting, was equally applicable to both cases; that is, to those fistulæ which do not extend so high, as well as to those which do. He says—" On trouve souvent des " sinus qui montent fort haut le long du rectum;

" sitez, que j'emportai; je pansai la playe avec un gros bour- " donnet, et des lambeaux de linge trempés dans l'eau alumi- " neuse, le tout soutenu par plusieurs compresses et un bandage " convenable," &c. Mr. Faget says, that the patient was six months longer in getting well. To which I must take the liberty of adding, that he was much more fortunate than some whom I have seen under the same treatment. The relator, in the rest of the memoir, endeavours to explain the method by which the new anus became capable of executing the office of the old one; and very justly seems to wonder, why the surgeon, who first had the care of the patient, and who first opened the abscesses, did not divide the rectum in each of them. Mr. Faget's surprise, and his censure on the operator, are certainly well founded: but I must own that it seems to me to be full as extraordinary, that he, who saw the propriety of its having been done before, should not, at least, try what it would do afterward. If this experiment had been made, and the case properly conducted, I make little doubt that the patient might have been cured without the loss of his fundament—a loss, which, though possibly in youth and health he might not be so sensible of as to alarm him, yet in age, or a state of debility, must prove a very grievous one.

" et même vers la vessie, dans la tissu cellulaire " qui entoure ces parties: sinus qui semblent " devoir rendre ces maladies incurables, parce-" qu'ils vont plus haut que le doigt ne peut " aller. Mais l'experience m'appris que ces " sinus se remplisserent presque toujours dans " les six premiers jours—ou, pour parler plus juste-" ment, que les chairs se rapprocherent, n'ay-" ant étés qu' ecartés par les pus, et non " fondues."—' Sometimes we meet with sinuses, ' which run so high in the tela cellulosa, along ' the rectum, and up toward the bladder, that ' one would be inclined to believe them to be ' incurable, from their being beyond the reach ' of the finger[m]; but I have learned from ex-' perience, that these sinuses fill up within the ' first six days—or, to speak more properly, ' that the membranes, which have been only

[m] It is hardly decent for a surgeon to say it; but I am much inclined to believe that this circumstance of the sinus being out of the reach of the finger is the very individual one on which the expedition of the cure (that is, the shortness of the time in which Mr. Le Dran says that he finds these cavities filled up) depends. For, if they were within the reach of the finger of an operator who thinks as this gentleman writes, he would immediately go to work with his instruments; and if he did nothing worse, must necessarily prolong.—It has always been a very generally-received opinion, that if the hollow of the sinus be higher than a finger in ano can reach, all chirurgic operation is fruitless. There is hardly an author ancient or modern who has not inculcated this doctrine, though daily experience might have convinced them of its falsehood.

Among the rest Heister has given us his opinion on this subject, in the most positive manner:—" Et sane nisi digitus, " in anum depressus, fistulæ os attingere valet, verum illud ' adhuc profundius latet, sine vitæ periculo, ob metum læden-

'separated, and not dissolved by the matter, 'again approach each other.' ——

Can any man give a more rational or more true account of this matter, or produce a stronger argument against cutting out a part of the

" darum venarum majorum, sectio institui nequit; adeoque " tunc parum plerumque, imo vero nihil omnino chirurgi " artificia proficiunt," &c.

This, which, as I have observed before, is the doctrine of all our writers, has always stood upon the same principle; *viz.* the fear of hæmorrhage; and all the propagators of it have always supposed, that nothing but a divison of the whole sinus could possibly produce a cure; which supposition is by no means true.

When the case is an abscess formed in the cellular membrane, the length of the sinus must be proportioned to the distance of the seat of such abscess from its external orifice: this is sometimes considerable, quite out of the reach of the finger in ano, but it does by no means follow, that either this sinus must be divided through its whole length, or that the disease cannot be cured; and therefore it is better not to meddle with it at all. Frequent experience proves the contrary. If all that part of it which is within the reach of the finger in ano (that is, all that part of it which is principally affected by the action of the muscles of the anus and rectum) be fairly divided; if the wound so made be dressed in such manner as to produce no inflammatory irritation; if it be not frequently poked into, and examined; and the patient's habit be properly taken care of, the length of the sinus will add very little to the difficulty attending the cure; all that is out of reach will collapse and heal; and the case will very soon be exactly the same, as if the whole hollow was within the finger's length.

The probability of an hæmorrhage from the large vessels about the upper part of the rectum, is a thing which ought by all means to be avoided, as it might give a great deal of trouble, and create some hazard; but the operation which would induce such apprehension being quite unnecessary, this risk is out of the question.

The last-mentioned author (Heister), although in general a very exact and careful writer, seems, in his observations on

intestine? The operator's finger cannot reach the upper part of the sinus, and therefore he cannot extirpate: but sinuses, which, by being out of reach cannot be extirpated, do well without it, merely by the help of nature; who, when the matter is discharged, and such an opening made as prevents any future lodgment, brings the sides of the cavity together, and endeavours thereby to obliterate it. It is true that she can but seldom accomplish this end entirely; I mean, throughout the whole length of the sinus; the lower part generally remaining open, though contracted to narrow compass: this it is most frequently absolutely necessary to divide, in order to obtain a cure; but that part of the said sinus (if there be any), which is out of the reach of the instrument guided by the finger in ano, is not a matter of that consequence which it is supposed to be. If the lower part, or what is fairly within reach, be divided, such division will, in most cases which are curable at all, be fully sufficient for a cure, as I have often and often experienced. I know that this is contrary to the generally-received

this complaint, rather to have copied what our predecessors have written on it, than to have given us what his own experience might have furnished him with: the latter would have convinced him, that all his preparation by bleeding, purging, &c. before the operation, is quite unnecessary; that the blind fistulæ are very little, if at all, more difficult of cure than the open ones; and that the disease in question admits of being treated and cured in pregnant women, as perfectly and as easily as in those who are not so. The contrary doctrines are certainly no rules of good practice, however venerable they may be from their antiquity.

doctrine, but I know it is true; and am much inclined to believe, that the supposition of the necessity of laying open the whole sinus, however deep it may run, has contributed greatly to the fatigue and hazard which many people have unnecessarily undergone in this disease: it has occasioned such poking with long probes, and such cramming in of tents and dressings, as have proved extremely pernicious; and brought on symptoms and trouble, which would not have attended the same cases under other management.

One word more, and I have done with this part of my subject. As I have given my opinion so freely concerning the practice of excision, a representation of the inconveniences likely to arise from it might from me be thought to be an exaggeration: I shall, therefore, take the liberty once more to quote Mr. Le Dran; who, considered as a patron of the practice, cannot be supposed to overcharge it. He says, " Cette
" grande playe sera dans les commencemens
" pancée comme les autres; mais quand les
" chairs commencent à se rapprocher, elle de-
" mande des attentions particulieres; sans les-
" quelles, l'anus deviendroit si etroit que les ex-
" cremens ne pourroient y passer; pour peu
" qu'ils ont de consistence. Il faut donc alors
" mettre jusque dans le rectum une tente de linge,
" lisse, assez longue, et assez grosse, pour en-
" tretenir le passage. Il faut même sur le fin,
" supplier à cette tente, par une espèce de sup-
" positoire d'yvoire, percé en forme de cannule;

"et avoir soin de la bien assujetir par la "bandage, a fin qu'elle ne sorte pas. La cica- "trice étant faite, il faudra que le malade porte "cette suppositoire encore pres d'un an; sans "quoi la cicatrice serreroit l'anus de plus en "plus."—'This large wound should, at the 'first, be dressed like any other; but when the 'sides begin to approach each other, it will then 'demand particular attention, lest the fundament 'should become so contracted, that the fæces, 'if they be at all hard, cannot be expelled. 'Therefore, in order to keep the passage of a 'proper size, a smooth tent made of linen should 'be introduced; which tent should be of such 'a size and length, as to serve the purpose for 'which it is intended. Toward the close of the 'cure, in the place of this, an ivory suppository, 'made in the form of a cannula, must be sub- 'stituted, and kept constantly in, by means of 'a proper bandage. Which suppository must 'be worn for near a year after the sore is per- 'fectly healed; otherwise the cicatrix will con- 'tract the anus still more and more every day[n].'

This is what is called cutting for a fistula: this is the operation which they who have undergone it do so pathetically describe and lament, and what they, who have the misfortune to be afflicted with the disease, do (from the account

[n] To which he might have added, that when all this is done, and every precaution of this kind used, the patient will always find it difficult and painful, and sometimes absolutely impossible, to retain a loose stool—an evil still greater than the trouble of expelling a hard one.

of others) so fearfully dread. It is true, that it has the sanction of several eminent writers; that it is practised by many surgeons; and that it is recommended and exhibited by anatomico-chirurgical teachers; but, notwithstanding these authorities, I shall not scruple to say, that it is cruel, unnecessary, and wrong.

That by these means abscesses juxta anum, and fistulæ in ano (as they are called), are cured, I make no doubt; nay, I know that they are: but I also know, from repeated experience, that they are curable by means which are more expeditious, more easy, and neither hazardous in the use, nor productive of evil in the event. I mean by mere simple division of all that part of the sinus which is within reach; by soft, gentle treatment of the sore after such operation; and by proper care of the habit*.

* When the habit is out of order, as it most frequently is in persons afflicted with this disorder, if recourse be not had to internals, the surgeon will gain little ground. This is a circumstance which ought always to be attended to; and it is in some measure owing to a want of due regard to it, that we find such a farrago of different dressings; such remedies for fungous, for foul, for callous sores, &c. These diseased appearances and circumstances most frequently proceeded from disorders in the habit; and if that be not corrected, the same appearances will continue, notwithstanding all our escharotics, detergents, digestives, incarnatives, &c. &c. &c.

In cold, debauched, lax, or sluggish habits, if the patient be not warmed by aromatics, and braced by the bark, these cases will often prove tedious and troublesome.

From the induration of the parts about, from the face and colour of the sore, and from the discoloured gleety discharge,

The hæmorrhage (to say nothing of the pain), which now and then attends the extirpation of a large piece of the intestine and fundament, is alarming both to weak minds and to weak bodies; and the inconveniences arising from loss of substance about the verge of the anus, either in strong exercise, in the retention of loose stools, or the expulsion of hard ones, are so great, that I have known several people who have daily and sincerely wished for their uncut fistulæ again; and who, either from pain or uncleanliness, or both, have been rendered truly unhappy.

In short, I can venture to assert from many years' experience on a great variety of subjects, that when the disease is curable by chirurgic art, the method which I have proposed, will, with more ease, expedition, and certainty, attain that end, than the method of extirpation; and that without producing any of those very disagreeable circumstances which M. Le Dran has so justly described.

callosity, latent mischief, and undiscovered sinuses, will be suspected; whereas, in truth, neither one nor the other are the cause of such diseased appearances. The administration of proper remedies will, most commonly, in a few days, produce such an alteration, as the whole art of surgery could not (by mere externals) bring about in as many weeks, if at all. Many and many a sore of this kind have I seen brought into the hospital, which has had all these disagreeable appearances, which has long and fruitlessly been treated with all the variety of externals, and which a decoction of the bark and rad. serpentariæ has, in a very short time, put into such a condition as to want only dry lint.

And for the truth of this assertion I appeal to all those (many in number) who have for these ten or twelve years past attended St. Bartholomew's hospital.

SECT. VI.

HITHERTO I have considered the disease either as an abscess, from which the matter has been let out by an incision, made by a surgeon; or from which the contents have been discharged by one single orifice, formed by the bursting of the skin somewhere about the fundament.—I am now to take notice of it, when instead of one such opening there are several.

This state of the case generally happens when the quantity of matter collected has been large, the inflammation of considerable extent, the adipose membrane very sloughy, and the skin worn very thin before it burst.—It is, indeed, a circumstance of no real consequence at all; but from being misunderstood, or not properly attended to, is made one of additional terror to the patient, and additional alarm to the inexperienced practitioner: for it is taught, and frequently believed, that each of these orifices is an outlet from, or leads to, a distinct sinus or hollow; whereas, in truth, the case is most commonly quite otherwise: all these openings are only so many distinct burstings of the skin covering the matter; and do all, be they few or

many, lead and open immediately into the one single cavity of the abscess: they neither indicate, nor lead to, nor are caused by, distinct sinuses; nor would the appearance of twenty of them (if possible) necessarily imply more than one general hollow.

If this account be a true one, it will follow, that the chirurgic treatment of this kind of case ought to be very little, if at all, different from that of the preceding; and that all that can be necessary to be done, must be to divide each of these orifices in such manner as to make one cavity of the whole. This the probe-knife will easily and expeditiously do; and when that is done, if the sore, or more properly its edges, should make a very ragged, uneven appearance, the removal of a small portion of such irregular angular parts will answer all the purposes of making room for the application of dressings, and for producing a smooth even cicatrix after the sore shall be healed.

When a considerable quantity of matter has been recently let out, and the internal parts are not only in a crude, undigested state, but have not yet had time to collapse, and approach each other, the inside of such cavity will appear large; and if a probe be pushed with any degree of force, it will pass in more than one direction into the cellular membrane, by the side of the rectum. But let not the unexperienced practitioner be alarmed at this, and immediately fancy that there are so many distinct sinuses; neither let him, if he be of a more hardy dis-

position, go to work immediately with his director, knife, or scissors: let him enlarge the external wound by making his incision freely; let him lay all the separate orifices open into that cavity; let him divide the intestine lengthwise by means of his finger in ano; let him dress lightly and easily; let him pay proper attention to the habit of the patient; and wait, and see what a few days, under such conduct, will produce. By this he will frequently find, that the large cavity of the abscess will become small and clean; that the induration round about will gradually lessen; that the probe will not pass in that manner into the cellular membrane; and consequently, that his fears of a multiplicity of sinuses were groundless. On the contrary, if the sore be crammed or dressed with irritating or escharotic medicines, all the appearances will be different; the hardness will increase, the lips of the wound will be inverted; the cavity of the sore will remain large, crude, and foul; the discharge will be thin, gleety, and discoloured; the patient will be uneasy and feverish; and, if no new cavities are formed by the irritation of parts, and confinement of matter, yet the original one will have no opportunity of contracting itself; and may, very possibly, become truly fistulous.

I will not say that there never is more than one sinus running along the side of the intestine (I mean on the same side); but I will venture to assert, that for one instance in which the case is really so, forty are supposed and talked

of. Distinct and separate openings in the skin, from the same cavity or sinus, are common; but perfectly distinct sinuses, running along the intestine on the same side, are very far from being so: they are very uncommon.

I should be sorry to have such a misconstruction put upon what I have said, as to have it supposed that I made light of a disease which every body knows is sometimes attended with very troublesome circumstances; or that I make pretension to any particular secret method of treating it; or that I think myself more capable of conducting it than the generality of practitioners: as none of these are true, I should be sorry to have them imputed to me. I do allow (what is undoubtedly true) that this disease, in some constitutions, and under some circumstances, will engage the attention, and exercise the judgment, of the best and most able practitioner: but on the other hand I must repeat, that a great deal of the trouble which it is sometimes attended with, does not arise from the disease itself, but from misconception, and improper treatment.

I have freely, and without reserve, related that method of treatment which I have found to be most successful; nor do I know any applications which are at all specific, or more proper for this kind of sore than for all others, in parts of the same structure: the most simple, and they which give the least pain, are the best. Neither these, nor mere dry lint, should ever be introduced in larger quantity than can be admitted

and borne with ease; that the sore may not be distended, but a fair opportunity given to nature to contract it gradually.

This every practitioner may be capable of executing, since it consists more in abstaining from doing mischief, than in doing any thing which may require particular judgment or dexterity. It is true, that the method which I have proposed will considerably lessen the chirurgic apparatus of instruments and dressings: but it will be attended with success, and produce that which every patient has a right to expect from his surgeen—a firm cure in a short space of time, and with the least possible fatigue.

It sometimes happens, that the matter of an abscess, formed juxta anum, instead of making its way out through the skin, externally near the verge of the anus, or in the buttock, pierces through the intestine only. This is what is called a blind internal fistula—*fistule borgne interne.*

In this case, after the discharge has been made, the greater part of the tumefaction subsides, and the patient becomes easier. If this does not produce a cure, which sometimes, though very seldom, happens, some small degree of induration generally remains in the place where the original tumor was. Upon pressure on this hardness, a small discharge of matter is frequently made per anum; and sometimes the expulsion of air from the cavity of the abscess

in to that of the intestine may very palpably be felt, and clearly heard: the stools, particularly if hard, and requiring force to be expelled, are sometimes smeared with matter; and although the patient, by the bursting of the abscess, is relieved from the acute pain which the collection occasioned, yet he is seldom perfectly free from a dull kind of uneasiness, especially if he sits for any considerable length of time in one posture. The real difference between this kind of case, and that in which there is an external opening (with regard to method of cure) is very immaterial; for an external opening must be made, and then all difference ceases. In this, as in the former, no cure can reasonably be expected, until the cavity of the abscess, and that of the rectum, are made one; and the only difference is, that in the one case we have an orifice at, or near the verge of the anus, by which we are immediately enabled to perform that necessary operation: in the other we must make one.

Some of the best of the modern writers have, I think, represented this state of the disease in such manner as to make it seem to labour under difficulties, which I cannot say that I ever found it really did; and have thereby thrown the appearance of obscurity and trouble on what is generally clear and easy.

In Mr. De la Faye's very excellent notes on Dionis, is the following passage. "Lorsque les "fistules n'ont pas d'ouverture externe, et que "rien ne designe le lieu où il faut faire l'ope-"ration, il y a deux moyens de le decouvrir.

"Le premier est de l'invention de feu Mr. Thi-
"baut, qui portoit le doigt index dans l'anus,
"et le recourboit; ensuite, en le tirant un peu
"à lui, pour ramener à l'exterieur le foyer de la
"matiere, tandis qu'il pressoit avec un autre
"doigt les environs du fondement, la douleur
"qu'il causoit au malade marquoit le lieu ou il
"falloit faire l'incision pour rendre la fistule
"complete. Le second est de Mr. Petit, qui
"met dans l'anus pendant vingt-quatre heures
"une tente, qui touchant l'ouverture de la fis-
"tule, empeche le pus de s'ecouler, et le ra-
"masse en assez grande quantité pour faire à
"l'exterieur une tumeur, qu' indique le lieu ou
"il faut faire l'operation." 'When fistulæ have
'no external opening, and there is no mark
'whereby to distinguish the place where the
'operation ought to be performed, there are two
'methods of discovering it; the first is that of
'the late Mr. Thibaut, who put his fore-finger
'into the rectum; and curving it, endeavoured
'to bring the *foyer* (that is, the hollow which
'furnishes the matter) nearer to the external part
'of the fundament; while, with his other finger,
'he pressed all the parts round about: the pain
'which he, by these means, gave to the patient,
'marked out the place where the incision ought
'to be made, in order to render the fistula com-
'plete. The second method is that of Mr.
'Petit: he put into the anus, for the space of
'twenty-four hours, a tent; which, by stopping
'up the orifice of the fistula, hindered the matter
'from running out into the cavity of the gut;

'and forced it to be collected in such quantity
'as to form an external tumefaction, sufficient
'to indicate the place where the operation ought
'to be performed.'

The former of these, as far as it depends on that single circumstance, that the point where the pain is felt is the exact place where the opening ought to be made, is, by no means, to be depended upon: the latter method is operose, troublesome, and, in general, very insufficient for the purpose. If the orifice, through which the matter has made its way, lies high in the intestine, a tent cannot be introduced so as to press against it sufficiently, unless it be so long, and so large, as to occupy the whole cavity of the gut. How fatiguing, and how difficult, the retention of this, for twenty-four hours, must be to many people, is easy to imagine: if the orifice be near to the fundament, in the lower part of the intestine, the possibility of closing it may be somewhat greater; but the inconvenience must be nearly the same, as well as the uncertainty.

In short, not to enter further into this totally unnecessary kind of practice, I would advise the man, who thinks to try it, to consider the stricture made by the contraction of the verge of the anus; the expansion of the cavity of the gut, immediately above that stricture; the great dilatability of the membranes of the intestine; and the uneven, wrinkled state in which it must necessarily be; and then to reflect, how very unlikely it is, that he should, without filling the

whole cavity, stop or block up a small breach, whose exact situation he cannot know or learn.

It is true, that by discharge of the matter into the cavity of the intestine, the fluctuation of it within the abscess is no more to be felt; the tension ceases; the tumor, in great measure, subsides; and, consequently, all these indications of its situation disappear: but I do not remember ever to have seen a single case of this kind, in which there was not in the buttock, or near to the verge of the anus, either a remaining discolouration of the skin, or a hardness, or something by which the finger of a careful, judicious examiner, could clearly and certainly find where the disease was. Each of the circumstances just mentioned do as certainly point out where the hollow leading to the sinus is, as the fluctuation of the matter did before the cavity burst; and a knife, or lancet, plunged into this (provided it be pushed deep enough), will never fail to enter the said hollow. When this is done, the case becomes what is commonly called complete, and must be treated accordingly.

SECT. VII.

I COME now to that state of the disease, which may truly and properly be called fistulous. This is generally defined, sinus angustus, callosus, profundus; acri sanie diffluens; or, as

Dionis translates it, "Un ulcère profond, et "caverneux, dont l'entrée est etroite, et le fond "plus large; avec issue d'un pus acre et virulent; "et accompagné de callosités."

Various causes may produce or concur in producing such a state of the parts concerned as will constitute a fistula, in the proper sense of the word; that is, a deep, hollow sore, or sinus, all parts of which are so hardened, or so diseased, as to be absolutely incapable of being healed while in that state; and from which a frequent or daily discharge is made, of a thin, discoloured sanies, or fluid.

These I shall take the liberty of dividing into two classes; *viz.* those which are the effect of neglect, distempered habit, or of bad management, and which may be called, without any great impropriety, local diseases; and those which are the consequence of disorders, whose origin and seat is not in the immediate sinus or fistula, but in parts more or less distant, and which, therefore, are not local complaints.

The natures and characters of these are obviously different by description; but they are still more so in their most frequent event; the former being generally curable by proper treatment, the latter frequently not so by any means whatever.

Under the former, I reckon all such cases as were originally mere collections of matter within the coats of the intestine rectum, or in the cellular membrane surrounding the said gut; but which, by being long neglected, grossly managed,

or by happening in habits which were disordered, and for which disorders no proper remedies were administered, suffer such alteration, and get into such state, as to deserve the appellation of fistulæ.

Under the latter are comprised all those cases in which the disease has its origin and first state in the higher and more distant parts of the pelvis, about the os sacrum, lower vertebræ of the loins and parts adjacent thereto; and are either strumous or the consequence of long and much distempered habits; or the effect of, or combined with, other distempers, local or general; such as a diseased neck of the bladder, or prostrate gland, or urethra; the lues venerea, cancers, &c. &c.

Among the very low people, who are brought into hospitals, we frequently meet with cases of the former kind; cases which, at first, were mere simple abscesses, but which, from uncleanliness, from intemperance, negligence, and distempered constitutions, become such kind of sores as may be called fistulous.

In these the art of surgery is undoubtedly, in some measure, and at some time, necessary; but it very seldom is the first or principal fountain from whence relief is to be sought: the general effects of intemperance, debauchery, and diseases of the habit, are first to be corrected and removed, before surgery can with propriety, or with reasonable prospect of advantage, be made use of. If the patient be infected with the lues venerea, that must first be cured; if he be ana-

sarcous, or leucophlegmatic, that indisposition must be corrected; if he be feverish, that heat must be calmed; and if he labour under any of the general ill effects arising from foul skin, dirty clothing, unclean and unwholesome lodging, &c. producing pallid countenance, undue secretions, loss of appetite, œdematous legs, intermitting fevers, &c. the state of blood which always acccompanies such complaints must be amended before surgery can be administered to any good purpose. If knife, caustic, or whatever other external means are thought proper to be used, be applied before such general evils have been corrected, they will do little or no good; and may do much mischief. On the contrary, when the lues is corrected; when the patient is cool and gets good sleep; when the secretion of urine is so re-established, the general absorbent faculty so restored, and the solids so braced, that the legs cease to swell; and the patient recovers his natural appetite and complexion; we find the local disease, instead of standing still, has almost always made great advances towards being cured, by being altered in all the principal circumstances of induration, crudity, gleet, &c. Whatever chirurgic operation or treatment may now be necessary, will, in all probability, succeed immediately; whereas, all our attempts before such care do and must prove fruitless.

The surgery required in these cases consists in laying open and dividing the sinus, or sinuses, in such manner that there may be no possible lodgment for matter, and that such cavities may be

fairly opened lengthwise into that of the intestine rectum: if the internal parts of these hollows are hard, and do not yield good matter, which is sometimes the case, more especially where attempts have been made to cure by injecting astringent liquors, such parts should be lightly scratched or scarified with the point of a knife or lancet, but not dressed with escharotics; and if, either from the multiplicity of external orifices, or from the loose, flabby, hardened, or inverted state of the lips and edges of the wound near to the fundament, it seems very improbable that they can be got into such a state as to heal smooth and even, such portion of them should be cut off as may just serve that purpose. The dressings should be soft, easy, and light; and the whole intent of them to produce such suppuration as may soften the parts, and may bring them into a state fit for healing.

If a loose, fungous kind of flesh has taken possession of the inside of the sinus (a thing much talked of, and very seldom met with), a slight touch of the lunar caustic will reduce it sooner, and with better effect on the sore, than any other escharotic whatever.

The method and medicines by which the habit of the patient was corrected, must be continued (at least in some degree) through the whole cure; and all those excesses and irregularities, which may have contributed to injure it, must be avoided.

By these means, cases which at first have a most disagreeable and formidable aspect, are

frequently brought into such state, as to give very little trouble in the healing.

More trouble must be supposed to attend this kind of case, than does a mere simple, recent abscess; and more time will necessarily be required to bring the parts into a kindly state; but under proper conduct, they will in general be found to do well, without any of those operations which mankind have such dread of, and which are in general taught and practised.

If the bad state of the sore arises merely from the improper manner in which it may have been treated; I mean, from its having been crammed, irritated, and eroded; the method of obtaining relief is so obvious, as hardly to need recital.

A patient who has been so treated, has generally some degree of fever, has a pulse which is too hard and too quick, is thirsty, and does not get his due quantity of natural rest. A sore which has been so dressed, has generally a considerable degree of inflammatory hardness round about; the lips and edges of it are tumid, full, inflamed, and sometimes inverted; the whole verge of the anus is swollen; the hæmorrhoidal vessels are loaded; the discharge from the sore is large, thin, and discoloured; and all the lower part of the rectum participates of the inflammatory irritation, producing pain, bearing-down, tenesmus, &c. *Contraria contrariis* is never more true than in this instance: the painful, uneasy state of the sore, and of the rectum, is the great cause of all the mischief, both general and particular; and the first intention

must be to alter that. All escharotics must be thrown out, and disused; and, in lieu of them, a soft digestive should be substituted, in such manner as not to cause any distention, or to give any uneasiness from quantity; over which a poultice should be applied: these dressings should be renewed twice a day; and the patient should be enjoined absolute rest. At the same time, attention should be paid to the general disturbance, which the former treatment may have created. Blood should be drawn off from the sanguine; the feverish heat should be calmed by proper medicines; the languid and low should be assisted with the bark and cordials; and ease in the part must, at all events, be obtained by the injection of anodyne clysters of starch and opium.

If the sinus has not yet been laid open, and the bad state of parts is occasioned by the introduction of tents imbued with escharotics, or by the injection of astringent liquors (the one for the destruction of callosity, the other for the drying up gleet and humidity), no operation of any kind should be attempted until both the patient and the parts are easy, cool, and quiet: cataplasm, clysters, rest, and proper medicines must procure this; and when that is accomplished, the operation of dividing the sinus, and (if necessary) of removing a small portion of the ragged edges, may be executed, and will, in all probability, be attended with success. On the contrary, if such operation be performed while the parts are in a state of inflammation,

the pain will be great, the sore for several days very troublesome, and the cure prolonged or retarded, instead of being expedited.

Particular individual cases may require little particularities in the treatment; but what I have drawn is the general outline. In this, as in most parts of physic and surgery, the first and great object is, to know what the intention is which ought to be pursued: when that is clear and determined, a man of any degree of knowledge will seldom be at a loss for materials wherewith to execute it.

Abscesses, and collections of diseased fluids, are frequently formed about the lumbal vertebræ, under the psoas muscle, and near to the os sacrum; in which cases, the said bones are sometimes carious, or otherwise diseased. These sometimes form sinuses, which run down by the side of the rectum, and burst near to the fundament.

The discharge from these are generally large, fetid, thin, and sharp: it is therefore no wonder that the sinuses by which they are made, together with the orifices thereof, become hard and callous; that is, truly fistulous. But it must be obvious to every one who will consider it, that the chirurgic treatment of these sores and sinuses can be of very little consequence towards curing the diseases from whence they arise: their seat is generally out of the reach either of our instruments or our applications; and their nature is not frequently found to be capable of being altered by medicine. However that may be,

certain it is, that what advantage a person in such circumstances is at all likely to receive, is not derivable from surgery; but must be from medicine, or from more-powerful nature.

Persons who have long laboured under what is commonly called a cachectic habit, have sometimes large collections of matter formed in the cellular membrane within the cavity of the pelvis (which, like the preceding, form sinuses), and burst their way out near the anus. These sinuses, from the nature of the discharge, from the depth of the seat of the disease, and from the length of time which the drain continues, do almost necessarily become fistulous.—Such collections do sometimes prove salutary crises; though much more frequently they hasten the patient's dissolution: but be the event which it may, although the sore is certainly fistulous, yet can the art of surgery do very little, if any, material service. If the event be good, the crisis must be far advanced, and very nearly determined, before any operation, or even dressing (except what is superficial, and merely for the purpose of cleanliness), can be of any use; and if the discharge proves too much for the strength of the patient, it is pretty clear, that neither the art of surgery, nor indeed any other, can avail him.

On the other hand, if it so happens, that nature is so powerful, that, by means of this drain, she can free the habit from its former diseased state; or if, by the help of medicine,

such alteration can be brought about, the fistula will not prove very troublesome; for the same alteration, at least in some degree, will be found to have been made in that; and if it be not brought thereby absolutely into a healing state, yet it will be found to be so much altered in its principal circumstances, that the common method, already laid down, will be fully sufficient for the completion of a cure.

We are, by authors, very frequently advised not to be too hasty in the cure of these cases; as the continuance of the discharge may prove beneficial to the patient. That these discharges are now and then of great advantage, is beyond all doubt; but very happily for such patients, the healing or not healing these sores is very seldom within our determination. We may, indeed (and I fear often do), by indiscreet conduct, prevent a sore from healing, when it is nature's intention that it should be healed; but when she finds herself relieved, or benefited by a discharge of this kind, she will generally continue it, in spite of our most officious endeavours to the contrary.

Cancers and cancerous sores are sometimes formed in the cavity, or in the neighbourhood of the rectum and fundament; in which they make most terrible havoc, and afford most melancholy spectacles.

As I do not know what will cure a cancer, I leave the discussion of this to those who say that they do; most sincerely wishing, that it

was in my power to say, that I had, once in my life, known them to have fulfilled their promise.

Fistulous sores, sinuses, and induration about the anus, which are consequences of diseases of the neck of the bladder and urethra, called fistulæ in perineo, require separate and particular consideration.

In these, the external openings, with the sinuses leading from them into the cellular membrane, are the least part of the complaint: the stricture in the urethra, the induration of the whole neck of the bladder, the hardened, fungous, enlarged, or ulcerated state of the prostrate gland, the diseases of the verumontanum, of the vesiculæ seminales, and vasa deferentia, are the great and principal objects of consideration.

A very serious consideration they certainly make. Great and manifold are the miseries which are derived to mankind from these causes; and much more diligent inquiry do they deserve, than they have yet met with: but as they do not immediately belong to my present subject, I must omit, or, at least, to another opportunity defer, entering into them.

CHIRURGICAL OBSERVATIONS

RELATIVE TO

THE CATARACT,

THE POLYPUS OF THE NOSE,

THE CANCER OF THE SCROTUM,

AND THE

MORTIFICATION

OF

THE TOES AND FEET.

PREFACE. *

THE first of the following tracts contains some remarks on a disease, to which persons of every rank and condition are liable; and by which they are rendered truly unhappy.

From an unpardonable indolence, or an equally blamable timidity, it has been too much the custom, in this country, to leave the management of this complaint to pretenders and itinerants, some of whom have been, in some degree, acquainted with the organ and its diseases, others most grossly ignorant of both; consequently the benefits and the misfortunes which have attended their undertakings have been various. With these I have nothing to do; but cannot help taking the liberty to observe, that until the profession in general have made themselves capable of being essentially serviceable to mankind in this point, they must

* N. B. This Preface was, through negligence, omitted in the 4to. edition.

not be surprized that the unfortunate and unknowing give credit to fair promises.

What I shall, in the following pages, advance, regarding the cataract, is not the consequence of a mere desire to write, but arises from a conviction founded on frequently-repeated experience, that we have, within a few years past, reprobated an operation which, in proper hands, is capable of producing great good; and have substituted in its place another, which though perhaps right and useful in some particular instances, has, by being too generally practised, occasioned much mischief.

I should be sorry to have what I say misunderstood: I do by no means intend either to praise or blame indiscriminately: I think that each operation has its merit: but I also think, and know, that we have almost laid aside one, for reasons which are not founded in truth; and that we have rather hastily patronised and practised the other, without duly attending to its very frequent ill-consequences.

The SECOND tract regards a disease which is mentioned, indeed, in most books of surgery, but in general not in such manner as to enable a young practitioner to form a proper judgment of it. By some, it is passed over so slightly, that an ignorant reader might be induced to suppose that it could never occasion much trouble or hazard: by others, it is regarded merely as requiring a chirurgic operation, to the performance of which their whole attention is paid;

while, both by the one and the other, the material circumstances of the disease are overlooked, and no rules laid down whereby to determine on the propriety or impropriety of any chirurgic attempt whatever.

The subject of the THIRD has not (at least to my knowledge) been publicly noticed.

All who have the care of hospitals in this town know, that the chimney-sweeper's cancer is as real, and as peculiar, a distemper as any of the morbi artificum; and a very melancholy consideration it is to those who are necessarily in the way of being liable to it.

The FOURTH is the result of a custom which I have many years practised; that of making memoranda of whatever appeared to me to be either unusual in itself, or attended with any singularity of circumstances.

The FIFTH is on a disease, which has so generally foiled all the attempts of art, as to be by many reckoned among those which are out of its reach. This truth, though sometimes undeniable, is always acknowledged with reluctance; and reasons, good or bad, are therefore always sought for, and given for our disappointment. In the present case, a defect of circulation, an ossification of vessels, a want or depravity of the nervous fluid, with some other conjectures, equally ingenious, whimsical, and groundless, are offered. Whatever may be the original cause of the mortification of the toes and feet, certain it is, that acute pain is one of its first and most constant

symptoms; and as certain it is, that while such pain continues, no stop is, or can be, put to the progress of the distemper. The ideas of defective circulation, want of sensibility in the nerves, of malignity, putrefaction, &c. have, in my opinion, misled us from a proper consideration of this destructive malady, and have put us on a plan of practice, which, as far as it relates to externals, seems to me to be opposite to that which ought to be pursued, and to render the disease more intractable, and more certainly fatal. Instead of cooling, we endeavour to excite heat; and when the parts, which yet retain life and sensation, are in such state as to be most liable to, and susceptible of irritation, we apply to them hot, pungent oils, balsams, and tinctures, and wrap them up in cataplasms made of such ingredients as are more calculated to answer the purpose of stimulating than of appeasing.

In short, I cannot help thinking that we have, in this case, done what our forefathers did in that of wounds made by gun shot; that is, we have formed conjectures concerning the nature of the distemper which are not true, and then have built a practice on these erroneous guesses. The strange notions which our ancestors entertained concerning the effects of fire, the poison of gun-powder, the malignity and the putrefactive disposition of gun-shot wounds, led them to overlook the obvious and necessary effects of a high degree of contusion and laceration, and induced them to have recourse to such means, as, though perfectly agreeable to their theory, necessarily increased the

pain, the inflammation, and the irritation which they should have endeavoured to soothe and appease.

What the consequence of their treatment too frequently was, themselves have told us; what that of attending more to the true nature of the case, and of acting from such consideration has been, our soldiers and sailors have of late years happily experienced.

Perhaps some of the cases which I have related in the FOURTH tract, may not appear to others to be so worthy of notice as they did to me. Some of them, I cannot help thinking, may deserve the attention of the younger part of the profession, to whose information I wish to contribute.

Diseases have, it is true, in general, a sort of regularity and order, a series of causes and events, by which they are known and distinguished; yet we do now and then meet with such odd irregularities, such strange and unusual consequences, as puzzle and alarm even the soundest judgment, and the longest experience; and unless these be noted, the history of distempers will be imperfect.

From writers of systems and institutes (of surgery at least), such kind of knowledge is not to be expected. They are most frequently mere compilers, and do little more than copy each other. The information which they convey is at best but superficial, and much more calculated to enable man to talk, than either to judge or to act. It must be from a careful attention to the cases of individuals, and from an observation of diseases, in their irregular and infrequent

forms, as well as their more customary ones, that true and extensive judgment can be acquired.

If therefore a faithful relation of these less-usual circumstances and appearances, both in the living and in the dead, were more frequently made, it might be productive of no small improvement: it would not be confined to the adding a few anomalous, eccentric cases to our books, tending to excite our admiration only, but might be made to serve a much more valuable purpose: it might guard us against too hastily determining in cases of real, or of seeming obscurity, and might prevent us, now and then, from supposing things to be incapable of being accounted for, merely because we have not yet learned how to account for them; it might perhaps lessen our faith in general doctrines and theories, but it would render us more attentive to facts, and thereby furnish us with a much more useful kind of knowledge.

Perhaps also, upon a more close and frequent examination, we might find, that some of these very cases are neither so rare, nor so intractable, as we have hitherto believed them to be. But be that as it may, certain it is, that from such inquiry we should at least get one kind of information—we should be furnished with good and satisfactory reasons, why our best attempts so frequently fail: I say satisfactory, because I cannot help thinking, that next to the pleasure of being able to relieve the distresses of mankind, is the satisfaction of knowing that it was not in our power so to do.

Many and great are the improvements which the chirurgic art has received within these last fifty years; and much thanks are due to those who have contributed to them: but when we reflect how much still remains to be done, it should rather excite our industry than inflame our vanity.

Our fathers thought themselves a great deal nearer to perfection than we have found them to be; and I am much mistaken, if our successors do not, in more instances than one, wonder both at our inattention and our ignorance. Notwithstanding all our late real improvements, there is still ample room to exercise all the powers of many succeeding artists, and to furnish them with large opportunity of acquiring honour to themselves, and of doing much praise-worthy service to mankind: the art is still defective, and the words of Seneca are still, in some degree, as true as when he wrote them, "Multum adhuc restat operis, "multumque restabit; nec ulli nato post mille secula "præcludetur occasio aliquid adhuc adjiciendi."

REMARKS

ON THE

CATARACT.

NOTWITHSTANDING the variety of operations and processes which, for the relief or cure of this disease, are to be found in almost all the books of our forefathers, yet it is very certain that, until within these last fifty years, neither the state, nature, nor seat of it were truly known; at least not to the practitioners of surgery.

Wild and various were the conjectures concerning it: it was by some said to be a distemper of the vitreous humour; by others of the aqueous: by some it was thought to be a condensation of earthy particles; by others a membranous film: it was said by some to be anterior, by others, posterior to the pupil: it was often confounded with the gutta serena, and sometimes even with an opacity of the cornea.

Accident, one great source of many an useful discovery both in physic and surgery, first proved it to be a distemper of the corpus crystallinum; to be in general absolutely confined to it, and to consist of a greater or less degree of

opacity; and now, as is usual in all such cases, we are convinced, that all the attempts, and all the operations, which ever were made or practised to any good purpose, either for its relief or its cure, could be successful only as they affected that body.

From the knowledge of its seat, and of one of the principal circumstances of its nature, we have been enabled to direct our attempts more rationally, and to act with a greater degree of precision and satisfaction; but still from all I have been able to collect, either from books or from practitioners, there are some material circumstances relative to the disease, which are not rightly, at least not generally understood: some remains of the old doctrine still continue to influence both our opinion and practice; some things are taken for granted which are by no means true; and practical inferences are drawn from others, which are not admissible. Whether an attempt to set some of these in a clearer light, will or ought to be attended with any alteration in the treatment of the distemper, must be left to others to determine: I shall content myself with relating, as briefly as I can, some few particulars which appear to me to deserve attention.

One general opinion among our ancestors was, that every cataract had its seasons; was at one time immature or unripe, at another mature or ripe; and that the term unripe, necessarily implied a soft—that of ripe, a hard or firm state of the crystalline.

The opinion was a necessary consequence

of the theory then most frequently embraced, and was therefore generally credited; and, as very often happens with regard to pre-conceived notions, it was thought to be confirmed by facts.

This doctrine has, it is true, been contradicted by some of our best modern practitioners; but still it not only remains the opinion of many, but has a very considerable share in determining the preference supposed to be due to one method of operating over another.

The terms imply, and are generally understood to mean, that every cataract is at first soft through its whole substance; and that by degrees, in more or less time, it becomes hard and firm, or at least harder and firmer than the natural crystalline: which latter circumstance is by no means true, either necessarily or even generally. I will not say that it never is: but I can venture to affirm, that it most frequently is not. Some of our remote ancestors borrowed their ideas on this subject from the kernels of fruits, to which they have indeed compared the cataract: but the notions of ripe and unripe, have remained with many who were aware of the exceeding absurdity of the comparison.

If this was a merely speculative point, it would be a matter of very little importance; but as a practical inference is drawn from it, that the early, or supposed unripe state is an improper one for an operation, and that therefore a patient should wait for a later or ripe one, it becomes a matter of considerable consequence

to such person whether he shall or shall not continue blind all that very uncertain space of time. Neither is this all, material as it may seem: for the same doctrine implies, that the first degree or appearance of obscurity, however soft the crystalline may then be, will certainly be followed by an induration of it; or in other words, that the crystalline is first rendered soft merely and only to become hard afterwards; that the same first or soft state is not proper for an operation, because it would necessarily render it unsuccessful; and that an increased degree of opacity and obscurity, may in general be regarded as marks of increased firmness: not one of which is true.

The natural, sound, transparent crystalline, is very far from being uniform in its consistence through its whole substance: its external part is much softer, and more gelatinous than its internal; which therefore, although equally transparent, may be said to form a kind of nucleus, and is always of much firmer texture[a]. From this sound and natural state, it is capable of several morbid alterations: it is capable of being dissolved, or of becoming fluid, without losing

[a] If this known difference of consistence between the external and internal parts of the crystalline was duly attended to, it would solve many of the appearances in cataracts which, for want of such attention, are either not accounted for, or very absurdly. Among other phænomena, it would account for the very different colour which the different parts of the same cataract frequently bear; and which has furnished the wildest conjectures.

any thing of its transparency[b]: it is capable of being dissolved into an apparently uniform fluid of a gelatinous kind of consistence, but which will be more or less opake through the whole; it sometimes becomes opake while it undergoes a partial kind of dissolution, which leaves or renders the different parts of it of very different degrees of consistence; and it now and then, though very rarely, becomes opake through its whole substance, and yet preserves its natural degree of firmness[c].

Whenever the crystalline becomes softer than it should be, or tends towards such state, it is certainly distempered, and unfit for perfect vision, whether it be opake or not, or whatever its degree of opacity may be: but whoever supposes that such softened and opake crystalline will necessarily, or even frequently, acquire firmness, or become hard by time, is exceedingly

[b] It has been supposed, by very good anatomists, that the human crystalline has sometimes, between its surface and its capsula, a small quantity of fine pellucid lymph; and consequently that there is no immediate connexion between that body and its investing membrane. In many beasts, as well as fishes, this is known to be the case; but whether it be so in the human eye, is not very easy to be known during life; but that this is the case, sometimes from distemper, I have no doubt: I mean, that the whole crystalline is dissolved into a fluid, still preserving its transparency. This kind of alteration, as I take it, forms what is by some called one species of the gutta serena; by others, the black cataract.

[c] From this variety of alteration, which the crystalline is capable of undergoing, proceeds that variety of appearance which our ancestors have called so many different kinds of cataracts.

mistaken. Opacity, though now and then accompanied by what is called induration, is no proof of it, nor of any tendency towards it; so far from it, that some of the most dissolved or fluid cataracts, and which have been so for the greatest length of time, are found full as opake as the most firm ones.

Whoever has an opportunity of observing this distemper, and will embrace it, will find that cataracts which have in a length of time gone through all those alterations of colour, which are said to indicate unripeness and ripeness, are often as perfectly soft as they ever could have been; and, on the other hand, will sometimes find them what is called firm or hard very soon after the first appearance of obscurity. That is, to speak more truly, as well as more properly, the former having been at first dissolved, have remained in the same state of dissolution; and the latter, having been at first only partially softened, have been found in the same unequal state, with a firm nucleus[d].

When, therefore, I make use of the term in-

[d] For there is no possibility of accounting rationally, but by having recourse to the natural state of the crystalline, with regard to the different consistence of its different parts. This will account for the alterations to which it is liable from time, accident, or distemper: this will show why there is no uniformly and universally hard cataract; why, in all of them, the softest part is always on the surface; why, even in the hardest, the central part is always the most firm; and why the external and internal parts of the same cataract, are so often so different from each other in colour.

duration, I do it in compliance with the common method of speaking; and not because I think that it conveys, by any means, an adequate idea of the real alteration made in the state of the crystalline: far from it; it neither conveys an idea of the nature, nor of the extent of such alteration: with regard to the former, the term induration can with propriety be used only in opposition to a perfect or general distempered dissolution; by much the majority of what are called firm cataracts, being much less firm than the same crystalline was before such alteration: and with regard to the latter circumstance, the extent of the mischief, it is subject to the greatest degree of uncertainty; being seldom or never an induration of the whole body, but most frequently a firmish kind of nucleus, of greater or less size, contained within more or less of a gelatinous, or softer kind of substance; so that the nucleus is called firm only in opposition to what envelopes it.

In short, if we would think and speak of this matter as it really is (or as it appears to me to be), instead of using the terms soft and hard in opposition to each other, and as implying different effects either of time or of distemper on the crystalline, we should say, that dissolution or softening, in some degree, is by much the most common effect; that, except in some few instances, where that body retains its natural firmness while it loses its transparency, the most frequent consequence is a softening of its texture,

either partial or total; and that seven times in nine, when the crystalline becomes opake, and tends towards forming a cataract, it is more or less softened; sometimes equally through its whole substance, sometimes partially, having a greater or less portion left undissolved.

This undissolved part, which always makes what is called a hard cataract, may indeed be called firm in opposition to the softer, by which it is surrounded; but even this very part is hardly, if ever, so firm as the centre of the natural and sound crystalline.

I beg the reader's pardon for having been somewhat prolix, but the subject did not appear to me to have been properly attended to.

It would be exceedingly pleasant, as well as advantageous, if we could, previous to an operation, know the true state of an opake crystalline: it would enable a surgeon to determine his mode of operating with more precision, and to explain what his intention by such method was: it would give satisfaction to himself as well as to standers-by; and make that appear to be judicious and rational, which, under our present uncertainty, has often the appearance of being accidental, and done at random.

It is agreed by all, who have carefully considered this subject, and who are ingenuous enough to speak the truth, that the mere colour of a cataract furnishes no proof, to be by any means depended upon, relative to its consistence; and that they which appear greyish, or bluish,

or like whey, are sometimes found to be firm and resistent, while the more equally white ones are perfectly soft.

I do not mean to assert, but merely to propose, to the consideration of such as may have leisure and opportunity, whether when the opake crystalline is quite dissolved, so as to form a soft cataract, it is not, at the same time, somewhat enlarged; and whether, when such dissolution does not take place, and what is called a hard cataract is formed, the crystalline is not, in some degree, lessened or shrunk.

Among the circumstances which have concurred to incline me to be of this opinion, is this; that when the pupil has been observed to be always in a state of dilatation, even when exposed to a strong light, and, although capable of motion, yet never to contract in the usual manner, I have most commonly found the cataract to have been soft; and, on the contrary, when the pupil has been capable of full and perfect contraction over the cataract, I think that it has most commonly proved firm; and this difference I have more than once observed in the different eyes of the same person. The greater degree of facility with which the firm cataract quits its place, and passes through the pupil upon the division of the cornea, does not lessen the probability of this opinion. I could also wish that they who have opportunity would inquire, whether the cataracts which have been found perfectly soft, have not, in general, become gradually more and more opake by very

slow degrees, and, in a length of time, the patient feeling little or no pain; and whether the firm ones do not, in general, become hastily opake; and are not preceded, or accompanied, by severe and deeply-seated pain in the head, particularly in the hinder part of it.

What has hitherto been said, as it principally regards the theory of the distemper, may perhaps be thought to be of little importance; but when the influence which these opinions may produce, and indeed have produced on practice, is considered, it will be found to be matter of some consequence: while they are confined to a surgeon's imagination only, they are not of much consideration; but when they are to regulate his judgment, and direct his hand, they become rather serious.

Since the operation of extracting the cataract, instead of depressing it, has been introduced into practice, and made a kind of fashion, it has been the humour to exaggerate all the objections to which the latter has been said to be liable; and that in such a manner, that they who have not had frequent opportunities of seeing business of this kind fall, without reflexion, into the prevailing opinion, seem to wonder, that the operation of couching should ever have had any success at all; and at the same time are, from the accounts given, inclined to believe, that the extraction is always safe, easy, and successful.

The objections which are made against the operation of couching, at least those which have any semblance of truth or force, are reducible to four.

The first is, that if the cataract be perfectly soft, the operation will not be successful, from the impossibility of accomplishing the proposed end of it.

The second is, that if it be of the mixt kind, partly soft and partly hard, it will almost probably fail of success, not only from the impracticability of depressing the softer parts, but also because the more firm ones will either elude the point of the needle, and remaining in the posterior chamber, still form a cataract; or getting through the pupil into the anterior chamber, will there bring on pain and inflammation, and induce a necessity of dividing the cornea for their discharge.

The third is, that if the cataract be of the firm, solid kind, and therefore capable of being depressed, yet, in whatever part of the eye it shall happen to be placed, it will there remain undissolved, solid, opake; and although removed from the pupil, yet prove some hindrance to perfect vision.

The fourth objection is, that however successfully the depression may have been accomplished, yet that the operation will necessarily occasion such violation and derangement of the internal parts of the eye, as must cause very considerable mischief.

These objections, if they have any real weight,

are of equal force in every species of cataract; and therefore are the more worthy our attention: since, if they be founded on truth, they render the operation unfit for practice; but if they be not, misrepresentation and fashion should never induce us to lay aside any means which have been, and still may be, beneficial to mankind.

The first and second I can from frequently repeated experience affirm not to be true. I mean that the operation of couching will not necessarily, or even generally, be unsuccessful, merely because the cataract shall happen to be either totally or partially soft: on the contrary, although these states will prevent perfect depression, yet, by the judicious use of the needle, a recovery of sight (the true end and aim of the operation) will be as certainly and as perfectly obtained, as it would have been either by depression or by extraction in the same subject; and that, generally without any of the many and great inconveniences which most frequently attend the latter operation.

The third objection is specious, and therefore very generally credited. That it never happens I will not take upon me to say, because so many have asserted it; some of whom, one would hope, had some kind of authority for what they have so positively affirmed. But on the other hand, when we consider how few there are who have written from their own examination and experience, and how many who have taken for granted, and copied, what others have said before them, our faith will not be quite implicit. Cer-

tain I am, from repeated experience and examination, that this opinion has not that foundation in truth which it is generally supposed to have; and that it has been embraced and propagated hastily, and without sufficient inquiry and experiment.

As this supposed indissolubility of the opake crystalline is not only so principal an objection to the operation of couching, even when it is capable of being perfectly depressed, as to be said to overbalance all the evils, many and great as they are, which frequently attend the extraction; but is also supposed to be the cause of the failure of success, when the depression of the softer kinds of cataracts is attempted; it may be worth a little serious examination.

I should be sorry to have it thought, that I had any predilection or partiality to one method of operating more than to another; or that I would wish to give to either any preference, but what its superior excellence or utility might justly demand. But, on the other hand, I cannot possibly pay regard to any authority, however otherwise respectable, when it contradicts what I know to be fact. Both operations are equally practicable by any man who has a hand and an eye, and is capable of performing either; but it has of late years been so much the humour to depreciate the one, and to extol the other, that it becomes necessary to examine the supposed merits of one, and demerits of the other, and to see whether they be drawn from premises which are true: if one is to be deemed universally preferable

to the other, let the circumstances, on which preference is to be founded, be drawn from fact, and not from fiction; let them be fairly and faithfully inquired into, and let such inquiry determine.

In order to assist in one part of this inquiry, I beg leave to lay before the reader a few experiments and observations which I have made; or, I believe I shall more properly say, have repeated; they having been often made and observed, but not properly inforced or applied [c].

When the opake crystalline is in a state of dissolution, or the cataract is what is called perfectly soft, if the capsula of it be freely wounded by the couching-needle, the contents will immediately issue forth, and mixing with the aqueous humour, will render it more or less turbid: sometimes so much as to conceal the point of the needle and the iris of the eye from the operator.

This is a circumstance which has been observed by most operators, and has been mentioned by many writers: but it has always been regarded and mentioned as an unlucky one, and as being in some degree preventative of success; which is so far from being the fact, that as far as relates to this circumstance merely, all the benefit which can be derived from the most successful depression, or extraction, most frequently attends it; as I have often and often seen.

[c] When I say experiments and observations which I have made and repeated, I would wish the reader to understand, that I have made them carefully, for the purpose; and so repeatedly, as to be satisfied of their *general* truth.

The aqueous humour, however turbid it may become, will, in a very short space of time, be again perfectly clear; and if no disorder of the capsula of the crystalline, previous or consequential, prevents, the rays of light [f] will pass

[f] The capsula, or investing membrane of the crystalline, has very often an unsuspected share in the apparent opacity of that body; and is thereby the cause of disappointments and inconveniences during some operations, and after others. This is a circumstance which, undoubtedly, has been mentioned: but has not been by any means sufficiently attended to. The capsula is capable of becoming white and opake, while its contents shall be clear and transparent: it becomes so sometimes by being wounded by the couching-needle, used either for the depression of a firm cataract, or for the letting out a soft one; and it will not infrequently be found so, after the operation of extraction, when no instrument has touched it.

Whenever this happens, it is an unpleasant circumstance; but still more so if it continues for any length of time: I have seen it disappear in a week; I have seen it continue two, three, or four, and at last totally disappear; and I have seen it continue so long as to require the re-application of the instrument. When it appears after the depression of a firm crystalline, or after an unsuccessful attempt to depress one which has proved not firm enough, it may easily be, and generally is, mistaken for a portion of the cataract risen again; but from which an attentive observer will always be able to distinguish it. But when such opacity follows what is called a successful extraction, in which the cornea only was divided, the capsula not touched by the instrument, and the cataract came away entire through the pupil, the case is self-evident.

This may truly and properly be called, as it has been by Monsieur Houin, Haller, and others, a membranous cataract, as it consists merely of the membranous capsula of the crystalline.

Writers of credit have mentioned, that a cataract may be formed almost instantaneously, by external violence. There is no doubt of the fact: I have seen it four different times.

without obstruction through the pupil, and the patient will be restored to as perfect vision as could have followed the most successful operation of either, or of any kind in the same subject, and under the same circumstances.

When the cataract is of the mixed kind, partly soft, and partly hard, the immediate effects of the needle are somewhat different; the soft part of the cataract being less in quantity as well as generally less soft, the aqueous humour is less turbid, and the firm part or parts of the crystalline will be very visible. In this state, these firmer parts will very frequently elude the attempts made by the needle to depress them; and will therefore remain in the posterior chamber. This is also reckoned among the unfortunate circumstances; but although to an operator not aware of, nor acquainted with the consequence, it may have all the appearance of being so, yet it really is not; the true end and aim of the operation not being thereby necessarily frustrated. In this case, if the needle has been so used as to have wounded the capsula very slightly, it will sometimes happen, that the firm part of the crystalline will remain in its

Whether this be not an affection of the capsula merely, I much doubt; or rather am much inclined to suspect that it most frequently is. In three of the four, which have fallen under my observation, the opacity has gradually disappeared after the inflammation, in consequence of the blow, had gone off; and the eyes were left as clear as ever — a consequence which, I think, may be accounted for, by supposing the opacity in the capsula only; but cannot, if we suppose it to be in the corpus crystallinum itself.

nidus, and still form a cataract, which may possibly require a future or re-application of the instrument. This is the worst that can happen, and happens indeed very seldom; for if the capsula be properly wounded, so that the aqueous humour be freely let in, the firm part or parts, though very visible at first, and preventing the passage of light through the pupil, will in due time, in some longer, in others shorter, gradually dissolve, and at last totally disappear; leaving the eye as fair, as clear, and as fit for vision, as any the most successful operation could have rendered it; of which I have seen and exhibited many proofs[g].

[g] The space of time which the accomplishment of such dissolution will require, is very uncertain: I have seen the eye perfectly fair and clear within a week after the operation: and I have seen it require two months for the dissolution of all the opake parts.

This has been observed by many, even before the nature and seat of a cataract were truly known; among the rest, by Read, who, speaking of one of his own operations, says:

" At the end of nine days I visited my patient, and found " both her and her friends highly discontented; so that I met " with nothing but invectives, &c.

" Within a fortnight after, when art and nature having " performed their mutual operations, and all the cloudy " vapours and rags of the cataract were consumed and " dispersed, her eyes grew clear, and her sight became " perfect, &c.

" I would have every patient, though after a cataract be " couched, and nine or ten days expired, he see little or " nothing at all, or that he cannot endure the light for a " month or two, or even for a quarter of a year, as I have " known many, not to be discouraged; for their sight may,

In order to render the fact still more clear, I have sometimes, when I have found the cataract to be of the mixed kind, not attempted depression: but have contented myself with a free laceration of the capsula; and having turned the needle round and round between my finger and thumb, within the body of the crystalline, have left all the parts in their natural situation: in which cases I have hardly ever known them fail of dissolving so entirely as not to leave the smallest vestige of a cataract[h]. In a few in-

" notwithstanding, become well and perfect, and continue so " ever after. On the other hand, some come to good and " perfect sight within a fortnight or three weeks."

Sir W. READ, p. 7.

[h] The operation of extraction, though said in general to remove the crystalline intire, and calculated for such purpose, does not always do so; but when the cataract is of the mixed kind, does not infrequently leave some of the firmer part behind, which one of the warmest patrons of the operation allows does dissolve and disappear. "Extrahendum statim post " operationem est quicquid remanet opaci ope Cochlearis " Davielis. Hoc quidem facile sit aliquando, aliquando vero " et imprimis ubi membrana crystallina non satis lacerata " cochlear in ipsam capsulam lentis, ubi hæret illud opacum " corpusculum non admittit, tantis difficultatibus circumfusum " est, ut quicquid etiam moliaris extrahere illud non possis, et " ne oculum nimis irrites, desistere ab opere, et relinquere " illud in oculo cogaris.

" Neque tamen tunc etiam spe optimi successus destituimur. " Sæpe enim observavi, opacum illud remanens, sive sit " mucus, sive frustulum lentis crystallinæ, sensim, et sponte, " citius vel tardius, penitus disparuisse. An resorbetur mucus " lacteus, an frustula lentis crystallinæ liquescant sensim, et " resorbentur, an in fundum oculi sensim, se præcipitant, dubium " est. Utrumque tamen fieri credo. Quoties lactea materia " post depressam cataractam totum humorem aqueum opaci-

stances, where I have had fair opportunity, I have pushed the firm part through the pupil into the anterior chamber, where it has always gradually and perfectly dissolved and disappeared, not producing pain or trouble, while such dissolution was accomplishing[1].

What I have advanced not being matter of opinion, but matter of fact capable of being inquired into, and proved by any who will take the trouble of so doing, I do not desire any man to give credit to it upon my mere assertion. But if, upon repeated trial and inquiry, it should be found to be as generally and as frequently true by others, as it has been by me, may it not fairly be inferred, that whatever other reasons there may be for preferring the operation of extraction to that of depression, or the use of the knife to that of the needle, yet those

" tate suâ et albedine inficiens sensim penitus evanuit? Quoties " pus in oculo hærens vel sanguis insigni quantitate in illum " effusus, sensim resorptus evanuit? Quoties frustula lentis " crystallinæ, post depressionem cataractæ, in pupillâ relicta? " &c. immo liquescere aliquando et resorberi hæc frustula " me ipsum experientia docuit," &c.

RICHTER de Cataractæ Extract.

[1] I should be sorry to have it inferred from hence, that I would recommend the passing the opake crystalline through the pupil: far from it; I think it wrong, as it is apt to produce one of the most frequent inconveniences attending the operation of extraction—an irregularity of the pupil. I only meant to prove the fact of dissolution of the cataract in such situation; and that it will not cause that pain and trouble which it is so positively said to do.

drawn from the supposed indissolubility of the crystalline are by no means conclusive; on the contrary, are very inconclusive. But this is by no means all; for if what I alleged be true, some other consequences, not a little interesting to the afflicted, will necessarily follow.

First, if the soft cataract will, when its capsula is properly wounded, mix with the aqueous humour, and undergo such a perfect dissolution and absorption, as to leave the eye fair, clear, and fit for vision, and which I have so often proved, that I have not the smallest doubt about it; it will then follow that the softness of a cataract is so far from being an unlucky circumstance, that it is rather a fortunate one; as it enables the patient to receive more early assistance; and that from an operation attended with less pain, and a less violation of parts, than a firmer one would necessarily require.

Secondly—When the cataract is of the mixed kind, and which therefore frequently foils all the attempts toward depression, the firmer parts may very safely be left for dissolution; and vision be thereby restored.

And, Thirdly—When the cataract shall happen to be of the firmer kind, and during an unsuccessful attempt to depress, get through the pupil behind the cornea, disappointment will be so far from being the consequence, that if no other injury has been done to the parts within, than what such attempt necessarily required, the displaced crystalline will gradually dissolve and

disappear; and the patient will see as well as any operation could have enabled him to have done.

I may perhaps be told, that what I have hitherto alleged only tends to prove, that both the soft and mixed cataract, when mixed with the aqueous humour by the laceration of the capsula, will dissolve; but that the firm one will not, and therefore must remain, wherever placed, a solid opake body.

To which I answer, in the first place, that if what has been said relative to the soft, and to the mixed cataract be true, I cannot help thinking it to be very advantageous. In the second place, that the opinion concerning the indissolubility of the displaced crystalline has, I think, been taken up, and propagated, without proper authority from inquiry and experiment, fairly and deliberately made, and stands merely on a few accidental observations, which are by no means satisfactory. And, in the third place, that, as far as my own inquiry and observation go, I am satisfied that it does dissolve wherever placed, provided it be perfectly freed from its attachment in its natural nidus[k].

[k] While I was preparing these sheets for the press, an old man was taken into St. Bartholomew's, who had a cataract in one eye, and had, by some accident, lost the sight of the other. I couched him; the cataract was as firm as I had ever felt any, and went down as easily, as immediately, and as intirely as possible. Three days after the operation, he was seized with so bad a small-pox, that he died on the eleventh, and the next day I took his eye home and examined it. The

Both men and books talk of firm, hard, intire, uniform cataracts, as if they were as much so as what are found in the eye of a boiled fish. Whence they borrow this idea, I know not, unless it be from boiled fish; certain I am that it is not from nature.

Let any man examine the most firm, opake crystalline, taken from the eye of a living person, and which, from its firmness, passed out through the pupil and the divided cornea with the greatest facility; he will generally find it to be in figure, size, and consistence, exceedingly unlike either to the natural and sound crystalline, or to one rendered opake by heat; and he will also find, that such alteration of shape and size is owing to a partial dissolution of its surface, particularly its anterior one; in short, if he will examine it carefully, and without prejudice, he will see, that what he calls an intire, firm cataract, is most frequently little more than the nucleus of an opake crystalline.

If a man might be allowed to argue in a case of this kind, *à priori*, he might very reasonably ask, why should the corpus crystallinum, which, although opake, is, while in its natural situation, and enveloped in its proper capsula, so prone to dissolve, as we must know that it is, be supposed to be as prone to induration, immediately upon being removed from its place.

cataract lay just below and behind the uvea, towards the external canthus. It was become small, irregular, and manifestly in a state of dissolution.

The most strenuous advocates for extraction cannot help allowing, that a portion or portions of a firm cataract, which they have been obliged to leave behind in the operation, dissolve and disappear in due time: it is, indeed, a fact not to be contradicted: but the same people say, that the intire cataract will not. What idea they, who argue thus, have of an intire cataract, I know not: they may possibly conceive it to be depressed, still remaining enveloped in a firm capsula, and therefore to remain indissoluble: but if they would reflect on the extreme fineness of the capsular membrane; on the necessary action of the couching-needle, when applied to it; and on the different consistence of the different parts of every, even the most opake and firm cataract, they must see that it is a portion only of any cataract, however firm, which can in general be depressed.

One of the arguments, made use of by some of the late writers, in favour of extraction, is, that as the crystalline *must* be *destroyed*, it had better be removed. Now how can it be said to be destroyed, if it be only displaced, and remain indissoluble? Let them take which side of this argument they please, they must be wrong: for if the diseased crystalline remain, though depressed, a solid body within the eye, how can it be said to be destroyed? and on the other hand, if it be destroyed in the operation of couching, it must be by dissolution; and therefore cannot remain.

The last objection to the operation of couching is, that it must necessarily derange and violate

the internal parts of the eye, particularly the vitreous humour.

If what I have said on the subject of the perfectly soft cataract, as well as on that which is partially so, be true, the greatest part, if not the whole of this objection, will cease, with regard to these two; and it will be principally, if not totally, confined to that which is called firm and hard, and which, by its resistance to the instrument, will admit of being placed in the inferior part of the eye.

In the performance of this operation, the needle may certainly be so used, as to do considerable mischief: but then it must be from the unskilfulness or aukwardness of the operator; and which may be the case of every operation in surgery. But is an operation, justly chargeable with ills, deducible merely from its having been ill executed?—I hope not.

I am very sensible that much mischief has been done by attempts to couch; but, in the first place, they have almost always been the consequence of want of judgment, or want of dexterity in the operator; and, in the next place, even under the most exaggerated representations, they are by no means equal to what has frequently been the consequence of attempts to extract.

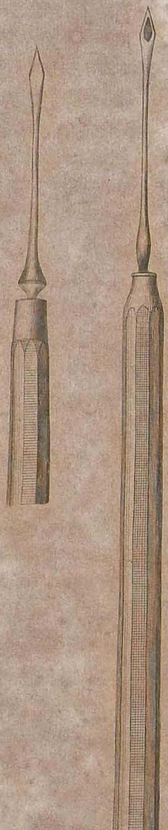
It may possibly be supposed, that I have conceived a prejudice against the operation of extraction. Of this I am not conscious. I have sought and embraced every opportunity which a public hospital, and many years practice, have

afforded me of operating in both ways, and of comparing the consequences. I have seen many of the patients of others, not only of the gentlemen of the profession, but of most of the itinerant operators; and am thereby convinced, that the greatest part of the objections to the operation of couching are invalid; have not been the result of unprejudiced experience, or a candid regard for truth; that only the fair and prosperous side of the question, regarding the operation of extraction, has been industriously exhibited, while its manifold failures and ill-consequences have been as industriously concealed; and that upon a fair detail and comparison of all the advantages and disadvantages, conveniences and inconveniences attending each, the preference will be found justly due to the needle.

Inconveniences and disappointments they are both too liable to: I heartily wish they were not. But, from the most cool and candid attention to fact, I am convinced, that the former are much greater, and the latter much more frequent, in the operation of extraction, than in that of depression, executed with the same degree of judgment.

The couching-needle which is commonly in use, has on the face which is applied to the cataract, a flat, highly-polished surface, which makes it, as I have experienced, liable to slip, if it meets with any little resistance when in contact with the surface of the cataract; or if the crystalline breaks, it does not readily attach the small portions of it. As the other side, near the point, is necessarily convex, to give a proper degree of strength to the instrument, I conceived that an advantage might be drawn from its form to obviate the inconvenience. I therefore got some needles made with a small cavity on the flat side, the opposite convexity allowing sufficient depth for it, and the surface of this cavity was left rough and unpolished. I have used them many times during several years, and I am of opinion that this alteration gives a considerable advantage in laying hold of that small slippery body the lens, or any fragment of it, and in conducting it to whatever part of the eye we think proper: by a turn of the instrument it is immediately disengaged, and neither the entrance nor passage of the needle is in any degree impeded by it.

The annexed figures show the difference between the two needles. E.



SOME FEW

REMARKS

ON THE

POLYPUS OF THE NOSE.

In these, as in the preceding remarks on the cataract, I do not mean to enter into a circumstantial history of the disease, but merely to offer a few practical observations on such parts of the doctrine concerning it, as appear to me to have been either inadvertently or erroneously delivered.

The polypus is a complaint which is always troublesome, frequently painful, and sometimes hazardous: the first of these is the necessary consequence of the situation of the distemper; the second arises from its peculiar nature in the individual; and the last, sometimes from its particular nature, and sometimes from the manner in which it may have been treated.

Writers tell us, and very truly, that it is a disease of the membrana pituitaria narium; that it has different seats, origins, and attachments; that it springs from the ethmoid bone, from the ossa spongiosa, from the septum narium, and even from the antra maxillaria; that it is hard

or soft, pale or deep red, or sometimes purple; that it is equal in its surface, or unequal; large or small, moveable or fixed, single or multiform, painful or indolent; that it makes its appearance forward in the nostrils, or backwards in the fauces behind the uvula; and that it may be strumous, venereal, or cancerous. When they have given us these general and merely definitive descriptions, they immediately proceed to the chirurgic treatment, or method of cure; which, they tell us, is either by extraction, or the use of escharotics, to which some have added ligature: they then give a general description of the manner of using the forceps, of applying escharotics, or of passing the string round it; and having provided styptics for the suppression of hæmorrhage, they leave every thing else to the reader's imagination, and to the practitioner's choice and judgment.

From these accounts, those who have not had much opportunity of seeing for themselves, and who are thereby under a sort of necessity of forming their opinions and regulating their practice by books, are induced to believe that, except in some few particular instances, where the distemper is palpably cancerous, all others are equally objects of chirurgic treatment; and therefore, that if, in the first instance, they can lay hold of the polypus with the forceps, and in the second can provide against the hæmorrhage, which they have heard so much of, they shall have nothing else to do or to fear.

To me I must acknowledge the matter appears

very differently. I cannot help thinking, that there are many polypi, which, although they are neither scirrhous nor cancerous, are very unfit for any chirurgic treatment whatever, and that from several circumstances; which circumstances may act in different manners, though equally prohibitory: they may forbid an attempt merely from the impossibility of its being successful; or they may forbid it, because it is more likely to do harm than good, more likely to exasperate the disease than cure it, to increase the misfortune than to lessen it.

The distinctive marks of the distemper, as laid down by writers, are, in general, just and true; but they only teach a young practitioner to know the disease when he may see it: they give him no warning of the mischief he may incur by attacking it unguardedly; nor inform him of a very serious truth, *viz.* that this is a sort of case, in which, when real mischief has been done, it is sometimes without remedy.

As far as my experience and observation go, the polypi which begin with, or are preceded by, considerable or frequent pain in the forehead and upper part of the nose, and which, as soon as they can be seen, are either highly red, or of a dark purple colour; they, which from the time of their being first noticed, have never been observed to be sometimes bigger, sometimes less, but have constantly rather increased; they in which the common actions of coughing, sneezing, and blowing the nose, give pain, or produce a very disagreeable sensation in the nostril and

forehead; they which, when within reach, are painful to the touch, or which, upon being slightly touched, are apt to bleed; they which seem to be fixed and not moveable by the action of blowing the nose, or of deriving the air through the affected nostril only (where the polypus is only on one side); they which are incompressibly hard, and which, when pressed, occasion pain in the corner of the eye, and in the forehead, and which, if they shed any thing, shed blood; they which, by adhesion, occupy a very considerable space, and seem to consist of a thickening, or of an enlargement of all the membrane covering the septum narium; they which sometimes shed an ichorous, offensive, discoloured discharge; and they, round whose lower part, within the nose, a probe cannot easily and freely be passed, and that to some height, ought not to be attempted, at least by the forceps, nor indeed by any other means with which I have the good fortune to be acquainted; and this for reasons obviously deducible from the nature and circumstances of the polypus. On the one hand, the very large extent and quantity of adhesion will render extirpation impracticable, even if the disease could be comprehended within the forceps, which it very frequently cannot; and, on the other, the malign nature of the distemper may render all partial removal, all unsuccessful attacks on it, and indeed any degree of irritation, productive of the most disagreeable consequences.

But the polypi which are of a palish or greyish light brown colour, or look like a membrane just

going to be sloughy; they which are seldom or never painful, nor become so upon being pressed; they which have appeared to be at one time larger, at another less, as the air has happened to be moist or dry; they which ascend and descend freely by the action of respiration through the nose; they which the patient can make to descend by stopping the nostril which is free, or even most free, and then deriving the air through that which the polypus possesses; they which when pressed give no pain, easily yield to such pressure, become flat thereby, and distil a clear lymph; and they, round whose lower and visible part a probe can easily, and that to some height, be passed, are fair and fit for extraction; the polypus, in these circumstances, frequently coming away intire: or if it does not, yet it is removable without pain, hæmorrhage, or hazard of any kind; the second of which circumstances, I can with strict truth affirm I never yet met with when the disease was at all fit for the operation[m].

[m] They, who are affected with this sort of polypus, generally complain, and that for a considerable time before the polypus becomes visible, that they are perpetually catching cold, more especially in moist or wet weather; though they seldom have any other symptoms of such colds than the stoppage in and discharge from the nose. They also always complain, that these colds always deprive them of the sense of smelling. In moist weather, or in a sudden change from dry to wet, they are also subject to frequent fits of sneezing; and when the relaxed membrane is most affected to very considerable discharge of thin mucus, from the affected nostril. Nor do I remember ever to have seen a polypus of this kind, which was

Of the benign kind of polypus, fit for extraction, there are two sorts, whose principal difference from each other consists in their different origin or attachment: that which is most freely moveable within the nostril, upon forcible respiration; which has been found to be most liable to change of size, at different times and seasons; that which has increased the most in the same space of time; that which seems most limpid, and most freely yields lymph upon pressure, has its origin most commonly by a stalk or kind of peduncele, which is very small, compared to the size of the polypus: while that which, although plainly moveable, is still considerably less so than the other; which has been less liable to alteration from air and seasons; and has been rather slow in arriving at a very troublesome size, is most frequently an elongation of the membrane covering one of the ossa spongiosa: they are both capable of being extracted, and that with no kind of hazard, with very little pain, and hardly any hæmorrhage at all: but the former requires the least force, and most frequently comes away intire; while the latter often breaks, comes away piecemeal, and stands in need of the repeated use of the forceps.

From the preceding observations a few prac-

not immediately subject to a change, upon the sudden alteration of the atmosphere, from dry to moist; that is, they always become longer, fall down lower, and look fuller and paler, and generally deprive the patient of all power of smelling.

tical inferences may be drawn, such as the following: —

First, That the polypi, under the first description, very rarely, if ever, admit an attempt toward extraction; and that not merely from the improbability of its being attended with success, but because such attempt may be the cause of very disagreeable consequences.

Second, that in those which do admit an operation, or the use of the forceps, the degree of success will depend principally upon two circumstances; *viz.* the benignity of the disease, and the degree and quantity of attachment; for although the nature of the complaint may be perfectly benign, yet it may happen, that a cure may not be attainable, and that merely from the degree and kind of attachment. And,

Third, That the hæmorrhage so much talked of, so solicitously guarded against by writers, and so much dreaded by young practitioners, will not often, if ever, be met with, in such cases as fairly and properly admit the operation.

The polypus is a disease, which, of all others, is said to be most difficult totally and perfectly to eradicate, and most liable to reproduction. This is, in some degree, true. It is difficult, in many instances, to extirpate it totally, and it often does grow again, more especially that sort which springs from the ossa spongiosa; but yet, that is not so often the case as it is supposed to be. It not infrequently happens, that there are, at the same time, two, three, or more different polypi, each of which is perfectly distinct from

the others, and has a separable distinct attachment. When this is the case, the lowest or most anterior, having the open nostril before it, easily makes its way down, uncompressed; while the other, or others, are not only kept up, and out of sight, but are also considerably compressed.

When the one, which was within sight and reach, has been removed, the next falls downward, and soon becomes visible; if it was large and lax, and merely kept up by what lay before it, it is often to be seen immediately; but if it was small, it may be out of sight, and can only be suspected by the passage of air through the nostril not being free, although the polypus which was removed came away perfect and intire; and when it does appear, it passes for a reproduction from the old stem, though it is really another and perfectly distinct polypus, of which the intire state of the investing membrane, and the separation of the polypus from its single point of attachment, will upon careful examination appear irrefragable proofs [n].

[a] Mr. Pott was particularly competent to describe this disease, having been troubled with polypi in his nose during many years: at one time they increased to such a degree as to distend the nostrils, and almost totally to prevent the passage of air. When they were fallen sufficiently low, Mr. Pott took an opportunity, in moist weather, and when they were in a state of relaxation, to extract the most prominent ones for himself, by means of a pair of window forceps before a mirror. In no great length of time others came in sight and supplied their place, which also Mr. Pott extracted in the same

It may perhaps be remarked, that, in what I have offered concerning this distemper, I have confined myself merely to the operation of extraction only; and have said nothing concerning the various methods and means which have been proposed for its destruction.

I am very sensible that many of our books are furnished with relations of attempts made by escharotics, and by a kind of medicated setons, some of which have been said to be successful. If I had ever found them so, I should have been glad to have related it; but I cannot say that I have: on the contrary, all that I have done of this kind, or have seen done by others, have served more and more to deter me from practising it again. When the polypus is loose and fairly circumstanced for extraction, it is not only the best method of cure, but is always advisable, and very frequently successful; but when from immobility, largeness of attachment, malignity of nature, or from any other cause, it becomes unfit for the use of the forceps, it is always, as far as I have been able to observe, still more

manner, till he had a collection of five or six large polypi: one of them had a single basis, but was branched out into two large lobes; to some of them there adhered a small portion of bone, to which they had been fixed—a sufficient proof that it required no small degree of fortitude and perseverance to perform the operation on his own person. Of late years he had intirely got rid of them; but there remained such a thickness of the whole membrane, that he continued totally deprived of the sense of smelling—a circumstance which he never much regretted. E.

unfit for caustic; nor indeed do I remember a single case, which has been so circumstanced as to render the use of the forceps absolutely unadviseable, where the application of escharotics would not have been much more so, as experiment, in some of them, has fatally proved. The structure and irritability of parts within the nose, and the impossibility of confining the application or limiting the effects of caustic medicines in such a part, in whatever manner or form applied, are palpable objections *à priori;* and the very disagreeable consequences which have been often found to follow from the inflammation and irritation of what it was impossible totally to destroy, have been too serious to be slighted*.

The polypus sometimes, instead of falling down the nostril, makes its appearance backward in the fauces behind the uvula; in which case the general method is, to extract it by introducing the instrument into the mouth instead of by the nose.

This, though sometimes practicable, is much more easily described than executed; and in

* The method by ligature, whether of silk or wire, is not attended with the inconveniences of the caustic, and is certainly practicable in some instances; but, as far as I have seen of it, is by no means equal to that by the forceps, either for its general utility, or its capacity of perfectly eradicating the excrescence. I know some ingenious practitioners, who approve of it; but I cannot say, from what has come within my knowledge, that it appears to me in so recommendable a light.

some people will be found absolutely impracticable. The objection arises from the great difficulty of keeping the tongue down in some, and in others, from their incapability of permitting any thing to touch the root of that part, or any part of the fauces, without immediately producing a spasm: to which might be added that, in some cases, the polypus is so expanded as almost to conceal the uvula, which is therefore liable to be laid hold of by the instrument, to the no small detriment of the patient.

However large, pendulous, or expanded such polypus may be, its attachment always is and must be within the cavity of the nose, and therefore always within the reach of a pair of forceps introduced that way, especially if the forceps be somewhat curved; and which, when the excrescence appears behind the uvula, will have one advantage superior to what it has when the polypus appears in the nose; which is, that it will be applied much nearer to the point of attachment, and therefore most likely to extirpate it perfectly.

I cannot leave this subject without cautioning the young practitioner to be exceedingly careful in examining and inquiring into all the circumstances previous to his undertaking a cure, lest he should find, too late, that he has gone too far to recede.

For want of such caution, I have seen hæmorrhages which have been frightful, and inflammations which have proved fatal. I have seen a case, wherein an untoward-looking polypus, and

which ought not to have been meddled with, has been so attached to a distempered septum nasi, that it has come away with it: I have seen the same thing happen with regard to almost the whole of the ossa palati; and I have more than once known a polypose thickening of the membrane covering the ossa spongiosa, and septum nasi, which, in all probability, would have remained quiet a great length of time, so irritated by rough treatment and successless attempts, as to render the remainder of the patient's life truly miserable to himself, and offensive to others.

CANCER SCROTI.

Ramazini has written a book De Morbis Artificum.—The Colic of Poictou is a well known distemper; and every body is acquainted with the disorders to which painters, plumbers, glaziers, and the workers in white lead, are liable; but there is a disease as peculiar to a certain set of people, which has not, at least to my knowledge, been publicly noticed; I mean the chimney-sweeper's cancer.

It is a disease which always makes its first attack on, and its first appearance in, the inferior part of the scrotum; where it produces a superficial, painful, ragged, ill-loking sore, with hard and rising edges: the trade call it the soot-wart. I never saw it under the age of puberty, which is, I suppose, one reason why it is generally taken, both by patient and surgeon, for venereal; and being treated with mercurials, is thereby soon and much exasperated. In no great length of time, it pervades the skin, dartos, and membranes of the scrotum, and seizes the testicle, which it enlarges, hardens, and renders truly and

thoroughly distempered; from whence it makes its way up the spermatic process into the abdomen, most frequently indurating and spoiling the inguinal glands: when arrived within the abdomen, it affects some of the viscera, and then very soon becomes painfully destructive[a].

The fate of these people seems singularly hard: in their early infancy, they are most frequently treated with great brutality, and almost starved with cold and hunger; they are thrust up narrow, and sometimes hot chimneys, where they are bruised, burned, and almost suffocated; and when they get to puberty, become peculiarly liable to a most noisome, painful, and fatal disease.

[a] From the soot being collected and remaining in the moist rugæ of the scrotum, it is not difficult to conceive why the disease should generally begin in that part; but I have seen the true soot-wart in the face of a chimney-sweeper, just under the left eye, who had never suffered from the disease in any other part, though he said he had sometimes felt little hardnesses in the scrotum, which, when they grew troublesome, he picked off; but he had never perceived any sore, ulceration, or considerable hardness in that part.

Mr. Pott has observed that he never saw the disease under the age of puberty; but since the publication of his treatise I saw it in an infant under eight years of age, who was brought into St. Bartholomew's hospital, and was an apprentice to a chimney-sweeper. I showed it to Mr. Pott, who acknowledged it to be the true disease, and that he had not before seen it in so young a subject. It had infected all the lower part of the scrotum; but as the testis had not imbibed the poison, the diseased part being removed, the wound healed, and the boy was discharged perfectly well. E.

Of this last circumstance there is not the least doubt, though perhaps it may not have been sufficiently attended to to make it generally known. Other people have cancers of the same parts; and so have others, beside lead-workers, the Poictu colic, and the consequent paralysis: but it is nevertheless a disease to which those persons are peculiarly liable; and so are chimney-sweepers to a peculiar kind of cancer in the scrotum and testicles.

If there be any chance of putting a stop to, or preventing this mischief, it must be by the immediate removal of the part affected; I mean that part of the scrotum where the sore is; for if it be suffered to remain until the virus has seized the testicle, it is generally too late even for castration. I have many times made the experiment; but though the sores, after such operation, have, in some instances, healed kindly, and the patients have gone from the hospital seemingly well, yet, in the space of a few months, it has generally happened, that they have returned either with the same disease in the other testicle, or in the glands of the groin, or with such wan complexions, such pale leaden countenances, such a total loss of strength, and such frequent and acute internal pains, as have sufficiently proved a diseased state of some of the viscera, and which have soon been followed by a painful death.

If extirpation ever bids fair for the cure of a cancer, it seems to be in this case; but then the operation should be immediate, and before the

habit is tainted. The disease, in these people, seems to derive its origin from a lodgment of soot in the rugæ of the scrotum, and at first not to be a disease of the habit. In other cases of a cancerous nature, in which the habit is too frequently concerned, we have not often so fair a prospect of success by the removal of the distempered part; and are obliged to be content with means, which I wish I could say were truly palliative. But here the subjects are young, in general in good health (at least at first), the disease brought on them by their occupation, and in all probability local; which last circumstance may, I think, be fairly presumed from its always seizing the same part: all this makes it (at first) a very different case from a cancer which appears in an elderly man, whose fluids are become acrimonious from time, as well as other causes; or from the same kind of complaint in women who have ceased to menstruate. But be all this as it may, the scrotum is no vital organ, nor can the loss of a part of it ever be attended with any the smallest degree of inconvenience; and if a life can be preserved by the removal of all that portion that is distempered, it will be a very good and easy composition; for when the disease has got head, it is rapid in its progress, painful in all its attacks, and most certainly destructive in its event[b].

[b] This species of cancer, which Mr. Pott has so accurately described, appears to be produced by some peculiar acrimonious quality in soot, when incorporated and fermenting

with the secretions on the skin of some persons, whose constitutions are disposed to undergo a certain change, or receive a new modification of their inherent properties. As chimney-sweepers are in the constant habit of being in contact with soot, it follows that they must be most liable to a disease which is evidently caused by it; but, as was before observed, those only, whose constitutions are disposed to receive the poison, are infected; not one in many hundreds being injured by it. Mr. Pott seemed to suppose that this species of cancer was peculiar to chimney-sweepers; but I have strong grounds for thinking that he was mistaken in that idea. There are instances, though I believe them to be very rare (as I know no one, either author or practitioner, who has noticed them); yet there are instances of other persons being infected by the contact or effluvia of soot; and as a caution for every one to be careful of handling it, or in any way being exposed to its action, I will relate the case of a man who was attacked with this dreadful disease to a most lamentable degree, and was brought into the hospital. The scrotum and testis, with the spermatic chords, together with the glands in the groin, were included in a large phagedenic ulcer. The nature of the disease was so marked and evident, that I took for granted that he was a chimney-sweeper, and was much surprized to find that his business was quite of another kind. I could not, however, avoid repeatedly asking him if he had ever had any thing to do with sweeping chimneys: he assured me not. Some time after he told me, that on considering the questions which I had so often urged, he recollected, that not many years before he had lodged at the house of a chimney-sweeper, in the apartments of which soot-bags and soot were deposited. He did not appear very accurate in his account, but thought on recollection that the complaint began in the scrotum soon after he left the chimney-sweeper's house. This goes nearly to prove that soot in substance, or perhaps the volatile parts of it, have the power of producing the disease; and not any thing peculiar to the occupation or manner of life to which chimney-sweepers are subject. Probably the man's body, or his linen, were liable to be daubed with soot, or the dust arising from it; and the scrotum was first affected, as it is among chimney-sweepers, for the reason before given; that of the moist rugæ retaining the poison more readily than other parts.

As a further caution to persons who may be employed in making use of soot, to be careful in washing and cleansing themselves, I will mention another case which I met with, and which in my mind goes pretty clearly to ascertain the fact, that soot is of a dangerous nature, and capable of producing this disease in other people, as well as chimney-sweepers.

Allan Spragg, aged 49, came into St. Bartholomew's hospital, on account of a large cancerous sore, which reached from the bend of the wrist to the knuckles, occupying almost the whole of the back of the left hand. He had been under the care of many persons, and various applications and internal medicines had been given. The circumference of the sore rose in large ulcerated tumors, and seemed inclined to spread. In some parts of the middle it appeared in a healing state—in other parts ulcerated; but he said different parts of it had often healed and broke out again, as we afterward found it inclined to do. There was an indescribable something in the appearance of the complaint which put me in mind of the sooty-wart, or chimney-sweeper's cancer; for there is a peculiar appearance in that disease, to the eye of any one who has paid attention to it, very different from any other cancerous sore. This led me to make a particular inquiry into this person's life and occupation. He said he was a gardener; that about five years before (in 1800) he was employed in a garden at Lowlayton, in Essex; that in the spring of that year he was engaged about two hours every morning to strew soot on the ground, round the young and tender plants, to preserve them from the slugs; that he carried the soot in an old garden-pot, which hung on his left hand by a handle over the top, while he strewed it with the right. About this time he conceived the wart commenced near the knuckles, and continued not very troublesome all that year; the next spring he was again employed to distribute soot; the wart was then increased and ulcerated, and continued growing worse all that year. The spring following he again used soot in the same manner: the sore then spread, and grew larger, which made work of any kind very difficult to him.

It is to be remarked that the right hand which strewed the soot was unaffected. Probably from that action it got rid of the effect of the effluvia; but the left, being two hours

exposed to the vapours or dust arising from the soot, as it was continually stirred up, a lodgment of it was probably made on the thin skin at the back of the hand. The man said he always washed his hands before he came into breakfast, but such persons are not always very accurate in their ablutions.

For the last two years he had not used soot, but the sore continued to spread rapidly: however he kept on working till October, 1804, when he was incapable of using the hand. December 27th, he came into the hospital. The various means which were used, both internally and externally, to endeavour to stop the progress of, and cure the disease, it is unnecessary to detail in this place, as unfortunately none of them proved of any very material service; for though sometimes one part appeared healing, another continued to open and spread. In *rerum naturâ* there may probably exist a cure for this dreadful malady, but it has hitherto escaped our researches.

Poor Allan left the hospital several times, and put himself under the care of some *soi-disans* doctors, both male and female, who promised to cure him, but always returned with the disease worse and worse, till at last he submitted to amputation, after which the excruciating pains which he had suffered soon left him, and as a pretty clear proof of the locality of the disease, and that it was not constitutional, the wound from the operation healed kindly, and he got perfectly well. E.

attached to the [illegible] of [illegible] springing from the root, [illegible] it was [illegible] placed on a [illegible] of it [illegible] probably [illegible] on the [illegible] at the back of the hand. The man said he [illegible] [illegible] hand before he [illegible] into [illegible] [illegible], but such [illegible] [illegible] [illegible] in their [illegible].

For the last two years he had [illegible] used [illegible] [illegible] the [illegible] continued to several [illegible], [illegible] [illegible] [illegible] till October [illegible], when he was incapable of using the hand. December [illegible], he came into the [illegible]. The various means which were used, both internally and externally, to [illegible] to stop the progress of [illegible] disease, it is unnecessary to detail in this place, as unfortunately none of them proved of any very material [illegible]; for though sometimes one part appeared healing, [illegible] continued to open and spread. [illegible] [illegible] [illegible] [illegible] probably exist a cure for this dreadful malady [illegible] [illegible] [illegible] not [illegible].

[illegible]

OBSERVATIONS

ON THE

MORTIFICATION

OF

THE TOES AND FEET.

THE powers and virtues of the Peruvian bark are known to almost every practitioner in physic and surgery. Among the many cases in which its merit is particularly and justly celebrated, are the distempers called gangrene and mortification; its general power of stopping the one, and resisting the other, have made no inconsiderable addition to the success of the chirurgic art; but still there is a particular species even of these, in which this noble medicine most frequently fails: I mean that particular kind, which, beginning at the extremity of one or more of the small toes, does, in more or less time, pass on to the foot and ancle, and sometimes to a part of the leg, and, in spite of all the aid of physic and surgery, most commonly destroys the patient.

It is very unlike to the mortification from inflammation, to that from external cold, from ligature, or bandage, or to that which proceeds from any known and visible cause, and this as

well in its attack as in its process. In some few instances it makes its appearance with little or no pain; but in by much the majority of these cases, the patients feel great uneasiness through the whole foot and joint of the ancle, particularly in the night, even before these parts show any mark of distemper, or before there is any other than a small discoloured spot on the end of one of the little toes.

It generally makes its first appearance on the inside, or at the extremity of one of the smaller toes, by a small, black, or bluish spot: from this spot the cuticle is always found to be detached, and the skin under it to be of a dark red colour.

If the patient has very lately cut his nails, or corn, it is most frequently, though very unjustly, set to the account of such operation.

Its progress in different subjects, and under different circumstances, is different; in some it is slow and long in passing from toe to toe, and from thence to the foot and ancle; in others its progress is rapid, and horridly painful. It generally begins on the inside of each small toe, before it is visible either on its under or upper part; and when it makes its attack on the foot, the upper part of it first shows its distempered state, by tumefaction, change of colour, and sometimes by vesication; but wherever it is, one of the first marks of it is a separation or detachment of the cuticle.

Each sex is liable to it; but for one female in whom I have met with it, I think I may say, that

I have seen it in at least twenty males. I think also that I have much more often found it in the rich and voluptuous, than in the labouring poor; more often in great eaters, than free drinkers. It frequently happens to persons advanced in life, but is by no means peculiar to old age. It is not, in general, preceded or accompanied by apparent distemperature either of the part, or of the habit. I do not know any particular kind of constitution which is more liable to it than another; but as far as my observation goes, I think that I have most frequently observed it to attack those who have been subject to flying uncertain pains in their feet, which they have called gouty, and but seldom in those who have been accustomed to have the gout regularly and fairly. It has, by some, been supposed to arise from an ossification of vessels; but for this opinion I never could find any foundation but mere conjecture.

The common method of treating this distemper is, by spirituous fomentations, cataplasms actually and potentially warm, by dressings of the digestive kind, as they are called, animated with warm, pungent oils and balsams, &c.; and, internally, by the Peruvian bark.

I wish I could say that this, which, with little alteration, has been the general practice, had been most frequently, or even often successful; but I am, from long and repeated experience, obliged to say, that it has not.

I am sensible that many of my readers will be surprised at my affirming, that the Peruvian

bark will not stop a mortification, a distemper in which, for some years, it has been regarded as specific: but I must beg not to be misunderstood; I mean to confine my observation and my objection to this particular species of mortification, which I regard as being *sui generis:* and under this restriction I must repeat, that I have seldom, if ever, seen the bark successful: in all other cases, wherein it is used or recommended, no man has a higher opinion of it; but in this I cannot give it a praise which it does not deserve.

I believe I may venture to say, that I have tried it as fairly, as fully, and as variously, as any man has or can: I have given it in the largest quantity, at the shortest intervals, and for the longest possible space; that is, as long as the patient's life would permit. I have given it by itself in decoction, extract, and substance. I have combined all these together. I have joined it with nitre, sal. absynth., with snake-root, with confect. cardiac., with volatile salts, and with musk, as different circumstances seemed to require, or admit. I have used it as fomentation, as poultice, as dressing. I have assisted it with every thing which has been usually thought capable of procuring, or assisting digestion:—still the distemper has continued its course, perhaps a little more slowly, but still it has ended in death.

I am sorry to rob one of our great medicines of any part of its supposed merit; but as, on the one hand, its claim, in this instance, is unjust,

and as, on the other, I hope to add as much to the character of another, the *res medica* will be no sufferer.

Some time ago, I had a patient labouring under this complaint, who from antipathy, obstinacy, or some other cause, could not be prevailed on to take bark in any form whatever. I made use of every argument, but to no purpose. Fomentation, poultice, and the usual dressings were applied in the usual manner; the disease advanced, some days more, some days less, and at the end of a fortnight the small toes were all completely mortified, the great one become blackish, the foot much swollen, altered in colour, and the disease seeming to advance with such hasty strides, that I supposed a very few days would determine the event. The pain in the foot and ancle was so great, and so continual, as totally to deprive the patient of sleep. On this account, and merely to procure some remission, I gave two grains of opium at night, which not having the desired effect, I repeated it in the morning. Finding, during the following day, some advantage, I repeated the same dose night and morning, for three days; at the end of which time the patient became quite easy, and the appearances on the foot and ancle were visibly more favourable. Encouraged by this, I increased the quantity of the medicine, giving one grain every three or four hours, taking care to watch its narcotic effect, and to keep the belly empty by clysters. In nine days from the first administration of the opium, all the tume-

faction of the foot and ancle totally subsided, the skin recovered its natural colour, and all the mortified parts plainly began to separate; in another week they were all loose, and casting off, the matter was good, and the incarnation florid. During the whole of this time, I continued the use of the opium, varying its quantity as circumstances required, but never gave less than three or four grains in twenty-four hours.

When the sloughs were all cast off, the bones separated, and I had only a clean sore to dress and heal, I gradually left off the medicine.

I am very willing to acknowledge, that however well-pleased I might be with the event of this case, yet I really regarded it as accidental; so much so, that having very soon after another opportunity, I did not care to trust to opium alone, but joined the bark with it. The event was equally fortunate. But although I had joined the cortex with the extractum thebaicum, and did therefore attribute the success to their united powers, yet the effect was so very unlike to what I had ever seen from the bark without opium, that I could not avoid seriously, and often, reflecting on it, and determining to use it by itself, whenever another opportunity should offer. I did so, and succeeded in the same happy manner, though under the very disagreeable circumstances of seventy years of age, a broken, distempered constitution, and the disease making a hasty progress.

To relate cases which are nearly or at least materially similar, is of no use: I shall therefore

only say, that every opportunity, which I have had since of making the experiment, has still more and more convinced me of the great value and utility of this medicine, and of its power of rescuing from destruction persons under this affliction.

I cannot say that it has never failed me: it certainly has; but then it has been under such circumstances, as I think would fairly account for the failure.

I should be exceedingly sorry to be misunderstood; I should be still more so to mislead any body; and therefore I beg it may be noticed, that I do not propose the extractum thebaicum, in this case, as an universal, infallible specific. I know, from experience, that it is not: but as I also know, from repeated experience, that it will, under proper management and direction, do more than any, or than all other medicines; and that I have, by means of it, saved some lives, which, I am very sure, would, under the common and most approved method of treatment, without it, have been lost—I could not answer to myself the not communicating what I had observed.

If this was an experiment, in which the life, or limb, or health of the patient, was in any degree endangered, or by which the person, on whom it may be tried, could in any degree be injured, I should have withheld what I now publish, until a greater length of time and more experience had rendered it still more absolutely certain; and I should have thought myself

strictly vindicable in so doing: but as this is a medicine, whose general effects are well known, and which is at the same time so capable of direction and management, that it is almost impossible for any person, who deserves to be trusted with medicine at all, to do any material harm with it, I thought it would be wrong and unjust to conceal what had occurred to me, lest I might thereby deprive the afflicted of an assistance which, I verily believe, is not to be obtained from any other quarter.

In short, from what I have seen and done, I am perfectly convinced that, by its means, and by its means solely, I have saved lives which, without it, must have been lost.

If it preserves a few of those, who are so unfortunate to labour under this nasty, painful, lingering, and destructive disorder, to which we are all liable, and which has hitherto, most frequently, foiled all attempts of art, I shall be sincerely glad to have contributed to so good an end: if it should prove in other hands as successful as it has with me, I shall be still more so: but on the other hand, if after several times giving me reason to believe and hope that it would prove an instrument for the preservation of many, it should, upon more repeated trial, be found to fail, I shall be sorry for the event, but shall still think, that I did right in communicating what I had seen, and thereby endeavouring to be useful to mankind.

Hoc opus, hoc studium, parvi properemus et ampli,
Si patriæ volumus, si nobis vivere cari.

If I am right in my conjecture concerning this hazardous and destructive malady; and if the method which I have proposed and practised, should prove as successful in the hands of others, as it has in mine, I cannot help thinking, that the external or chirurgic treatment of the disorder might be amended; that is, might be made to coincide more than it does at present with such soothing kind of plan.

Since I have had reason to embrace this opinion, and to act in conformity to it, I have found more advantage from frequently soaking the foot and ancle in warm milk, than from any spirituous or aromatic fomentations whatever; that is, I have found the one more capable of alleviating the pain, which such patients almost always feel, than the other; which circumstance I regard as a very material one. Pain is always an evil; but in this particular case I look upon it as being singularly so. Whatever heats, irritates, stimulates, or gives uneasiness, appears to me always to increase the disorder, and to add to the rapidity of its progress; and, on the contrary, I have always found that whatever tended merely to calm, to appease, and to relax, at least retarded the mischief, if it did no more.

The whole plan of the chirurgic treatment of this disease is founded on a general idea of warming, invigorating, stimulating, and resisting putrefaction; and the means generally made use of are very proper for such purpose:

but I must own that, I think the purpose, or intention, to be improper.

Upon this principle, the old theriaca Londinensis, and the present cataplasma e Cymino, have been, and still are, so freely used on this occasion. A composition of this kind, if it does any thing, must heat and stimulate, and it is by heating and stimulating the skin, to which it is applied, that it so frequently does that mischief which I am confident it often does, though such mischief is set to the account of the nature of the disorder. Cases exactly similar, in all circumstances, are not to be met with every day; but I am from experience convinced, that of two, as nearly similar as may be, in point of pain, if the one be treated in the usual manner, with a warm, stimulating cataplasm, and the other only with a poultice made of the fine farina seminis lini, in boiling milk or water, mixed with ung. sambuc. or fresh butter, that the pain, and the progress of the distemper, will be much greater and quicker in the former than in the latter.

When the black or mortified spot has fairly made its appearance on one or more of the toes, it is the general practice to scarify or cut into such altered part with the point of a knife or lancet. If this incision be made merely to learn whether the part be mortified or not, it is altogether unnecessary: the detachment of the cuticle, and the colour of the skin, render that a decided point. If it be not made quite through the

eschar, it can serve no purpose at all: if it be made quite through, as there is no confined fluid to give discharge to, it can only serve to convey such medicines as may be applied for the purpose of procuring digestion to parts capable of feeling their influence, and on this account they are supposed to be beneficial, and therefore right.

When the upper part of the foot begins to part with its cuticle and to change colour, it is a practice with many to scarify immediately; here, as in the preceding instance, if the scarifications be too superficial, they must be useless; if they be so deep, as to cause a slight hæmorrhage, and to reach the parts which have not yet lost their sensibility, they must do what indeed they are generally intended to do, that is, give the medicines which shall be applied, an opportunity of acting on such parts.

The medicines most frequently made use of for this purpose are, like the theriaca, chosen for this supposed activity; and consist of the warm, pungent oils and balsams, whose action must necessarily be to stimulate and irritate. From these qualities they most frequently excite pain, which, according to my idea of the disease, is diametrically opposite to the proper curative intention; and this I am convinced of from repeated experience.

The dressings cannot consist of materials which are too soft and lenient; nor are any scarifications necessary for their application. But

I would go further and say, that scarifications are not only useless, but, in my opinion, prejudicial, by exciting pain, the great and chiefly-to-be dreaded evil in this complaint. The poultice should be also soft, smooth, and unirritating; its intention should be merely to soften and relax; it should comprehend the whole foot, ancle, and part of the leg; and should always be so moist or greasy, as not to be likely to become at all dry or hard between one dressing and another.

I will trouble the reader with only one remark more.

When the toes are, to all appearance, perfectly mortified, and seem so loose as to be capable of being easily taken away, it is, in general, thought right to remove them. However rotten and loose they may seem to be, or really are, yet while they hold on, they hold by something which is still endued with sensation, as may always be known, if they be bent back or twisted with any degree of violence.

I will not enter into a dispute about the sensibility or insensibility of ligaments, nor undertake to determine whether they be ligaments, or any other kind of parts which still maintain the connexion of the toes with their own respective joints, or with the metatarsal bones; it is sufficient for me to know, and to inform the young practitioner, that however loose they may seem, yet if they be violently twisted off, or the parts by which they hang be divided, a very considerable degree of pain will most commonly attend such operation, which therefore had much

better be avoided; and that I have seen this very pain, thus produced, bring on fresh mischief, and that of the gangrenous kind.

If the patient does well, these parts will certainly drop off: if he does not, no good can rise from removing them.

REMARKS

ON THE

NECESSITY AND PROPRIETY

OF THE

OPERATION OF AMPUTATION,

IN CERTAIN CASES,

AND

UNDER CERTAIN CIRCUMSTANCES.

REMARKS

ON THE

OPERATION OF AMPUTATION.

No man, however slightly acquainted with the history of Surgery, can have the smallest doubt of the superiority which its present state justly claims over that of our predecessors, especially over that of our more remote ones.

The surgery of the last century, and even of some part of this, was coarse and cruel in its operative part, painful and tedious in what is generally called the curative. A multiplicity of heavy unmanageable instruments characterised the former, and a variety of irritating applications the latter. By means of the one, many operations were rendered much more terrible to bear, as well as more hazardous in the event, than they ought to have been; while long suffering and tedious confinement became the necessary consequences of the use of the other.

To simplify the art has been the aim of all the best practitioners of later times, and to this they owe both their success and their reputation; by this they have reduced our instruments to a small number, and have rendered those which are now used much more manageable; upon the same

plan, they have discharged a farrago of external applications, the majority of which were either useless or mischievous. A prosecution of the same method will, I make no doubt, produce greater improvements, but still operations will for ever remain unavoidable in particular circumstances, and some diseases will still sometimes require applications which must produce uneasiness: to render these as seldom necessary, and as little painful as possible, should be the business of every practitioner, and this is all that art can do, or that should be expected from it. The boast of universal specifics, of remedies infallibly preventative of diseases, and of means whereby chirurgical operations may be rendered totally unnecessary, is the language of quackery, and not of science.

The amputation of a limb is an operation terrible to bear, horrid to see, and must leave the person on whom it has been performed in a mutilated imperfect state; but still it is one of those which becomes, in certain circumstances, absolutely and indispensably necessary.

To those who are well acquainted with surgery, it must appear needless to have said this; they well know the truth of it: but as they who have not had sufficient opportunity of obtaining practical information, may be misled by a contrary doctrine when boldly advanced; and as they who are really well informed may, under certain circumstances, be deterred from acting up to their knowledge, I have thought that I should not absolutely mis-spend my time, nor do mankind a

dis-service, if I took this opportunity of giving the subject a little consideration.

I am the more inclined to do this, for three reasons:

1st. Because I am satisfied that the propriety of amputations in certain cases, stands upon as fixed and as rational principles as any part of surgery.

2d. Because a contrary doctrine has within a few years been boldly and industriously propagated, not without some very indecent, as well as untrue reflexions, on the profession in general, and on those who have the care of hospitals in particular: and

3dly. Because I am convinced that such doctrine has been employed to the prejudice of mankind, by covering ignorance and timidity, and also for serving the base purpose of malevolence.

"*Ne occidisse nisi servasset,*" is under certain limitations a very just and prudent maxim, but taken at large may be productive of much mischief. Mankind are rather too apt to form their opinion from events only; success with many constitutes propriety, and the failure of it is often very unjustly set to the account of misconduct, or of want of knowledge. A young practitioner at a distance from assistance, and thereby deprived of that support, may be afraid to put his character to hazard, by acting in such manner, as although it might justly entitle him to success, yet cannot command it. He may understand his art, but art is not infallible. He may be a very excellent surgeon, and yet be afraid to

encounter the prejudices of some, or the malevolence of others.

A few years ago a book was published professedly to oppose and condemn the practice of amputation, in all cases whatever, and almost without exception. The book was written by a Mr. Bilguer, a surgeon in the Prussian service. Mr. Tissot wrote some Annotations on it, and a Preface, announcing its great and wonderful merit and utility; and the whole was translated into English, and dedicated to Sir John Pringle. Both the book and the Annotations contain some very extraordinary doctrines and assertions, neither of which it is my intention to criticise in this place. They who read the work, and understand the subject, will, I verily believe, have but one opinion. The writer, as well as the annotator, may have meant well; but certain I am, if their opinions were generally followed, mankind would be great sufferers. The particular cases in which the operation of amputation is totally and absolutely unnecessary, and therefore wrong, are in his own words, or at least in those of his translator, as follows:—

"1st. A mortification which spreads until it "reaches the bone.

"2dly. Any limb so greatly hurt, whether "by fracture or dilaceration, that there is room "to dread the most fatal consequences.

"3dly, A violent contusion of the soft parts, "which has at the same time shattered the "bones.

"4thly, Wounds of the larger vessels, which

" convey blood into the limb, either as the only
" way of stopping the hæmorhage, or through
" apprehension it should perish for want of
" nourishment.

" 5thly. An incurable caries of the bone."

In the first of these the art of surgery has very little to do, except the mere sawing the bones through: nature, if the patient lives, will in general do all the rest, and will remove the limb, whether the surgeon may choose it or not. In the 2d, 3d, and 4th, what the writer has asserted is so repugnant to the universal opinion of all the ablest and best practitioners, to common sense, and to constant experience, and his doctrine would, if followed, be productive of so much mischief to mankind, that I cannot help bearing my testimony against it. But as flat contradictions have no more authority than positive assertions, I take this opportunity of giving my reasons for a different opinion, at large.

The cases in which, under *certain circumstances*, amputation *may* become necessary for the preservation of the patient's life, are several; but I will confine myself to four.

These are: 1. A compound fracture.

2. Some kind of scrophulous joints.

3. Some kind of aneurisms.

4. A caries of the whole substance of the bone or bones composing a limb.

In all, and each of which, it may, and does sometimes so happen, that the patient's life can be only preserved by the loss of his limb. This doctrine is very opposite to that of the book

just cited; but if it be consonant to truth and experience, it matters not from whom it may differ.

In compound fractures, there are three points of time in which the operation of amputation may become necessary. The first of these is immediately, or as soon as may be, after the receipt of the injury. The second is, when the bones continue for a great length of time without any disposition to unite, and the discharge from the wound has been so long and is so large, that the patient's strength fails, and general symptoms foreboding dissolution come on. And the third is, when a mortification shall have taken such complete possession of the soft parts of the inferior part of the limb, quite down to the bone, that, upon separation of such parts, the bone or bones shall be left bare in the inter-space.

The first and second of these are matters of very serious consideration. The third hardly requires any.

When a compound fracture is caused by the passage of a very heavy body over a limb, such, for instance, as the broad wheel of a waggon, or a loaded cart, or by the fall of a very ponderous body on it, or by a cannon-shot, or by any other means so violent as to break the bones into many fragments, and so to tear, bruise, and wound the soft parts, that there shall be good reason to fear that there will not be vessels sufficient to carry on the circulation with the parts below the fracture, it becomes a matter of the most serious consideration, whether an at-

tempt to save such person's limb will not be the occasion of the loss of his life: this consideration must be before any degree of inflammation has seized the part, and therefore must be immediately after the accident.

When inflammation, irritation, and tension have taken place, and when the air admitted freely into the tela cellulosa has begun to exert its pernicious influence, it is too late: an operation then, instead of being beneficial, would prove destructive.

The necessity of immediate, or very early decision in this case, arising from the circumstances already mentioned, make this a very delicate part of practice: for however pressing the case may seem to the surgeon to be, it will not in general appear in the same light to the patient, to the relations, or to by-standers; they will be inclined to regard the proposition as arising from ignorance how to treat the case properly, or from an inclination to save trouble; or perhaps from a still worse motive, a desire to operate; and it will often require more firmness on the part of the practitioner, and more resignation and confidence on the part of the patient, than is generally met with, to submit to such a severe operation, in such a seeming hurry, and upon so little apparent deliberation; and yet it often happens, that the suffering this point of time to pass, decides the patient's fate. I must repeat, that this necessity of early decision, arises from the very just dread of the ill effects

of a greatly obstructed circulation, owing to a large destruction of vessels: these, added to those arising from pain, irritation, and the admission of air, often produce a high fever, and intense inflammation, ending, and that very shortly, in gangrene, mortification, and death. That this is no exaggeration, melancholy and frequent experience evinces, even in those whose constitutions previous to the accident were in good order; but much more in those, who had been heated by violent exercise, or labour, or liquor, who have led very debauched and intemperate lives, or who have habits naturally inflammable and irritable.

This may be, and often is the case, when the fracture happens to the middle part of the bones, at the greatest possible distance from the extremities; but is much more likely to happen, and indeed much more frequently is the case, when any of the large joints are concerned: the circumstances of broken bones in these parts, and of torn, bruised, and wounded ligaments, to say nothing of the admission of air into joints, are dreadful additions to the hazard, and demand a speedy decision, as they are productive of the worst consequences in the shortest space of time; and therefore, that, in many of these cases, a determination for or against amputation is really a determination for or against the patient's existence, is a truth of which I am as well satisfied, as I am, or can be, of any truth whatever.

That it would have been impossible to have saved some limbs which have been cut off, no man will pretend to say; no man that knows any thing of the matter can say it: but this does not at all alter the consideration, or render the practice injudicious or blamable, the question really standing thus:—Do not the majority of those whose misfortune it is to get into the just-mentioned hazardous circumstances, and on whom the operation of amputation is not performed, perish, and that by means of their wounds? Or, to put the same question into other words, have not many lives been preserved by means of amputation, which from the same circumstances would otherwise most probably have been lost? It is not for me, especially after what I have said, to determine it: it is not indeed for any one man to do it. I therefore appeal to all the best practitioners, to those who have seen the most of these accidents, for the truth of the assertion.

When a judicious man says that a limb ought to be removed, it is not to be supposed that he means to say, that it is absolutely impossible, at all events, that such limb can be saved, nor that such patient must infallibly die, if the operation be not performed; no, he only means, that from repeated experience of himself and others, in all times, it has been found, that the circumstances above mentioned put the patient's life much more to hazard in an attempt to save the limb, than the operation does in removing it; and therefore that humanity as well as judgment determine for

the latter. On the other hand it must be allowed, that, from some of the worst of these cases, some have had the good fortune to escape; but escapes they so truly are, that I make no scruple to affirm, that in certain cases and circumstances a determination not to amputate, is a determination much more unfavourable and hazardous to the patient, than that for amputation can be.

It is, I think, impossible for any person who has either sense or candour, so to misconstrue what I have said, as to imagine that I would recommend the amputation of the majority of limbs which have suffered a compound fracture: such conduct would be as injudicious as it would be cruel. My meaning is, that the operation should be limited and confined to certain cases and circumstances already mentioned, and that under them it is not only proper, but necessary.

Pressing and urgent as the state of a compound fracture may be at this first point of time, still it will be a matter of choice whether the limb shall be removed or not. Very serious deliberation may be required, added to all the judgment and experience of the most able practitioner, to determine what may be most for the patient's safety; but at the second period which I have mentioned, the operation ceases to be a matter of choice, it must be submitted to, or the patient must die.

The most unpromising appearances at first do not necessarily or constantly end unfortunately. Every body conversant with business of thi

kind, knows, that sometimes, after the most threatening first symptoms, after considerable length of time, great discharges of matter, and large exfoliation of bone, it happens, that notwithstanding all these difficulties and discouragements, success shall ultimately be obtained, and the patient shall recover his health and the use of his limb.

But it is also as well known, that after the most judicious treatment through every stage of the disease; after the united efforts of physic and surgery, it sometimes happens that the sore, instead of granulating kindly, and contracting daily to a smaller size, shall remain as large as at first, with a tawny, spongy surface, discharging a large quantity of thin sanies, instead of a small one of good matter; that the fractured ends of the bones, instead of tending to exfoliate, or to unite, will remain as perfectly loose and disunited as at first, while the patient shall lose his sleep, his appetite, and his strength, a symptomatic fever of the hectical kind, with a quick, small, hard pulse, profuse sweats, and colliquative purgings, contributing at the same time to bring him to the brink of the grave, notwithstanding every kind of assistance. In these circumstances, which are by no means uncommon, if amputation be not performed, I should be glad to be informed what else can rescue the patient from destruction.

Let it not, by way of answer, be said, that a more generous plan of diet should be prescribed; that bark, cordials, anodynes, astringents, &c.

should be taken, because I should be very sorry to have it supposed that I was either so unknowing or so brutal as to think of amputation, before every thing of this kind had been fairly and fully tried, and found ineffectual. I confess that I know of nothing but the operation which can be attempted; and when, instead of this, I hear people talk of specific balsams, particular fomentations, &c. I can only be sorry to find that they are so weak or so wicked.

I might in this place mention a case which I have twice seen, which is, that in a compound fracture, which has got well through the first or inflammatory state, the bones, instead on the one hand of exfoliating or uniting, or on the other of remaining intirely disunited, shall (in particular constitutions) become thoroughly distempered and enlarged through their whole substance, forming such a kind of caries as nothing but amputation can cure.

The third and last period which I mentioned regarding compound fractures, and requiring amputation, is indeed a matter which does not require much consideration.

Every practitioner knows that sometimes, too often indeed, it happens that the inflammation consequent upon the injury, instead of producing abscess and suppuration, tends to gangrene and mortification; the progress of which is often so rapid, as to destroy the patient in a very short space of time, constituting that very sort of case in which amputation should have been immediately performed. But it also sometimes hap-

pens, that even this dreadful and very threatening malady is, by the help of art, put a stop to, but not until it has totally destroyed all the surrounding muscles, tendons, and membranes, quite down to the bone, which, upon the separation of the mortified parts, is left quite bare, and all circulation between the parts above and those below, is, by this, totally cut off. If it should be said, that merely sawing the bare bones cannot be called amputating, I will not dispute about the propriety of the phrase; but only beg leave to observe, that call the operation by what name you please, the patient loses his limb.

The case is exactly the same, when a mortification, from whatever cause, has seized the lower part of a limb, and produced the same effect.—This is the very case which Mr. Bilguer has mentioned, of mortification seizing all the parts down to the bone. Let the cause of the mortification be what it may, if the effect be the destruction of all the soft parts down to the bone or bones, either the surgeon must saw them, or they must be left to separate: in either case the patient loses his limb.

Scrophulous joints, with enlarged carious bones, and distempered ligaments, make a second kind of case, in which I have said that amputation may become absolutely necessary.

There is one circumstance attending this kind of complaint, which often renders it particularly unpleasant, which is, that the subjects are most frequently young children, or at

least are at so early an age, as to be incapable of determining for themselves, which inflicts a very distressing task on their nearest relations.

The common people call these, white swellings; a term not very inapt, because it conveys an idea of one mark of the distemper, which is, that notwithstanding the increase of size in the joint, the skin is not inflamed, but retains its natural colour.

A history of this kind of disease is a thing very much wanted; and I much wish that some man, who has leisure and capacity, and who has seen business, would undertake it. If I was possessed of the requisite knowledge, it would carry me too far from my present purpose, which is only to prove that, when it affects the joints in a certain manner, and to a certain degree, that then the mischief which it causes is such, that nothing but the removal of the joint can remedy.

Whoever has had opportunity of seeing much of this disease, must know, that all the efforts of physic and surgery, by internal as well as external means, do often prove absolutely ineffectual, not only to cure, but even to retard the progress of this most terrible malady.

I should be sorry to be misunderstood: I do not mean to say, that this is always, or even most commonly the case, nor that scrophulous joints are not sometimes relieved, and even cured, by means of art. I sincerely wish that they were more frequently, and that we were possessed of more effectual remedies for this purpose than we

are, or at least that I am acquainted with; but to the great misfortune of scrophulous people, every man conversant with business knows, that the disease often begins in the very inmost recesses of the cellular texture of the heads of the bones forming the larger articulations, such as the hip, knee, ancle, and elbow; that the bones so affected spread gradually, and become enlarged to a very considerable degree, and carious throughout, sometimes with great pain and symptomatic fever, sometimes with very little of either, at least in the beginning; that the cartilages covering the ends of these bones, and designed for the mobility of the joints, are totally destroyed; that the epiphyses in many young subjects are either partially or totally separated from the said bones; that the ligaments of the joints are so thickened and spoiled by the distemper, as to lose all natural appearance, and become quite unfit for all the purposes for which they were intended; that the parts appointed for the secretion of the synovia become distempered in like manner; that all these together furnish a large quantity of stinking sanious matter, which is discharged either through artificial openings made for the purpose, or by small ones made by erosions, and that these openings commonly lead to bones which are rotten through their whole texture; that, bad as this is, it is not all, nor the worst; for when the disease is got into this state, the constant pain, the irritation, and the absorption of poison from all these distempered parts, bring on a fever of the truly hectical kind,

attended with the most destructive general symptoms, such as total loss of appetite, rest, and strength, profuse night sweats, and as profuse purgings, which foil all the efforts of medicine, and bring the patient to the brink of destruction.

That this is no exaggeration is known to every body.

Now, supposing that the art of surgery, or, what is by many supposed to be more capable, the art of quackery, could exfoliate all the bones of a large joint, and restore the internal and medullary parts of it to a sound state; supposing either of them capable of giving the ligamentous parts a new and healthy structure, and of re-uniting the loosened epiphyses; I say, supposing, against all sense and experience, all this to be practicable, yet it must require a length of time to accomplish, which such patient's state will not admit.

The state which I have described is no uncommon one, neither are the circumstances at all exaggerated; but it is the state of a person hastening rapidly to destruction, who has no time to lose, and whose life can be preserved by the removal of the limb only.

That unless the operation be performed, such patient will perish, is an incontestible truth; and it is as incontestibly true, that numbers in the same circumstances have, by submitting to the operation, recovered firm and vigorous health, which they have enjoyed for many years, or even during a long life; and therefore, bad as

this state of things is, and terrible as it must be to lose a limb, yet if it be thought preferable to parting with life, it is a consolation to have the malady fall on a part where amputation can be performed, such as the knee, ancle, or wrist, rather than on the hip, where it cannot, or on the parts about the lumbal vertebræ, there causing those most dreadful and most destructive distempers, known[e] by the names of the Lumbal and Psoas Abscess.

[e] M. Bilguer and M. Tissot are the only people whom I have met with, or heard of, in the profession, who speak of an amputation in the joint of the hip, as an advisable thing, or as being preferable to the same operation in the thigh: the doctrine is so new, and so uncommon, that I must beg leave to cite the whole passage in their own words, lest my reader should not give me credit.

"The difficulty attending amputation in the upper parts of "the thigh is so considerable, that surgeons rather choose to "abandon to their fate those wounded men, where it appears "necessary, than to undertake it; and I own I am of the "same opinion with them. If, nevertheless, a case occurred, "wherein the death of the patient was certain, if amputation "was not performed, I would even *prefer* taking off the limb "at the articulation *rather than at any other place.*"

The reason which M. Bilguer gives for this is as extraordinary: "for although it be extremely difficult, yet it prevents "the inconveniences and accidents which a stump might oc-"casion."

M. Bilguer's annotator seems determined not to be behind hand with his author, part of his note on the preceding passage being as follows:—"I am of opinion that if any one had "the misfortune of being reduced to the necessity of choosing "between amputation at the upper part of the thigh, or at the "articulation itself, one reason for preferring the latter would "be, the greater ease there is in stopping the hæmorrhage of "the crural artery."—Very extraordinary doctrine this!

The third kind of disorder which I mentioned as sometimes producing the necessity of amputation, was the aneurism.

That kind of dilatation of the arterial tube, which is called a true aneurism, is sometimes found in the middle, sometimes in the upper part of the thigh, and sometimes in the ham.

The general characteristic marks of this distemper are, a circumscribed tumor, small at its first appearance, but gradually increasing, and for some length of time having a pulsatory motion and feel, exactly correspondent with the patient's pulse at the wrist. This pulsation arising from the

That amputation in the joint of the hip is not an impracticable operation (although it be a dreadful one), I very well know: I cannot say that I have ever done it, but I have seen it done, and am now very sure I shall never do it unless it be on a dead body.—The parallel which is drawn between this operation, and that in the joint of the shoulder, will not hold. In the latter it sometimes happens, that the caries is confined to the head of the os humeri, and that the scapula is perfectly sound and unaffected. In the case of a carious hip joint, this never is the fact: the acetabulum ischii, and parts about, are always more or less in the same state, or at least in a distempered one, and so indeed most frequently are the parts within the pelvis—a circumstance this of the greatest consequence; for the power of performing the operation beyond the seat of the disease, and consequently of totally removing all the distempered parts, is the very decisive circumstance in favour of amputation every where but in the hips, where (to say nothing of the horridness of the operation itself) the hæmorrhage from a multiplicity of vessels, some of which are of considerable size, and the immense discharge which a sore of such dimensions must furnish, the distempered state of the parts, which cannot by the operation be removed, will render it ineffectual, bold and bloody as it must be.

motion of the blood from the heart through the artery, is very easily seen and felt for some length of time; but as the tumor becomes gradually larger, the pulsation in it becomes more and more obscure to the touch; and in length of time, when either the artery is dilated to a very considerable size, or has burst, and has shed part of its contents, the motion becomes in some cases so obscure as hardly to be felt at all, or at least not without very diligent attention. When it has got into this state, whether it be femoral or popliteau, the lower part of the limb becomes, by the pressure of the extravasated blood, and by the obstruction to the circulation through the dilated artery, considerably loaded and swollen, unfit for use or motion, and generally very painful.

This is the state, or very nearly the state, in which we most frequently see it, especially among the labouring poor, who generally neglect it until it renders them lame and incapable of following their employment; and when it is got into this state it requires immediate attention.

In what manner is this disease, when got to this point, to be treated? or how is the cure of it to be attempted? for if something be not done, the limb will become mortified, and the patient will perish.

If a man was to answer from theory, he would say, that the skin is to be divided, the extravasated blood to be cleared away, and the artery to be tied above and below the dilatation—in short, that what is called the operation for

the aneurism, is to be performed. Sorry I am to find myself obliged to say, that as far as my observation and experience go, such operation, however judiciously performed, will not be successful; that is, will not save the patient's life.

In both these aneurisms, the femoral and the popliteal, it most frequently happens, that the artery is not only dilated and burst, but it is also distempered some way above the dilatation, particularly in the popliteal. This may very probably be one reason why the ligature is in general so unsuccessful. The want of collateral branches of sufficient size to carry on the circulation, is another very powerful impediment. Whether these may be allowed sufficient to frustrate the attempt by the operation, I will not take upon me to say; but certain I am, that it does not succeed: I have tried it myself more than once or twice—I have seen it tried by others; but the event has always been fatal: excessive pain, a high degree of symptomatic fever, great tension of the whole limb, rapidly tending to gangrene, and ending in mortification both upwards and downwards, have destroyed all those whom I have seen on whom the operation of tying the artery has been practised.

Nor have I ever seen any other operation than that of amputation, which has preserved the life of the patient[f].

[f] Since Mr. Pott's time, very considerable improvements have taken place in the treatment of aneurisms, by which the arguments against the operation are completely obviated. The late Mr. Hunter suggested the idea of tying the artery

To this an objection has been made by some, which, if it was founded in fact, would be a very valid one. It has been said, that the aneurism in the thigh, or ham, is very seldom the only one which the patient labours under, and that he most frequently has the same kind of dilatation either of the aorta, or of some of the larger vessels within the body. This is urged as a reason against amputation in this disease; they who maintain this opinion, very justly observing, that it cannot be of any use to cut off a patient's leg for a femoral or a popliteal aneurism, who will, in all probability, be destroyed very soon by the same kind of disease in another part of him.

If the datum were true, the inference would be just; but it is not. When I say that it is not true, I mean that it is not constantly or necessarily, or even generally so, as I can from repeated experience affirm, having several times

above and at a distance from the disease itself, by which the bad and often fatal consequences, which attended the laying open the aneurismal sac, are avoided; and the anastomozing vessels being found sufficient to carry on the circulation, completely removes the other objection which Mr. Pott had conceived. In cases of popliteal aneurisms, it is well known that the artery has frequently been tied in the thigh with complete success. And in a case where it was dilated so high up, and so near the groin, that it was impossible to get above it by any ordinary operation, Mr. Abernethy was compelled to put a ligature on the external iliac within the pelvis, and the branches of the internal iliac were found sufficient for the nourishment of the parts below. He has since twice repeated the operation with success. E.

performed the operation of amputation for both these, on people who have lived several years after, without any symptoms of the same kind of disease in any other part of them. Indeed, the determination for an operation when a popliteal aneurism is arrived to the state which I have just described, is hardly to be called a matter of choice: it is indeed a matter of absolute necessity. When the swelling from the extravasated blood is become so large, that the pulsatory feel of the artery is rendered very obscure, the whole limb below is exceedingly loaded and swollen, the return of the fluids, both by the veins and by the lymphatics, so very difficultly executed, that the patient gets little or no rest from the constant pain; and if some relief be not obtained, and that speedily, from the art of surgery, gangrene and mortification are the inevitable consequences.

The means of relief are two—and two only; the operation of amputation, and that of tying the artery above and below the diseased part.

The operator undoubtedly may make his choice between them, and follow the dictates of his own judgment and his own experience; but it must be worth his while to observe, that, for the success of the latter, a free circulation through all the inferior part of the limb seems to be a very necessary circumstance, and that when the load, and pressure, and obstruction, are become so great as even to threaten gangrene and mortification, which is frequently the case, such free circulation is not much to be expected;

but, on the contrary, all the evils arising from a very obstructed one, and that through distempered parts.

There is another kind of complaint affecting the leg, removeable (as far as my experience goes) by amputation only, which is one reason why I mention it in this place, and to which I might add another reason, which is, that it either derives its origin from a burstern artery, or at least is accompanied by it.

I know no name to give it, or under what class to range it, but will describe it in the best manner I can.

It has its seat in the middle of the calf of the leg, or rather more toward its upper part, under the gastrocnemius and soleus muscles: it begins by a small, hard, deep-seated swelling, sometimes very painful, sometimes but little so, and only hindering the patient's exercises; it does not alter the natural colour of the skin, at least until it has attained a considerable size; it enlarges gradually, does not soften as it enlarges, but continues through the greatest part of it incompressibly hard; and when it is got to a large size, it seems to contain a fluid which may be felt towards the bottom, or resting, as it were, on the back part of the bones. If an opening be made for the discharge of this fluid, it must be made very deep, and through a strangely distempered mass. This fluid is generally small in quantity, and consists of a sanies mixed with grumous blood: the discharge of it produces very little diminution of the tumor;

and in a few cases which I have seen, very high symptoms of irritation and inflammation come on, and, advancing with great rapidity and most exquisite pain, very soon destroy the patient, either by the fever which is high and unremitting, or by a mortification of the whole leg.

If amputation has not been performed, and the patient dies, after the tumor has been freely opened, the mortified and putrid state of the parts prevents all satisfactory examination: but if the limb be removed without any previous operation (and which, as far as my experience goes, is the only way of preserving the patient's life), the arteria tibialis postica will be found to be enlarged, distempered, and burst; the muscles of the calf of the leg to have been converted into a strangely morbid mass; and the posterior part of both the tibia and the fibula more or less carious.

The fourth kind of distemper which I mentioned, as being sometimes productive of the necessity of amputation, is a caries of the whole bone or bones forming a limb. By this I would be understood to mean a caries possessing not only the surface of such bones, but the whole internal substance, and that from end to end. This I take to be the very individual case, in which both M. Bilguer and M. Tissot have reprobated amputation, and which the former has mentioned in his fifth article, under the title of Incurable Caries.

The terms in which M. Bilguer has chosen to express himself, are rather unfortunate.

After having mentioned three or four different distempers, in which, in certain cases, and under certain circumstances, amputation has in general been thought necessary and right, and in which he is of a totally different opinion, he adds—An *incurable* caries of the bones; which *incurable* caries, he says, ought not to be amputated, because there is a method of curing it.

If this was merely a blunder in language, and went no further, it would be a matter of little importance; but it is a serious piece of advice, delivered authoritatively, and by a writer who professes to correct the errors both of his predecessors and contemporaries, therefore it should not be merely laughed at; and as it is an advice which is not built on fact, and which is fraught with mischief to mankind, it ought to be contradicted.

That bones become carious from a variety of causes, such as the struma, the lues venerea, deep-seated imposthumation, pressure, &c. is well known to every body; and that such carious bones properly treated will exfoliate, and cast off their rotten parts, is as well known; but when in some particular habits, whether scrophulous, scorbutic, or cancerous, the whole substance of the bone becomes diseased, not only on its surface, but through its whole internal medullary texture, and that from end to end, the same means, be they what they may, will not avail. The use of the scalper, the raspatory, and the rugine, for the removal of the diseased surface of bones; of the trephine, for perforating

into the internal texture of carious ones, and of what are called exfoliating applications, are as well known, I presume, to every practitioner, as to M. Bilguer; but giving to these all their real or their supposed merit, still I affirm, and that from repeated experience, that there are cases of caries, in which none of these will succeed, though ever so judiciously used; that neither by these, nor by any other means, can an exfoliation be obtained; and that, unless the whole bone be removed by amputation, the patient will perish.

The metaphor, or simile, by which M. Bilguer endeavours to illustrate his meaning, is somewhat singular: he says, "The real method of "doing service to bones consumed by caries, "is like what happens to boards joined together "by nails: if you make them excessively dry, "the nails fall out of themselves," &c.

Now admitting, what I think will not be admitted, that this simile conveys a just and true idea of the manner in which the rotten parts of bones are separated from the sound, yet it necessarily implies, that in these very bones there are some sound part or parts, from which the rotten are to be dried off, in order to loosen the nails, and that the existence of such sound parts is the *sine qua non* of the cure.

It may, perhaps, in answer to this, be said, that proper treatment, external and internal, may so alter and correct even the carious part of a bone, as to render it capable of parting with the rest, and thereby of becoming sound. I say, admitting this, which is not in general admissible,

yet it sometimes happens, that there is not time for such experiment, and that, even in very young subjects, the whole habit is, by the rotten bone, so poisoned and spoiled, that a hectic fever of the putrid kind, with all its train of horrid symptoms, will, in spite of the efforts of physic and surgery, in spite of bark and every other specific, in spite of drying, burning, rasping, and boring, come on, and in a very short space of time destroy the patient, unless rescued by amputation, which alone can remove a whole bone.

I have as high an opinion of, and as just a reverence for, both branches of the medical art, as any man; but I also know, that they are both in many instances exceedingly unequal to our expectations, and very much limited.

This is a disagreeable and an unfortunate truth, but still it is a truth, and so much so, that whoever professes a contrary opinion, is either much deceived himself, or inclined to deceive others.

REMARKS

ON THAT KIND OF

PALSY OF THE LOWER LIMBS,

WHICH IS FREQUENTLY FOUND TO

ACCOMPANY

A CURVATURE OF THE SPINE,

AND IS

SUPPOSED TO BE CAUSED BY IT.

TOGETHER

WITH ITS METHOD OF CURE.

TO

DR. JOHN LEWIS PETIT,

ONE OF THE

Physicians to St. Bartholomew's Hospital,

THE

FOLLOWING TRACTS

ARE INSCRIBED;

AS

A SMALL MARK OF THE GREAT ESTEEM

AND REGARD OF

The Author.

ON THE

PALSY OF THE LOWER LIMBS, &c.

AMONG the various objects of Physic and Surgery, there are unfortunately some, in which all the efforts of both have hitherto been found absolutely ineffectual, and which therefore have always made a very disagreeable and melancholy part of practice.

To remove, or even to relieve any of the miseries to which mankind are liable, is a very satisfactory employment; but to attend on a distemper from its beginning, through a long and painful course, to its last, fatal period, without even the hope of being able to do any thing which shall be really serviceable, is, of all tasks, the most unpleasant.

In such cases, any attempts, however hazardous, provided they were rational, would be justifiable; certainly then, whatever is not in itself dangerous, and affords the smallest ray of hope, ought to be embraced.

Some little time ago I gave to the public an account of the success which I had seen attend the free use of opium in mortifications of the toes and feet; particularly in those which began or were attended with great pain.

In that publication I merely related the fact, as it had happened under my own eye. I entered into no reasoning about it; nor did I give to the medicine any greater degree of credit than it appeared to me to deserve. I did not propose it as a certain specific, or as a remedy whose success was always and infallibly, or indeed even generally to be depended upon. I acknowledged, that I had several times seen it fail; but as I had also several times seen it succeed, as I was very sure that no hazard could possibly attend the experiment; and as the best and most experienced practitioners were obliged to allow, that they were not yet acquainted with any means whereby they were enabled to prevent the fatal effects of this most horrid distemper, or even to retard its daily and painful ravages, I thought it my duty to make known as early as I could what I had seen, that others might make the same trial, and thereby propagate the benefit. Had any other means of relief been known to the faculty, and this had therefore appeared to me only in the light of another, or a preferable one, I should certainly have withheld my observations, until more time had verified and confirmed them, and thereby had proved the superior utility of what I had to propose: but as the fact was directly the contrary, as opium was the only medicine which I had ever seen prove really and essentially serviceable; as it had succeeded so often, and to such a degree, as to satisfy me that much good might be expected from it; and as I was perfectly sure that not the least degree

of hazard could attend the trial, I thought that such publication, though early, could not be regarded in any other light than its true one; I mean that of a request to the profession in general to repeat the experiment; and that therefore it could not be justly deemed premature. If upon repeated trial the success should not be found equal to what I thought I had good reason to expect, no harm could accrue to the patient: if it should answer my expectation, it would serve the most valuable of all purposes.

Since that time I have had the satisfaction of having my opinion confirmed, not only by my own experience, but by the concurrent testimony of several practitioners of eminence in different parts of the kingdom, who have done me the favour to communicate to me the result of their experiments: the success of these, as I expected, from what I had seen, has not been constant, but it has been so frequent, as to make me very well pleased at having furnished the hint. I sincerely wish that the good effect was more general and more certain; but the preservation of even a few, from a malady, found hitherto to have been inevitably destructive to all, is a matter of some importance, and furnishes no unpleasing reflexion.

I now do the same thing, relative to another disorder, which I then did with regard to the mortification. I publish an account of the good success which has attended a particular method of treating a disease, which has hitherto foiled all the efforts of art; and as I do it now from the

same principle which I did then, *viz.* that of inducing others, by making the same experiment, to propagate the benefit, I offer no apology for another early publication.

The disease of which I mean to speak, is generally called a palsy, as it consists in a total or partial abolition of the power of using, and sometimes of even moving the lower limbs, in consequence, as is generally supposed, of a curvature of some part of the spine.

To this distemper both sexes, and all ages, are equally liable. If the patient be an infant, it becomes an object of constant, though unavailing distress to its parents; if an adult, he is rendered perfectly helpless to himself, and useless to others, which, of all possible states, is surely the very worst.

When this disease attacks an infant of only a year or two old, or under, the true cause of it is seldom discovered until some time after the effect has taken place, at least not by parents and nurses, who know not where to look for it. The child is said to be uncommonly backward in the use of his legs, or it is thought to have received some hurt in its birth.

When it affects a child who is old enough to have already walked, and who has been able to walk, the loss of the use of his legs is gradual, though in general not very slow. He at first complains of being very soon tired, is languid, listless, and unwilling to move much, or at all briskly: in no great length of time after this he may be observed frequently to trip, and stumble,

although there be no impediment in his way; and whenever he attempts to move briskly, he finds that his legs involuntarily cross each other, by which he is frequently thrown down, and that without stumbling; upon endeavouring to stand still and erect, without support, even for a few minutes, his knees give way and bend forward. When the distemper is a little further advanced, it will be found that he cannot, without much difficulty and deliberation, direct either of his feet precisely to any exact point; and very soon after this, both thighs and legs lose a good deal of their natural sensibility, and become perfectly useless for all the purposes of locomotion. When an adult is the patient, the progress of the distemper is much the same, but rather quicker.

Until the curvature of the spine has been discovered, it generally passes for a nervous complaint; but when the state of the back bone has been adverted to, recourse is almost always had to some previous violence to account for it, some pulling, lifting, carrying, or drawing a heavy body, which is supposed to have hurt the back. In some few instances, this exertion may have been such, as might be allowed to have been equal to the effect; but, in by much the majority, this is so far from being the case, that if it be admitted to have had any share at all in it, some predisposing cause, at least, must be looked for, in which (in my opinion) consists the very essence of the disease.

I have, in compliance with custom, called the

disease a palsy; but it should be observed, that notwithstanding the lower limbs be rendered almost or totally useless, yet there are some essential circumstances in which this affection differs from a common nervous palsy; the legs and thighs are, I have just said, rendered unfit for all the purposes of locomotion, and do also lose much of their natural sensibility; but notwithstanding this, they have neither the flabby feel, which a truly paralytic limb has, nor have they that seeming looseness at the joints, nor that total incapacity of resistance, which allows the latter to be twisted in almost all directions: on the contrary, the joints have frequently a considerable degree of stiffness, particularly the ancles, by which stiffness the feet of children are generally pointed downward, and they are prevented from setting them flat upon the ground.

The curvature of the spine, which is supposed to be the cause of this complaint, varies in situation, extent, and degree, being either in the neck or back, and sometimes (though very seldom) in the upper part of the loins; sometimes comprehending two vertebræ only, sometimes three, or more, by which the extent of the curve becomes necessarily more or less; but whatever may be the number of vertebræ concerned, or whatever may be the degree or extent of the curvature, the lower limbs only feel the effect—at least I have never once seen the arms affected by it.

This effect is also different in different subjects: some are rendered totally and absolutely incapable of walking in any manner, or with any

help, and that very early in the course of the distemper; others can make a shift to move about with the help of crutches, or by grasping their own thighs with their hands; some can sit in an erect posture, or in a chair, without much trouble or fatigue, which others are incapable of, at least for any length of time; some have such a degree of motion in their legs and thighs, as to enable them to turn and move for their own convenience in bed; others have not that benefit, and are obliged to lie till moved by another.

When a naturally weak infant is the subject, and the curvature is in the vertebræ of the back, it is not infrequently productive of additional deformity, by gradually rendering the whole back what is commonly called humped; and by alterations which all the bones of the thorax sometimes undergo, in consequence of the flexure and weakness of the spine, by which such persons are justly said to be shortened in their stature: but in all cases where this effect has been gradually produced, to whatever degree the deformity may extend, or however the alteration made in the disposition of the ribs and sternum may contribute to such deformity, yet I think that it will always be found, that the curvature of the spine appeared first, and, if I may so say, singly, and that all the rest was consequential.

While the curvature of the spine remains undiscovered or unattended to, the case is generally supposed to be nervous, and medicines so called are most frequently prescribed, together

with warm liniments, embrocations, and blisters, to the parts affected; and when the true cause is known, recourse is always had to steel stays, the swing, the screw chair, and other pieces of machinery, in order to restore the spine to its true and natural figure; but all, as far as I have observed, to no real or permanent good purpose: the patient becomes unhealthy, and, languishing for some time under a variety of complaints, dies in an exhausted, emaciated state; or, which is still worse, drags on a miserable existence, confined to a great chair, or bed, totally deprived of the power of locomotion, and useless both to himself and others.

This in an infant is most melancholy to see, in an adult most miserable to endure.

The general health of the patient does not seem at first to be materially, if at all, affected: but when the disease has been some time, and the curvature thereby increased, many inconveniences and complaints come on, such as difficulty in respiration, indigestion, pain, and what they all call tightness at the stomach, obstinate constipations, purgings, involuntary flux of urine and fæces, &c. with the addition of what are called nervous complaints; some of which are caused by the alterations made in the form of the cavity of the thorax, others seem to arise from impressions made on the abdominal viscera. These are different both in kind and in degree, in different subjects, but seem to depend very much on the consequences of the curvature—that is, in naturally infirm children, although the

curvature of the dorsal vertebræ is always the first mark of the distemper, by preceding every other, yet it is frequently soon followed by such a degree of deformity of the bones of the trunk, as to be, in conjunction with the necessary inactivity and confinement of the patient, productive of all the ills above mentioned.

An affecting instance of this distemper in the person of a very promising youth of fourteen years old, with whose family I was nearly connected, induced me to think more of it than perhaps I otherwise should have done; and the restoration of the use of his limbs, immediately after a seemingly accidental abscess near the part, engaged my attention still more, and became a matter of frequent, though not very satisfactory contemplation; I say unsatisfactory, because it served only to increase my doubts, without leading me toward a solution of them. The more I thought upon the subject, the more I was inclined to suspect that we had been misled by appearances, and that a distempered state of the parts forming, or in the neighbourhood of curvature, preceded, or accompanied it: in short, that there was something predisposing, and that we had most probably mistaken an effect for a cause.

For these suspicions, I had the following reasons, which appeared to me to have some wegih:

1. That I had never seen this paralytic effect on the legs from a mal-formation of the spine,

however crooked such mal-formation might have rendered it, or whether such crookedness had been from time of birth, or had come on at any time afterwards during infancy.

2. That none of those strange twists and deviations, which the majority of European women get in their shapes, from the very absurd custom of dressing them in stays during their infancy, and which put them into all directions but the right, ever caused any thing of this kind, however great the deformity might be.

3. That the curvature of the spine, which is accompanied by this affection of the limbs, whatever may be its degree or extent, is at first almost always the same, that is, it is always from within, outward, and seldom or never to either side.

4. That since I had been particularly attentive to the disorder, I had remarked, that neither the degree nor the extent of the curve made any alteration in the nature or degree of the symptoms at first, nor for some time after the appearance; or, in other words, that the smallest curvature, in which only two or three of the vertebræ were concerned, was always, at first, attended by the same symptoms as the largest.

5. That although it sometimes happened that a smart blow, or a violent strain, had immediately preceded the appearance of the curve, and might be supposed to have given rise to it, yet in many more adults it happened that no such cause was fairly assiguable, and that they

began to stoop, and to faulter in their walking, before they thought at all of their back, or of any violence offered to it.

6. That exactly the same symptoms are found in infants, and in young children, who have not exerted themselves, nor have been injured by others, as in the adult, who has strained himself, or received a blow; and that the case was still the same in those grown people, who have neither done nor suffered any act of violence.

7. That although it must be allowed, that a dislocation of any of the vertebræ, would most probably be attended with the same kind of symptoms from the pressure it must make on the spinal marrow, yet it is also most probable that such symptoms would be immediate, and attended with great pain in the part; neither of which is in general the case here.

These considerations appear to me to have much force; but what confirmed me in my opinion was the state of the parts forming the curvature, and which I had several fair opportunities of examining after death. By these examinations I found, in infants, in young children, and in those who had been afflicted with the disorder but a small space of time, that the ligaments connecting the vertebræ, which formed the curve, were in some degree altered from a natural state, by being somewhat thickened and relaxed, and that what are called the bodies of those bones, were palpably spread and enlarged in their texture, just as the bones forming the articulations are in children who are called rickety. That in

those who had long laboured under the distemper, and in whom the symptoms were aggravated, whatever might be their age, the ligaments were still more thickened, relaxed, and altered, the bodies of the bones more spread, more enlarged, and more inclining to become carious, and the cartilages between the bodies of the vertebræ much compressed and lessened in size; and that in all those who had so long laboured under the disease, as to have been destroyed by it, or by its consequences, the corpora vertebrarum were completely carious, the intervening cartilages totally destroyed, and a quantity of sanies lodged between the rotten bones, and the membrane investing the spinal marrow[a].

All these circumstances put together, induced me, as I have already said, to suspect, that when we attribute the whole of this mischief to the mere accidental curvature of the spine, in consequence of violence, we mistake an effect for a cause; and that previous both to the paralytic state of the legs, and to the alteration of the figure of the back bone, there is a predisposing cause of both, consisting in a distempered state of the ligaments and bones, where the curve soon after makes its appearance.

While the subject was fresh in my mind, I happened to be at Worcester, and in a conver-

[a] In the body of a man, who died not long since of this disorder, in its last and worst state, the bodies of three of the vertebræ were not only quite carious, but completely separated from all connexions with the other parts of the same vertebræ.

sation on it with the late Dr. Cameron of that place, I mentioned to him my opinion, and my doubts: the Doctor concurred with me, and at the same time mentioned a circumstance, which made a strong impression on me. He said, that he remembered some years ago, to have noted a passage in Hippocrates, in which he speaks of a paralysis of the lower limbs being cured by an abscess in the back or loins; and that taking the hint from this, he, Dr. Cameron, had, in a case of a palsy of the legs and thighs attended by a curvature of the back bone, endeavoured to imitate this act of nature, by exciting a discharge near the part, and that it had proved very advantageous. He also referred me to Mr. Jeffrys, a surgeon of eminence at Worcester, for a further account of the same kind of attempt: this gentleman confirmed what Dr. Cameron had told me, and assured me that he had found the method equally successful.

It may easily be supposed, that these accounts from gentlemen of veracity, and of reputation in their profession, still added to my desire of knowing more on this subject, and determined me to lose no opportunity of getting information.

The first that offered was in an infant, whose curvature was in the midde of the neck, and who had lost the use of its legs for about two or three months. I made an issue by incision on one side of the projection, and gave strict charge to the mother to take care that the pea was kept in; the woman, who had no faith in the remedy, did not take the proper care, and consequently the

discharge was not equal to what it should, and might have been; but notwithstanding this neglect, at the end of about three weeks or a month the child was manifestly better, and began to make use of its legs: it was then seized with the small-pox, and died. The bodies of the vertebræ concerned in the curve were larger than they should be, and than those above and below were, and their texture much more open and spongy: which difference appeared immediately, before the parts covering them were dissected off.

Some time passed before I had another opportunity. My next patient was a tall thin man, about thirty-five years old, who thought that he had hurt himself by lifting a heavy weight: his legs and thighs were cold, and what he called nummy, but not absolutely useless: he could with difficulty go about the room with the help of a pair of crutches, but he could neither rise from his chair, nor get on his crutches, without the assistance of another person, nor could he without them walk at all.

I made a seton on each side of the curve, which was in his back, about the middle; and having given his wife directions how to dress them, I called on him once in three or four days. At the end of six weeks he had recovered the due degree of sensation in his limbs, and found much less necessity for the use of his crutches; he could rise from his bed and from his chair without assistance; and by means of one crutch, and

an underhand stick, could walk for an hour, or more, without resting, and without fatigue. The setons had now, from not having been properly managed, worn their way out, and I would have converted each of them into an issue; but as neither the patient nor his wife had ever believed that the discharge had had any share in his amendment, but, on the contrary, that he would have been better without it, he would not submit to what I proposed, and I left him. At the distance of about three weeks from the time of my leaving him, I met him in the street walking very stoutly, with a common cane, of which he made little or no use. I asked him what he had done: he told me that the sores had continued to discharge till within a few days; but that he had drank a great deal of comfrey-root tea, with isinglass, and he supposed that had cured him.

I believe that the cure of this man will, by all who know any thing of medicine, be thought to be so unlikely to have been effected by the comfrey and isinglass, that my inference in favour of the seton will not be thought unreasonable, and that my determination to prosecute the method, from what I had heard and seen, was well founded.

Within the course of the last ten or twelve months, I have had several fair opportunities of doing this, both in St. Bartholomew's hospital, and out of it; and am very happy to be able to say, that it has not only always answered, but in some instances greatly exceeded my most sanguine expectations, by restoring several most

miserable and totally helpless people to the use of their limbs, and to a capacity of enjoying life themselves, as well as of being useful to others.

I have now in the hospital a boy about twelve years old, whose case was so truly deplorable, that I made the experiment merely to avoid the appearance of inhumanity, by discharging him as incurable, without trying something. The curvature was in his back, and consisted of three or four vertebræ; but by means of the weakness thereby induced, the whole set of dorsal ones had so universally and gradually given way, that he was exceedingly deformed both behind and before: he was so absolutely incapable of motion, that he could neither turn himself, nor sit up in his bed: his feet were pointed downwards, and his ancles so stiff, that when he was held up under the arms, the extremities of his great toes touched the floor, nor could his feet be brought flat to the ground by any means, or force whatever. In short, he was as perfectly and as totally helpless as can be supposed; and at the same time in an exceeding general bad state of health, from disorders of the thoracic and abdominal viscera. In this state he had been more than a year: it is now about three months since the caustics were applied; he is become healthy, and free from most of his general complaints, has the most perfect use of his legs while he is in bed, can walk without the assistance of any body, or any thing to hold by; and from his manner of executing this, will, I make no doubt, in a very short space recover perfectly the

use of his legs.—To this I ought to add, that notwithstanding a considerable degree of deformity does, and I suppose will, remain, yet the spine in general is so much strengthened, that he is some inches taller than he was four months ago.

The remedy for this most dreadful disease consists merely in procuring a large discharge of matter, by suppuration, from underneath the membrana adiposa on each side of the curvature, and in maintaining such discharge until the patient shall have perfectly recovered the use of his legs. To accomplish this purpose, I have made use of different means, such as setons, issues made by incision, and issues made by caustic; and although there be no very material difference, I do upon the whole prefer the last. A seton is a painful and a nasty thing; besides which, it frequently wears through the skin before the end for which it was made can be accomplished: issues made by incision, if they be large enough for the intended purpose, are apt to become inflamed, and to be very troublesome before they come to suppuration; but openings made by caustic are not in general liable to any of these inconveniences, at least not so frequently, nor in the same degree: they are neither so troublesome to make or to maintain. I make the eschars about this size

and shape on each side the curve, taking care to leave a sufficient portion of skin between them: in a few

days, when the eschar begins to loosen and separate, I cut out all the middle, and put into each a large kidney-bean. When the bottoms of the sores are become clean by suppuration, I sprinkle, every third or fourth day, a small quantity of finely powdered cantharides on them, by which the sores are prevented from contracting, the discharge increased, and possibly other benefit obtained. The issues I keep open until the cure is complete: that is, until the patient recovers perfectly the use of his legs, or even for some time longer; and I should think that it would be more prudent to heal only one of them first, keeping the other open for some time; that is, not only until the patient can walk, but until he can walk firmly, briskly, and without the assistance of a stick; until he can stand quite upright, and has recovered all the height, with the habit, or rather the necessity of stooping, occasioned by the distemper, had made him lose.

I have said that the discharge by means of the issue, is all that is requisite for a cure; which is true, as I have experimentally proved by not using any other, in cases which have succeeded perfectly: but this fact being established, there is no reason why every assistant means should not be applied at the same time, in order to expedite: such as bark, cold-bathing, frictions, &c.

That the patient becomes more upright as his legs become stronger, is certain, and therefore appears taller, as well as straighter in proportion, as the whole spine strengthens; but whether the

curvature will always and totally disappear, I am not yet able to say with certainty. In two late instances, both adults, it has; but the deformity which, in weak infants and children, is often the consequence of the curvature, and of the state of the spine at that place, must in some degree, I fear, be expected to remain; but of this I am not yet able to speak with absolute certainty. There are a few other circumstances, of no great moment perhaps, but which will require more time to ascertain than I thought should be suffered to pass, before mankind were made acquainted with the great means of relief, in so distressing, so melancholy, and so dreadful a malady: for the reader will be pleased to remember what I told him at the beginning of this tract, which was, that my motive for publishing this account sooner than might appear in general to be right, or indeed than I otherwise should have done, was a desire that as little time as possible might be lost, in conveying to the profession in particular, and to mankind in general, the means of relief under an affliction, which, till these were known, has not admitted of any; and this I was still more incited to do, because the remedy is as harmless, and as void of hazard, as it is efficacious.

In the preceding tract I have related the appearances which the parts constituting the seat of the distemper make upon examination after

death; or, to speak more properly, the different states of these parts in different persons, and at different periods of this disease. These, though necessarily subject to considerable variety, may, I think, be reduced to three general ones.

1. A small degree of an increase of size in the bodies of the vertebræ, forming the curve, with an apparent laxity in their texture, and a relaxed state of the connecting ligaments, by which they seem to have lost part of their power of holding the bones together.

2. A more considerable and more apparent enlargement of the same parts of the vertebræ, whose spongy texture becomes more visibly spread through their whole substance, and tending towards a caries, with an apparently distempered state, both of the ligaments and of the intervening cartilages.

3. A truly carious state of the bodies of the bones; a dissolution or destruction of the cartilaginous substance between them; and a lodgment of sanies on the surface of the membrane enveloping the spinal marrow.

These are I think the most particularly different states or stages of the disorder, and are such as, in my opinion, decisively mark the true nature of it.

Between these in different persons, and under different circumstances, there must be a considerable variety, but the material difference will be only in degree.

From the whole, the few following practical inferences seem fairly deducible:

1. That the disease does not originally consist in a displacement of the vertebræ, made by violence, the bones and ligaments being previously in a sound and uninjured state; but in such a morbid alteration of the texture of both, as will, if not timely prevented, produce curvature and caries, with all their consequences.

2. That the proper remedies for this disease cannot be applied too soon.

3. That the restoration of the spine to its natural figure, depends much on the early administration of the help proposed.

4. That although the distemper may be so far cured, that the patient may perfectly recover the use of his legs, yet such an alteration may have taken place in the bodies of the vertebræ, as to render it impossible for the spine to become straight again.

5. That when three or four, or more vertebræ, are concerned in the curve, the trunk of the body will have so little support from that part of the spine which is not distempered, that no degree of deformity can be wondered at; nor can it be expected that such deformity should be removed, whatever other benefit such patient may receive.

6. That if from inattention, from length of time, or from any other circumstances, it happens that the bodies of the vertebræ become completely carious, and the intervening cartilages are destroyed, no assistance is to be expected from the proposed remedy.

To these I will take the liberty of adding, that it appears to me well worth while, to try what a large and free discharge, made for a length of time from the vicinity of the distempered part, might be capable of doing in the very beginning of what are commonly called scrophulous joints; which, when arrived to a certain point, baffle all our art, and render a painful and hazardous operation absolutely necessary.

Within these last six or eight months, several cases of curved spine have been received into St. Bartholomew's hospital, where they have been seen by great numbers of the profession. The novelty of the treatment, and the success which has hitherto constantly attended it, has necessarily engaged the attention of many, and occasioned some conversations on the subject. In some of these it has been said, that as it appears to be undeniably a disease of the bony texture of the bodies of the vertebræ, it may be apprehended, that the relief expected from the caustics may in some cases fail, and in others may not prove permanent; and, that the same kind of constitution remaining, a return of the malady may not unreasonably be feared.

To this I can only answer, that although I have called this an early publication, yet I have waited a sufficient length of time, and have treated a sufficient number of subjects, to be clear in the truth of what I have asserted, as far as such time, and such individuals go. That the patients whom I have attended in the early part

of the distemper, of whatever age, have all got well; that is, have all not only regained the use of their legs, but have become healthy, and fit for any exercise or labour, as numbers can testify, who have seen them daily. Most of them have become much straighter, some quite straight, and all of them perfectly free from all kind of inconvenience arising from the curve.

That in all the infants whom I have seen, the general health of the patient has always been restored in proportion to the restoration of the use of the limbs.

That I must suppose all this to have been done by the discharge from the caustics, because in many of them no other means of any kind have been made use of.

That as far as my experience goes, I have not the least doubt, that if the means proposed be made use of before the bones are become really carious and rotten, they will always be successful. When indeed a truly rotten state of the bones takes place, no good is to be expected from this, or from any thing else: but it should be observed, at the same time, that this never happens but when the distemper is of very old date, and that, when this is the case, the whole machine is so disordered, and the patient so truly and so generally distempered, that there can be no reasonable expectation of success from any thing.

To this I must take the liberty of adding, that what I have affirmed, is what I have seen and proved, and that the objections are merely spe-

culative and theoretical. However, supposing them to be not quite unreasonable, the most useful inference to be drawn from them is, that the same remedy by which so great and so evident relief is obtained, ought to be continued, while there may be any fear of return of the mischief; and that every other means for the restoration of health and strength should at the same time be made use of; both which coincide absolutely with my own opinion and advice.

FURTHER REMARKS

ON THE

USELESS STATE OF THE LOWER LIMBS,

IN CONSEQUENCE OF A

CURVATURE OF THE SPINE.

WITH

SOME OBSERVATIONS

ON

THE AUXILLIARY ASSISTANCE OF MECHANISM,

AND OTHER REMARKS,

BY THE EDITOR.

FURTHER

REMARKS

ON THE

PALSY OF THE LOWER LIMBS,

&c.

It is now near three years since I first troubled the public with my observations on the disease which makes the subject of the following tract.

The apology which I then made, for what I was perfectly aware might be thought a premature publication, was, that the distemper to which it related was supposed to be incapable of receiving any relief from art; and that they who were afflicted with it were therefore deserted, and left to linger out a most miserable existence; but, that, from the benefit which I had seen to be derived from a particular, and at the same time a perfectly safe method of treating it, I thought that it demanded the immediate and serious regard of the profession.

Previous to the publication, I had considered the disease with some attention, and had made some experiments on it, which, although not many, were sufficient in number, and had been attended with such a degree of success as to

satisfy me, that it was a subject in which mankind was much interested; but as I did not think that any one man's experience, be it what it might, was sufficient to determine a matter of so much importance, I wished that the faculty at large might be made acquainted with what I had seen and done, that they might be induced to make the same experiment, and thereby either contradict or confirm what I had said. If the former should be the result, my proposition would soon meet with the neglect which it would deserve; I could only console myself with the rectitude of my intention, and be sorry for my mistake: but if, on the contrary, the attempts of others should prove as successful as mine, it appeared to me, that the chirurgic art would make a great acquisition, as it would be thereby furnished with the means of relieving one of the most distressing maladies to which human nature is liable; a malady which, when it befalls an adult, makes him completely miserable, by depriving him of all power of being useful to himself or others; a malady which, when an infant becomes its victim, renders all the care and tears, all the tenderness and anxiety of the fondest parent absolutely unavailing, and a malady for which it was supposed there was no remedy.

These were my reasons for hazarding my opinion so hastily: the importance of the subject, and the perfect safety of the experiment, were, as I thought, a sufficient excuse for so doing.

My wishes, and my expectations, have been

most pleasingly fulfilled. I have received such manifold and repeated testimony of the success of the proposed method, from so large a number of the most eminent practitioners, not only in this town and kingdom, but in many other parts of Europe; that these, added to my own experience, have completely satisfied me, and enabled me to say, that in proper cases, and under proper treatment, I have no doubt of its being universal.

In all the time which has passed since the first publication, I have sought and embraced every opportunity of obtaining information, both from the living and from the dead; and I have requested and received the assistance of many friends, whose civilities, and whose information, I take this opportunity of acknowledging.

By these means I have been enabled to correct several errors, and to make some additional observations, which I hope may not only elucidate the original subject, but may serve other equally valuable purposes. Truths, built on observation and experience, seldom stand single; they generally lead to others, and become the means of more diffusive knowledge.

THE disease of which I am to speak, is a disease of the spine, producing an alteration in its natural figure, and not unfrequently attended

with a partial, or a total loss of the power of using, or even of moving, the lower limbs.

From this last circumstance (the loss of the use of the limbs), it has in general been called a palsy, and treated as a paralytic affection; to which it is in almost every respect perfectly unlike.

The occasion of the mistake is palpable; the patient is deprived of the use of his legs, and has a deformed incurvation of the spine; the incurvation is supposed to be caused by a dislocation of the vertebræ; the displaced bones are thought to make an unnatural pressure on the spinal marrow; and a pressure on that being very likely to produce a paralysis of some kind, the loss of the use of the legs is in this case determined to be such. The truth is, that there is no dislocation, no unnatural pressure made on the spinal marrow; nor are the limbs by any means paralytic, as will appear to whoever will examine the two complaints with any degree of attention.

In the true paralysis, from whatever cause, the muscles of the affected limb are soft, flabby, unresisting, and incapable of being put into even a tonic state: the limb itself may be placed in almost any position or posture: if it be lifted up, and then let go, it falls down, and it is not in the power of the patient to prevent, or even to retard its fall: the joints are perfectly and easily moveable in any direction: if the affection be of the lower limbs, neither hips, knees, nor ancles, have any degree of rigidity or stiffness, but permit

the limb to be turned or twisted in almost any manner.

In the present case, the muscles are indeed extenuated, and lessened in size; but they are rigid, and always at least in a tonic state, by which the knees and ancles acquire a stiffness not very easy to overcome. By means of this stiffness, mixed with a kind of spasm, the legs of the patient are either constantly kept stretched out straight, in which case considerable force is required to bend the knees, or they are by the action of the stronger muscles drawn across each other in such manner as to require as much to separate them: when the leg is in a straight position, the extensor muscles act so powerfully as to require a considerable degree of force to bend the joints of the knees; and when they have been bent, the legs are immediately and strongly drawn up, with the heels toward the buttocks: by the rigidity of the ancle-joints, joined to the spasmodic action of the gastrocnemii muscles, the patient's toes are pointed downward in such manner as to render it impossible for him to put his foot flat to the ground; which makes one of the decisive characteristics of the distemper.

These are strong marks of the distinction which ought to be made between the two diseases; and fully sufficient to show the impropriety of confounding them with each other.

The majority of those who labour under this disease are infants or young children: adults are by no means exempt from it; but I have never seen it at an age beyond forty.

When it attacks a child who is old enough to have walked properly, its aukward and imperfect manner of using its legs, is the circumstance which first excites attention; and the incapacity of using them at all, which very soon follows, fixes that attention, and alarms the friends.

The account most frequently given is, that for some time previous to the incapacity, the child had been observed to be languid, listless, and very soon tired; that he was unwilling to move much, or briskly; that he had been observed frequently to trip and stumble, although no impediment lay in his way; that when he moved hastily or unguardedly, his legs would cross each other involuntarily, by which he was often and suddenly thrown down; that if he endeavoured to stand still and upright, unsupported by another person, his knees would totter and bend under him; that he could not with any degree of precision or certainty steadily direct either of his feet to any particular point, but that, in attempting so to do, they would be suddenly and involuntarily brought across each other; that soon after this he complained of frequent pains and twitchings in his thighs, particularly when in bed, and of an uneasy sensation at the pit of his stomach; that when he sat on a chair, or a stool, his legs were almost always found across each other, and drawn up under the seat; and that in a little time after these particulars had been observed, he totally lost the power of walking.

These are the general circumstances which

are found, at least in some degree, and that pretty uniformly, in most infants and children; but there are others which are different in different subjects.

If the incurvation be of the neck, and to a considerable degree, by affecting several vertebræ, the child finds it inconvenient and painful to support its own head, and is always desirous of laying it on a table or pillow, or any thing to take off the weight. If the affection be of the dorsal vertebræ, the general marks of a distempered habit, such as loss of appetite, hard dry cough, laborious respiration, quick pulse, and disposition to hectic, appear pretty early, and in such a manner as to demand attention; and as in this state of the case there is always, from the connexion between the ribs, sternum, and spine, a great degree of crookedness of the trunk, these complaints are by every body set to the account of the deformity merely. In an adult, the attack and the progress of the disease are much the same, but there are some few circumstances which may be learned from a patient of such age, which either do not make an impression on a child, or do not happen to it.

An adult, in a case where no violence hath been committed, or received, will tell you, that his first intimation was a sense of weakness in his back-bone, accompanied with what he will call a heavy dull kind of pain, attended with such a lassitude as rendered a small degree of exercise fatiguing; that this was soon followed

by an unusual sense of coldness in his thighs, not accountable for from the weather, and a palpable diminution of their sensibility; that, in a little time more, his limbs were frequently convulsed by involuntary twitchings, particularly troublesome in the night; that soon after this, he not only became incapable of walking, but that his power either of retaining or discharging his urine and fæces was considerably impaired, and his penis became incapable of erection.

The adult also finds all the offices of his digestive and respiratory organs much affected, and complains constantly of pain and tightness at his stomach.

In infants, the curve is seldom noticed till it has got to such size and state, as to demand attention from the deformity: previous to this, all the marks of distemper which appear in the child, pass for the effects of general weakness, and are treated as such; differently by different people, and under different circumstances, but never with any permanent good effect; some of the adventitious symptoms, if I may so call them, are, in some degree, relieved; but the principal remain in full force, or, what is much more frequent, go on increasing.

In an adult it passes for rheumatism, or gravel, or a strain; and the defect in the limbs is the first thing that occasions an inquiry into the state of the back-bone.

When a curvature is perceived in an infant, it is always supposed to have received a hurt by a blow or fall, and an adult has always recourse

to some exertion in pulling, drawing, lifting, or carrying, by which the spine is thought to have been deranged, or injured; but which supposition is seldom, if ever, true in either case.

The true cause of the disease is a morbid state of the spine, and of some of the parts connected with it; which distempered state of parts will, upon careful inquiry, be always found to have preceded the deformity some length of time: in infants this is the sole cause, and external violence has nothing to do with it. In the adult, I will not assert that external mischief is always and totally out of the question, but I will venture to affirm what is equal, as far as regards the true nature of the case, which is, that although accident and violence may in some few instances be allowed to have contributed to its more immediate appearance, yet the part in which it shows itself, must have been previously in a morbid state, and thereby predisposed for the production of it. I do not by this mean to say that a violent exertion cannot injure the spine, nor produce a paralytic complaint; that would be to say more than I know: but I will venture to assert, that no degree of violence whatever is capable of producing such an appearance as I am now speaking of, unless the bodies of the vertebræ were by previous distemper disposed to give way; and that no supposable dislocation, caused by mere violence done to the bones of the back, which bones were before the receipt of the injury in a sound state, can possibly be attended with the peculiar symptoms of a curved

spine. In which distinction, according to my judgement, consists the very essence of the disease. Violence may easily be supposed to bring the two vertebræ nearer to each other than they ought to be, and by crushing an intermediate one to produce a curvature; but then the body of the vertebræ so crushed, must have been in a distempered state previous to such violence. Great violence may also suddenly and immediately displace a perfectly sound vertebra from its proper and natural situation, with regard to those annexed to it; but the necessary consequences of these two kinds of injury must be so very different, that they never can be confounded together, or mistaken for each other, even by the most inattentive observer.

The true curvature is invariably uniform in being from within outwards; but it varies in situation, in extent, and in degree; it affects the neck, the back, or the loins; it comprehends one vertebra only, or two, or more; and as few or more are affected, or, as these are more or less morbid, and consequently give way more or less; the curve must be different: but whatever variety these circumstances may admit, the lower limbs alone[b], in general, feel the effect. Some

[b] Since I began to put these papers together, I have seen two cases, in one of which the arms only were affected, in the other both legs and arms.

Mr. E. Ford, of Golden square, has favoured me with the examination and case of a lad, who lost the use of both legs, and both arms, from a curvature which Mr. Ford cured by means of the caustics. — Mr. Parke, of Liverpool, has also

are, very soon after the curvature, rendered totally and absolutely incapable, not only of walking, but of using their legs in any manner; others can make shift to move about with the help of crutches, or by grasping their thighs just above the knees with both hands; some can sit in an armed chair without much trouble or fatigue, others cannot sit up with any help; some retain such a degree of power of using their legs, as to be able to shift their posture when in bed; others have no such power, and are obliged to be moved upon all occasions.

Weak and delicate children are the most frequent subjects of this distemper; and when, in these, it seizes on the dorsal vertebræ, great deformity of the trunk, both before and behind, is the almost inevitable and necessary consequence: this will be different in different persons; but let the difference in this be what it may, it is an adjunct circumstance; and upon due inquiry it will always be found that the curvature from within outward, preceded the other deformity, and was, at one time, the only one to be seen.

Before the alteration of figure in the back-bone has been discovered, all the attention is paid to the limbs, in which the whole disorder is supposed to reside, and all the applications for relief are made to them; frictions, liniments, embroca-

obliged me with an account of two persons, both under his care, both with useless arms and legs, and both cured by the same means.

tions, blisters, &c. to which is generally added cold-bathing and electricity. When the curvature has been noticed, recourse is immediately had to back-boards, collars, steel boddice, swings, screw-chairs, and other pieces of machinery, but all to no purpose; the patient becomes daily more and more helpless and unhealthy, languishes for more or less time, and at last dies either in an emaciated state from an hectic, or by a drain from an abscess formed within the body.

That this is the case frequent and melancholy experience evinces; but why it is so, is perhaps not generally so well understood or attended to as it ought to be.

The primary and sole cause of all the mischief, is a distempered state of the parts composing or in immediate connexion with the spine, tending to, and most frequently ending in, a caries of the body, or bodies, of one or more of the vertebræ: from this proceed all the ills, whether general or local, apparent or concealed; this causes the ill health of the patient, and, in time, the curvature. The helpless state of the limbs is only one consequence of several proceeding from the same cause: but though this effect is a very frequent one, and always affects the limbs in nearly the same manner, yet the disease not having its origin in them, no application made to them only can ever be of any possible use.

The same failure of success attends the use of the different pieces of machinery, and for reasons which are equally obvious.

They are all, from the most simple to the most

complex, but particularly the swing and the screw, calculated to obviate and remove what does not exist. They are founded upon the supposition of an actual *dislocation*, which never is the case, and therefore they always have been, and ever must be, unsuccessful.

To understand this in the clearest and most convincing manner, we need only reflect on the nature of the disease, its seat, and the state in which the parts concerned must necessarily be.

The bones are either already carious, or tending to become so; the parts connected with them are diseased, and not infrequently ulcerated; there is no displacement of the vertebræ with regard to each other; and the spine bends forward only because the rotten bone, or bones intervening between the sound ones, give way, being unable in such state to bear the weight of the parts above. The most superficial reflexion on this must point out to every one, why attempts of this kind can do no good; and a little more attention to the subject will show why they may be productive of real and great mischief. The bones are supposed to be sound, but displaced: these machines are designed to bring them back to their former situation, and thereby to restore to the spine its proper rectitude. If therefore they have any power, that power must be exercised on the parts in connexion with the curve; which parts, when the disease is at all advanced, are incapable of bearing such a degree of violence without being much hurt thereby: this, if it were merely theoretical, being a conclusion drawn

from the obvious and demonstrable state of the distempered parts, could not be deemed unreasonable; but, unfortunately for the afflicted, it is confirmed by practice. They who have had patience and fortitude to bear the use of them to such a degree as to affect the parts concerned, have always found increase of pain and fever, and an exasperation of all their bad symptoms; and I have known more than one instance in which the attempt has proved *fatal*.

The use of some or other of these pieces of machinery is so general, and the vulgar prejudice in their favour so great, that notwithstanding I have been long convinced of their perfect inutility, yet if I had no other objection to them, I would not attempt to rob the afflicted of what they seem to derive such comfortable expectation from; but as I am satisfied of their mischievous effects, not only in the case of the present subject, but in many others, I cannot help bearing my testimony against the indiscriminate and very improper use which is daily made of them.

They are used with design to prevent growing children from becoming crooked or misshapen, and this they are supposed to do by supporting the back-bone, and by forcing the shoulders unnaturally backward: the former they cannot do; and in all cases where the spine is weak, and thereby inclined to deviate from a right figure, the latter action of these instruments must contribute to, rather than prevent such deviation; as will appear to whoever will with

any attention examine the matter: if, instead of adding to the embarrassments of children's dress by such iron restraints, parents would throw off all of every kind, and thereby give nature an opportunity of exerting her own powers; and if in all cases of manifest debility recourse was had to friction, bark, and cold bathing, with a due attention to air, diet, exercise, and rest, the children of the opulent would, perhaps, stand a chance of being as stout, as straight, and as well shapen as those of the laborious poor.

When a child appears to be what the common people call naturally weakly, whatever complaints it may have are supposed to be caused by its weak state, and it is generally believed that time and common care will remove them; but when a curvature has made its appearance, all these marks of ill health, such as laborious respiration, hard cough, quick pulse, hectical heat and flushing, pain and tightness of the stomach, &c. are more attentively regarded, and set to the account of the deformity consequent to the curve, more especially if the curvature be of the dorsal vertebræ, in which case the deformity is always greatest: but whoever will carefully attend to all the circumstances of this disorder, will be convinced, that most, if not all the complaints of children, labouring under this infirmity, precede the curvature, and that a morbid state of the spine, and of the parts connected with it, is the original and primary cause of both[c].

[c] When I published the first edition of this tract, I was not

I have in the former edition informed the reader, that my particular attention to this disease was first excited by an instance of its being cured by a seemingly accidental abscess; that this first gave me reason to suspect, that we had mistaken an effect for a cause; and that, upon mature deliberation upon the matter, I was still more inclined to think so for the following reasons:

1. "That I did not remember ever to have "seen this useless state of the limbs from a "mere mal-formation of the spine, however "crooked such mal-formation might have made "it.

2. "That none of those deviations from right "shape, which growing girls are so liable to, "however great the deformity might be, was "ever attended with this effect.

3. "That the kind of deformity, which was "attended with this affection of the limbs, al-"though it was different as to its degree and its "extent in different people, yet it was uniform "in one circumstance, which was, that the cur-"vature always was from within outwards.

4. "That since I had been particularly atten-"tive to the disorder, I thought that I had ob-

so aware of this truth, as a more enlarged experience in, and a more careful attention to the disorder since has made me.

I am very glad to embrace this opportunity of acknowledging, and of correcting the mistake, and the more so as I am convinced that an inference of the greatest importance may be drawn from it. I am satisfied that this malady may, in many instances, by early and proper attention, be prevented from producing its otherwise inevitable consequences, temporary lameness, and permanent deformity.

" served, that neither the extent nor degree of " the curve, had in general produced any ma- " terial difference in the symptoms, but that " the smallest was, when perfectly formed, at- " tended with the same consequences as the " largest.

5. " That although it had sometimes hap- " pened, that a blow, or a strain, had preceded " the appearance of the curve, yet it much more " frequently happened, that no such cause was " assignable.

6. " That I had observed exactly the same " symptoms in infants, and in young children, " who had neither exerted themselves, nor were " supposed to have received any injury from " others; and that the case was still the same in " those adults, who had no such cause to look " to.

7. " That although it might be expected that " a dislocation of any of the vertebræ, would be " attended with symptoms of the paralytic kind, " yet they would be very unlike to those which " affected the limbs in the present case."

The suspicions which these circumstances had excited in my mind, were confirmed [d] by

[d] In the first edition I had described the bones on which the disease had seized, as being enlarged and spread: upon repeated inquiry and examination, I am convinced that they are not.

The bodies of the vertebræ concerned are often affected, while the ligaments bear but little mark of distemper; but whether the ligaments be affected or not, the bodies of the vertebræ are always diseased, which disease does not so properly *enlarge* as *erode:* the state also of the intervertebral

what I had a few opportunities of observing in the dead bodies of some who had died afflicted with this disorder, and altogether satisfied me, that there must be something predisposing in the parts concerned; and that when we attribute the useless state of the limbs merely to the curvature, we mistake, as I have just said, an effect for a cause.

At the same time I gave an account of a conversation, which passed between me and the late Dr. Cameron, of Worcester, who told me, that having remarked in Hippocrates an account of a paralysis of the lower limbs cured by an abscess in the back, he had, in a case of useless limbs attended with a curvature of the spine, endeavoured to imitate this act of nature, by exciting a purulent discharge, and that it had proved very beneficial; which was confirmed to me by Mr. Jeffrys, of Worcester, who had made the same experiment with the same success[e].

From the time of my receiving this first information to the present, I have sought every oppor-

cartilages, I find to be subject to great variety, they being sometimes totally destroyed, while the caries is small in degree, sometimes apparently but little injured, where the caries has done considerable mischief, and sometimes totally destroyed and annihilated.

[e] In this place of the first edition, I have a short account of the first two or three cases which occurred to me: in this I omit them as needless.

The number of experiments which have been made by many of the most eminent practitioners, at home and abroad, have sufficiently established the fact, and render the relation of particular cases unnecessary.

tunity of making the experiment. St. Bartholomew's hospital has seldom been without cases of this kind, and it is with infinite pleasure and satisfaction, that I find myself enabled to say, that in all cases where the complaint has been so circumstanced as to admit of even probable expectation, the attempt has been successful.

If the cure of this most dreadful distemper had depended upon an application to the constitution in general, it might have required a variety of medicines, the administration of which must have demanded judgment in adapting them to particular persons and constitutions; and it must also, in the nature of things, have happened that many individuals could not have been benefited at all. But fortunately for the afflicted, the means of relief are simple, uniform, and safely applicable to every individual, under almost every possible circumstance, not attended by the smallest degree of hazard, and capable of being executed by any body who has the least portion of chirurgic knowledge: it consists merely in procuring a large discharge of matter, from underneath the membrana adiposa on each side of the distempered bones forming the curvature, and in maintaining such discharge until the patient shall have recovered his health and limbs. They who are little conversant with matters of the sort, will suppose the means very inadequate to the proposed end; but they who have been experimentally acquainted with the very wonderful effects of purulent drains, made from the immediate neighbourhood of diseases, will not be

so much surprised at this particular one; and will immediately see how such kind of discharge, made and continued from the distempered part, checks the further progress of the caries, gives nature an opportunity of exerting her own powers, of throwing off the diseased parts, and of producing by incarnation an union of the bones (now rendered sound), and thereby establishing a cure.

However, be all this as it may, the fact is undoubted, and the number of witnesses, as well as patients producible in confirmation of it, is so considerable, that it is needless to say any thing more on that head.

It is a matter of little importance towards the cure, by what means the discharge be procured, provided it be large, that it come from a sufficient depth, and that it be continued for a sufficient length of time[f].

I have tried the different means of setons, issues by incision, and issues by caustic, and have found the last in general preferable, being least painful, most cleanly, most easily manageable, and capable of being longest continued.

The caustics should be applied on each side of the curvature, in such a manner as to leave the portion of skin covering the spinal processes of the protruding bones, entire and unhurt; and so large, that the sores upon the separations of the eschars, may easily hold each three or four peas in the case of the smallest curvature; but in large curves, at least as many more.

[f] When I say this, I mean to signify that it is absolutely without limitation, and must depend on their beneficial effect.

These issues should not only be kept open, but the discharge from them should be maintained by means of orange peas, cantharides in fine powder, ærugo æris, or any such application as may best serve the intended purpose, which should be that of a large, and long continued drain.

Whatever length of time it may take to obtain a complete cure, by restoring the health as well as the limbs, the issues must be continued at least as long; and in my opinion, a considerable time longer, especially in the persons of infants and growing children; the necessity of which will appear more strongly, when it shall be considered that infants and young children of strumous habits, are the subjects who are most liable to this distemper, and that in all the time previous to menstruation in one sex, and puberty in the other, they are in general more served by artificial drains than any other persons whatever.

This, and this only, does or can alleviate the misery attending this distemper, and in proper time effect a cure.

By means of these discharges, the eroding caries is first checked, and then stopped; in consequence of which an incarnation takes place, and the cartilages between the bodies of the vertebræ having been previously destroyed, the bones become united with each other, and form a kind of anchylosis.

The time necessary for the accomplishment of this, must in the nature of things be consider-

able in all cases, but very different, according to different circumstances.

No degree of benefit or relief, nor any the smallest tendency towards a cure, is to be expected until the caries be stopped, and the rotten bones have begun to incarn: the larger the quantity of bones concerned, and the greater degree of waste and havoc committed by the caries, the greater must be the length of time required for the correction of it, and for restoring to a sound state so large a quantity of distempered parts—and *vice versa*[g].

In the progress toward a cure, the same gradation or succession of circumstances may be observed, as was found to attend the formation of the disease, with this difference, that they which attend the latter, are much more rapid than those which accompany the former.

After the discharge has been made some time (very uncertain what), the patient is found to be better in all general respects; and if of age to distinguish, will acknowledge that he feels himself to be in better health; he begins to recover his appetite, gets refreshing sleep, and has a more quiet and less hectical kind of pulse; but the relief which he feels above all others, is from having got rid of that distressing sensation of tightness about the stomach: in a little time

[g] Nothing can be more uncertain than the time required for the cure of this distemper. I have seen it perfected in two or three months, and I have known it require two years; two thirds of which time passed before there was any visible amendment.

more, a degree of warmth and a sensibility is felt in the thighs, which they had been strangers to for some time; and generally, much about the same time, the power of retaining and discharging the urine and fæces begins to be in some degree exerted.

The first return of the power of motion in the limbs is rather disagreeable, the motions being involuntary, and of the spasmodic kind, principally in the night; and generally attended with a sense of pain in all the muscles concerned.

At this point of amendment, if it may be so called, it is no uncommon thing, especially in bad cases, for the patient to stand some time without making any further progress: this in adults occasions impatience, and in parents despair: but in the milder kind of case, the power of voluntary motion generally soon follows the involuntary.

The knees and ancles by degrees lose their stiffness, and the relaxation of the latter enables the patient to set his feet flat upon the ground, the certain mark that the power of walking will soon follow: but those joints having lost their rigidity, become exceedingly weak, and are not for some time capable of serving the purpose of progression.

The first voluntary motions are weak, not constantly performable, nor even every day, and liable to great variation, from a number of accidental circumstances, both external and internal.

The first attempts to walk are feeble, irregular,

and unsteady, and bear every mark of nervous and muscular debility; the patient stands in need of much help; and his steps, with the best support, will be, as I have just said, irregular and unsteady: but when they have arrived at this, I have never seen an instance in which they did not soon attain the full power of walking.

When the patient can just walk, either with crutches, or between two supporters, he generally finds much trouble and inconvenience, in not being able to resist, or to regulate, the more powerful action of the stronger muscles of the thigh over the weaker, by which his legs are frequently brought involuntarily across each other, and he is suddenly thrown down.

Adults find assistance in crutches, by laying hold of chairs, tables, &c.; but the best and safest assistance for a child, is what is called a go-cart, of such height as to reach under the arms, and so made as to inclose the whole body: this takes all inconvenient weight off from the legs, and at the same time enables the child to move them as much as it may please.

Time and patience are very requisite: but they do in this case, as in many others, accomplish our wishes at last.

The deformity, remaining after recovery, is subject to great uncertainty, and considerable variety, as it depends on the degree of caries, and the number of bones affected: in general, it may be said, that where one vertebra only is affected, and the patient young, the curve will in

length of time almost totally disappear: but where two or three are affected, this cannot be expected. The thing aimed at is the consolidation and union of the bones, which had been carious, and are now become sound: this is the *sine quâ non* of the cure, and this must in such cases render the curvature, and consequently the deformity, permanent: the issues will restore the use of the limbs, but not the lost figure of the spine.

SINCE this method of treating the distemper has been made known, the disease itself has been more adverted to, and applications for relief have been more frequent than they were while it was regarded as incurable. The number received into St. Bartholomew's hospital has been considerable, and, as it may be supposed, some in a state to admit of cure, others not. While the thing was new, and before a number of cures sufficient to establish the fact had been wrought, it was doubted by most and positively denied by some: but since a variety of successes has put the matter beyond all doubt, with regard to the restoration of the use of the limbs, it has been said, that as the disease is manifestly a disease of the bones, it is to be apprehended, that the expectation of relief may in some cases fail, and that in others it may not prove permanent; that the same kind of constitution remaining, a return of the malady may be feared; and, in

short, that a much greater degree of uncertainty may occur, than might be expected from the account which I have given.

To the first I answer, that in cases where the caries is very extensive, and the constitution has been thereby so injured as to produce a degree of mischief tending to the destruction of the patient, no good is to be expected; the disease has been too long neglected, and is become thereby an overmatch for the remedy. But how does this differ from what may be said, with the same truth, of every disease, and of every remedy. To the second, third, and fourth remark, all I can say is, that in the space of three years, during which I have had many opportunities of making the experiment, I have met with but one single instance in which it has failed, where, from the state of the disease, and of the patient, there was any reasonable foundation for hopes; that all those who have submitted to keep the issues open long enough, have been so restored to health, and to the free use of their limbs, as to be perfectly capable, not only of exercise, but of hard labour; and that I have never yet, among those so treated, met with one on whom the disease has returned.

On the other hand, the nature of the original distemper in the habit, its effects both local and general, the gradual, slow manner in which alone a cure is obtainable, and the particular circumstance on which such cure entirely depends, I mean the removal of the caries, and the

union of the bones with each other, all very strongly point out the propriety of continuing that discharge for a sufficient length of time, from which, and from which only, such benefit has been derived.

AT the beginning of the preceding tract I have said, that when I first began to consider the distemper with that degree of attention which it seemed to deserve, I was inclined to suspect that we had hitherto regarded it too superficially; that we had been satisfied with observing its external appearance merely, without inquiring into its real nature; that we had thereby been led to mistake an effect for a cause; and that there must certainly be either in the constitution of the patient, or in the state of the parts concerned, something which tended to produce this very dreadful malady.

I am satisfied I was right in my conjecture, and am convinced, from every circumstance, general and particular, in the living, and from every appearance in the dead, that the complaint arises from what is commonly called a strumous or scrophulous indisposition, affecting the parts composing the spine, or those in its immediate vicinity.

This morbid affection shows itself in a variety of forms; but, although its appearances be various, yet they are always such as determine the true nature of the distemper.

Sometimes it appears in a thickened state of the ligaments, connecting the vertebræ together, without any apparent affection of the bones.

Sometimes in the form of a distempered state of the intervertebral substances, called cartilages.

Sometimes in that of diseased glands, either in a merely indurated and enlarged state, or, what is more frequent, in that of a partial suppuration.

Sometimes it is found in the form of bags or cysts, containing a quantity of stuff of a very unequal consistence, partly purulent, partly sanious, and partly a curd-like kind of substance; and not unfrequently entirely of the last.

Sometimes under these bags, or cysts, even while they remain whole, the subjacent bones are found to be distempered, that is, deprived of periosteum, and tending to become carious.

Sometimes these collections erode the containing membranes, and make their way downward by the side of the psoas muscle, toward the groin, or by the side of the pelvis behind the great trochanter, or in some cases to the outside of the upper part of the thigh.

Sometimes each of the distempered states of these parts is accompanied by a greater or less degree of deformity and crookedness of the spine, without any apparent disease of the bones composing it: sometimes the deformity is attended with an erosion, or caries of the body

or bones of some of the vertebræ; and sometimes the same bones are found to be carious, without any crookedness or alteration of figure.

These different affections of the spine, and of the parts in its immediate neighbourhood, are productive of many disorders, general and local, affecting the whole frame and habit of the patient, as well as particular parts; and, among the rest, of that curvature which is the subject of this inquiry; and it may not be amiss to remark, that strumous tubercles in the lungs, and a distempered state of some of the abdominal viscera, often make a part of them.

From an attentive examination of these morbid appearances, and of their effects in different subjects, and under different circumstances, the following observations, tending not only to illustrate and explain the true nature of the disease in question, but also to throw light on others of equal importance, may, I think, be made.

1. That the disease which produces these effects on the spine, and the parts in its vicinity, is what is in general called the scrophula; that is, that same kind of indisposition as occasions the thick upper lip, the tedious obstinate ophthalmy, the indurated glands under the chin and in the neck, the obstructed mesentery, the hard dry cough, the glairy swellings of the wrist and ancles, the thickened ligaments of the joints, the enlargement and caries of the bones, &c. &c. &c.

2. That this disease, by falling on the spine,

and the parts connected with it, is the cause of a great variety of complaints, both general and local.

3. That when these complaints are not attended with an alteration of the figure of the back bone, neither the real seat, nor true nature of such distemper are pointed out by the general symptoms; and consequently, that they frequently are unknown, at least while the patient lives.

4. That when by means of this distemper an alteration is produced in the figure of the back bone, that alteration is different in different subjects, and accordiug to different circumstances.

5. That when the ligaments and cartilages of the spine become the seat of the disorder, without any affection of the vertebræ, it sometimes happens that the whole spine, from the lowest vertebræ of the neck downwards, gives way laterally, forming sometimes one great curve to one side, and sometimes a more irregular figure, producing general crookedness and deformity of the whole trunk of the body, attended with many marks of ill health.

6. That these complaints, which are by almost every body supposed to be the effect of the deformity merely, are really occasioned by that distempered state of the parts within the thorax, which is at the same time the cause both of the deformity and of the want of health.

7. That the attack is sometimes on the bodies of some of the vertebræ; and that when this is

the case, ulceration or erosion of the bone is the consequence, and not enlargement.

8. That when this erosion or caries seizes the body or bodies of one or more of the vertebræ, it sometimes happens that the particular kind of curvature which makes the subject of these sheets is the consequence.

9. That this curvature, which is always from within outward, is caused by the erosion or destruction of part of the body or bodies of one or more of the vertebræ; by which means that immediately above the distemper, and that immediately below it, are brought nearer to each other than they should be, the body of the patient bends forward, the spine is curved from within outward, and the tuberosity appears behind, occasioned by the protrusion of the spinal processes of the distempered vertebræ. See plate 1, 2, and 3.

10. That according to the degree of carious erosion, and according to the number of vertebræ affected, the curve must be less or greater.

11. That when the attack is made upon the dorsal vertebræ, the sternum and ribs, for want of proper support, necessarily give way, and other deformity, additional to the curve, is thereby produced.

12. That this kind of caries is always confined to the bodies of the vertebræ, seldom or never affecting the articular processes [h].

[h] I have seen two cases in which the bodies of the ver-

13. That without this erosive destruction of the bodies of the vertebræ, there can be no curvature of the kind which I am speaking of; or, in other words, that erosion is the *sine quâ non* of this disease; that although there can be no true curve without caries, yet there is, and that not infrequently, caries without curve. See plate 5.

14. That the caries with curvature and useless limbs, is most frequently of the cervical or dorsal vertebræ; the caries without curve, of the lumbal, though this is by no means constant or necessary.

15. That in the case of carious spine, without curvature, it most frequently happens, that internal abscesses and collections of matter are formed, which matter makes its way outward, and appears in the hip, groin, or thigh; or being detained within the body, destroys the patient; the real and immediate cause of whose death is seldom known, or even rightly guessed at, unless the dead body be examined.

16. That what are commonly called lumbal and psoas abscesses, are not infrequently produced in this manner, and therefore when we use these terms, we should be understood to mean only a description of the course which such matter has pursued in its way outward, or the place where it makes its appearance

tebræ were totally separated from all connexion with the other parts, leaving the membrane, which included the spinal marrow, perfectly bare. See plate 4.

externally, the terms really meaning nothing more, nor conveying any precise idea of the nature, seat, or origin of a distemper subject to great variety, and from which variety its very different symptoms and events, in different subjects, can alone be accounted for.

17. That contrary to the general opinion, a caries of the spine is more frequently a cause than an effect of these abscesses.

18. That the true curvature of the spine, from within outward, of which the paralytic, or useless state of the lower limbs, is a too frequent consequence, is itself but *one* effect of a distempered spine; such case being always attended with a number of complaints which arise from the same cause: the generally-received opinion, therefore, that all the attending symptoms are derived from the curvature, considered abstractedly, is by no means founded in truth, and may be productive of very erroneous conduct.

19. That in the case of true curvature, attended with useless limbs, there never is a *dislocation*, properly to be so called, but that the alteration in the figure of the back-bone is caused solely by the erosion, and destruction of a part of one or more of the corpora vertebrarum; and, that as there can be no true curvature without caries, it must be demonstrably clear, that there must have been a distempered state of parts previous to such erosion; from all which it follows, that this distemper, call it by what name you please, ought to be regarded as

the original cause of the whole; that is, of the caries, of the curvature, and all the attendant mischiefs, be they what they may, general or particular; a consideration, as it appears to me, of infinite importance to all such infants and young children, as show either from their general complaints, or from their shape, a tendency to this kind of evil; and whose parents and friends generally content themselves with a swing, or piece of iron machinery, and look no further.

20. That whoever will consider the real state of the parts when a caries has taken place, and the parts surrounding it are in a state of ulceration, must see why none of the attempts, by means of swings, screws, &c., can possibly do any good, but on the contrary, if they act so as to produce any effect at all, it must be a bad one.

21. That the discharge, by means of the issues, produces in due time (more or less under different circumstances) a cessation of the erosion of the bones; that this is followed by an incarnation, by means of which the bodies of the vertebræ which had been the seat of the disease, coalesce, and unite with each other, forming a kind of anchylosis.

22. That the different degrees and extent of the caries, in different subjects, must render all attempts to cure uncertain, both as to the time required, and as to the ultimate event: the least and smallest degree will (every thing else being equal) be soonest relieved and cured: the larger

and more extensive will require more time; and where the rottenness is to a great degree, and all the surrounding parts in a state of distempered ulceration, it must foil all attempts, and destroy the patient.

23. That when two or more vertebræ are affected, forming a large curve, however perfect the success may be with regard to the restoration of health and limbs, yet the curvature will and must remain, in consequence of the union of the bones with each other.

24. That the useless state of the limbs is by no means a consequence of the altered figure of the spine, or of the disposition of the bones with regard to each other, but merely of the caries: of this truth there needs no other proof, than what may be drawn from the cure of a large and extensive curvature, in which three or more vertebræ were concerned: in this the deformity always remains unaltered and unalterable, notwithstanding the patient recovers both health and limbs.

Upon the whole, after due consideration of what has been said concerning the nature of the complaint, its producing cause, and the method by which it is capable of being cured, I would ask, whether the diseased state of the spine, and of the parts connected with it (which, if not prevented, must produce some of its very dreadful effects), may not, by a timely use of proper means, be prevented?

A morbid state of parts previous to deformity, caries, or curve, must be allowed: every com-

plaint of the living, and every appearance in the dead, prove it beyond contradiction or doubt. All the general complaints of persons afflicted with this disorder will always, upon careful inquiry, be found to have preceded any degree of deformity, to have increased as the curve became apparent, and to have decreased as the means used for relief took place: the pain and tightness about the stomach, the indigestion, the want of appetite, the disturbed sleep, &c. &c., gradually disappear, and the marks of returning health become observable before the limbs recover the smallest degree of their power of moving.

On the other hand, it is as true, that when from extent, or degree, or inveteracy of the caries, the issues are found to be unequal to the wished-for effect, the general complaints receive no amendment, but increase until the patient sinks under them.

If all this be true, which, that it is, the manifold and repeated experience of many, as well as myself, can amply testify; and if it be found that the issues are capable of effecting a perfect cure, even after a caries has taken place, and that to a considerable degree, which is also true to demonstration, is it not reasonable to conclude, that the same means made use of in due time might prove preventive?

If this was a matter of mere speculation, or opinion, I would be very cautious how I spake on the subject: but it is really a matter of experiment; and as far as I have had it in my power to put it to that test, it has succeeded, by

the restoration of lost health, and the prevention of a deformity which was advancing rapidly.

It may, perhaps, be said, that if no such means had been used, the same space of time might have produced the same effect: to this it is impossible to make an answer: I shall, therefore, content myself with having given my opinion, with the circumstances and reasons on which it is founded.

I should be sorry to be misunderstood on this point, or to have it thought that I meant to say, that every weak or ricketty child was necessarily liable to a curved spine; or that issues were to be deemed an infallible remedy for the ills arising from a strumous habit: far be it from me to say either: what I would wish to be understood to mean is, that such kind of habit appears to me to be most apt to produce some of the mischiefs mentioned in this tract; that, as a purulent discharge, derived from the neighbourhood of the spine, is found, from repeated experience, to be a successful remedy, even after the disease is confirmed by a caries, it seems to me to bid fairer than any thing else, if used in time, to become a preventive; and, that as some other kinds of deformity are found to follow attacks of the same kind of constitutional disorder seizing on these parts, and which, though not causing precisely the same effect, are nevertheless attended with the same general symptoms; I cannot

help thinking, that it may be well worth while to try whether benefit be not attainable by the same means, in the one case as in the other; and if the old maxim, "*anceps remedium quam* "*nullum*" be admissible, surely an experiment, which is in its nature perfectly incapable of harm, is worth making.

*** Since Mr. Pott made his first observations on this disease, it has much engaged the attention of the profession, and from repeated examinations it has been proved to be caused by the giving way of the bodies of some of the vertebræ, owing to a loss of substance produced by caries: in many cases the remaining parts of the bone show that they were considerably enlarged before the carious disposition took place, which has led some to consider it as a species of spina ventosa of the back-bone. Such a state of the bones often produces bad symptoms and much mischief; but the curvature cannot take place till the caries has caused a loss of substance in the bodies of the vertebræ.

The first and great object in our endeavours to relieve this disease, must be to prevent the increase or continuance of the caries, and to give nature an opportunity of restoring the weakened part by furnishing fresh growth of boney matter. That this effect has been produced by issues opened on each side of the curvature, has been proved beyond controversy by symptoms in the living, and by examination of the parts after death. Many persons have, in a great variety of instances, had opportunities of observing the gradual progress from total imbecility to strength and vigour, without the intervention of any other means than issues; and I feel the highest satisfaction in having it in my power to assert, that by such simple means one of the most destructive disorders which attack the human frame may be prevented, and the blessings of health restored. To him who invented or proposed the plan, every praise is due; and I may presume that any attempt to improve on it cannot fail of being well received.

On these grounds I shall take the liberty to remark, that highly as I think of the power and efficacy of issues in these cases, I must confess that in many which I have attended I

have been conscious of the want of some power, or means, to raise and support the superior parts, and to take off the super-incumbent pressure. And I have long been of opinion that, in *this case*, surgery will find great advantage in the aid of mechanism.

The assistance derived from mechanical powers in a variety of chirurgical cases is too notorious to require to be mentioned: their effects on bent bones, clubbed feet, and other distortions of the limbs, must be manifest to any one who will candidly give his attention to the subject; yet, from unaccountable prejudices, I have known some eminent practitioners in surgery oppose, even in these cases, what they call the use of irons, and who would let Nature persist in her error, in hopes that she may rectify herself in the general growth of the body, rather than take proper means to lead her into the right path; while the real state of the fact is, that the distortion is much more likely to become consolidated with the growth of the child, and strengthen with its strength, until it is confirmed and unalterable.

Mr. Pott had no objection to the use of instruments in cases of distorted limbs: I have many times known them applied under his direction with great advantage; but he certainly did not entertain a favourable idea of any assistance to be gained by mechanical powers in those distortions, or incurvations of the spine, which were the subject of his treatise; on the contrary, in several passages of the work alluded to, he showed a marked disapprobation of them. He was of opinion that the discharge produced by the issues was all which is requisite for a cure, and so it has certainly often proved, no other means being employed in cases which have succeeded perfectly; yet he agreed that other assistant means, such as bark, cold bathing, frictions, &c., might occasionally be added, in order to expedite the cure: but with regard to pieces of mechanism, as was observed, he always objected to them, and would not allow them to be in any degree assistant to his plan. I should certainly be cautious in giving an opinion after such respectable authority, yet I must observe, that the more respectable an author is, the more weight his

opinions carry; and consequently there is more reason why those opinions should be scrutinized if they clash with subsequent observations apparently well founded. Thus, with all due deference to the judgment of a man of whom no one can entertain a higher opinion, I must observe that I think some powers of mechanic ingenuity may in many cases of distortions of the spine be made, not only to assist in accomplishing the end which Mr. Pott intended by the caustics, but to produce effects more beneficial, and far beyond what he himself expected from their application.

Mr. Pott observes that "these pieces of mechanism are "calculated to obviate and remove what does not exist; that "they are formed on a supposition of actual dislocation, "which never is the case; and therefore they always have "been and ever must be useless." I readily allow that in those cases in which the issues have been so successful there is no dislocation; but it must be acknowledged that the part occupied by the disease is in general extremely weak, and incapable of supporting the weight of the parts above the curvature. On this head Mr. Pott himself remarks, that, "if the curvature be of the neck, the child finds it incon- "venient and painful to support its own head, and is always "desirous of laying it on a table, pillow, or any thing, "to take off the weight." The same thing precisely happens when the disease attacks the dorsal or lumbal vertebræ. Every one who has attended to these cases must have remarked the efforts which children make under such circumstances: I speak of children as being most frequently liable to the complaint; but adults, and every one subject to a weakness in the back, from whatever cause, endeavour to take off the load which oppresses them, by supporting themselves on tables or chairs; and when they rise to walk they press their hands on their knees in order to relieve the spine: all this points out the necessity of giving what assistance is in our power to the weak part.

In another place Mr. Pott observes that the bones are already carious or tending to become so, the parts connected with them diseased, and not infrequently ulcerated; that "there is no displacement of the vertebræ with regard to "each other, and that the spine bends forward only because

"the rotten bone or bones intervening between the sound "ones give way, being *unable* in such state to bear the "weight of the parts above." Surely then it appears reasonable that those parts should be strengthened and supported, while Nature with the assistance of the issues is doing the work of restoration by putting a stop to the caries, after which boney matter is deposited to supply the deficiency which the disease has produced. We apply splints to a broken leg while ossification is forming; we do not allow any pressure to be made on it while that natural process is going on; and the patient afterwards takes off the weight of the body from it by means of crutches, until it is perfectly strong and capable of its own duty. I am at a loss to find any good reason or sound argument why the same means of assistance, at least so far as lies in our power, should not be applied in cases of a weakened spine, in order to take off superincumbent pressure, and to endeavour to restore the actual form of the spine during the progress of the cure: if this be not attempted, or cannot be brought about at this time, the consequence must be that the back will remain crooked during the cure. Nature is obliged to do her work while it is in the bent position; and though the strength of the pillar be subsequently increased, the cure itself becomes in some degree an evil, and a lasting one, as the growth of new bone in that situation must consolidate all the parts, and must confirm the curvature exactly, or nearly as it stood, before the cure was attempted; for whatever power the issues have in strengthening, it cannot be supposed that they can materially alter the curve which is already formed. The period when we are most likely to improve the form of the pillar must be during the progress of the cure, while the parts allow of some latitude of motion: when they are once become consolidated and fixed by the growth of boney matter, no alteration scarcely can take place but what is effected by the future general growth of the whole body. In very young subjects this is certainly very considerable: but is not this an argument why the assistance to be obtained by growth should as early as possible be determined in a proper direction? When that is accomplished, bark, cold-bathing, and frictions may be useful; but till then,

the aid which they may give only contributes to fix and confirm the parts in a wrong situation.

From repeated observation I am so convinced, and conceive the benefit likely to result from mechanic assistance so self-evident, that had not the objections to it originated in an authority so generally respected, I should think it unnecessary to advance any thing more on the subject. But this being the case, I take the liberty to add, that as a further proof how necessary it is that by some means or other the pressure of the parts above must be in many cases taken off while the cure is perfecting, and to show that Mr. Pott himself was convinced of the necessity of it, though perhaps it did not appear to him exactly in the same point of view, I must remark, that in many cases of curved spines which Mr. Pott attended, he thought it necessary to confine his patients to bed, or to a horizontal situation during the greatest part of the cure, as they could not bear to remain in an upright position. I need not observe how irksome this must be, how it must tend to relax and weaken the patient, and consequently to retard the cure: seeing it only in this light, it must be acknowledged that any means which would render unnecessary this severe and unhealthy process, must be desireable and advantageous.

That many of the machines which have been invented to remedy distorted spines, from having been imperfectly or improperly made, badly contrived, or injudiciously applied, are capable of doing much mischief, must certainly be allowed: the neck-swing, and the screw-chair, I should conceive, can do little good, for it is obvious that a posture produced by swinging a child by the neck, or stretching it in a chair, cannot long be borne: he may be amused in it at first, but in a short time it will become irksome, if not painful, and he will be urgent to be released; and then what good can an extension of such duration have done? The weight of the superior parts, all the rest of the day, destroys the little effect produced. If it be often repeated, the alternative of extension and relaxation must be injurious, as it interrupts the regeneration of parts, and, by moving the diseased bones on one another, is a constant source of irritation. In some cases, when the parts are already weakened by the disease, much mis-

chief, even to fatality, may be the consequence of imprudently or violently stretching them. The stays, which are intended to apply forcible pressure to the prominent part of the curve, are also in my opinion inefficacious, and sometimes detrimental: but if a machine be contrived to elevate the head, and support the thorax, passing down the spine, and strengthening it, as a splint does a broken limb, resting on the pelvis, as its basis, with a contrivance to give such gradual and permanent extension as the weak parts will bear without injury, and to be continued until, by a deposition of osseous matter, the yielding vertebræ become firm and compact bones, I am clearly of opinion that much good from it may be derived. This instrument has received still further improvements, which in some cases have been found necessary and efficacious, particularly when there is also a diseased state of the bones of the pelvis. It has been contrived to pass under the arms, and to rest on the seat, so as to take off the whole weight of the body when sitting: it has also been connected, by means of joints, to perpendicular bars, passing down the outside of the thighs and legs to support it when in a standing posture.

The want of some assistance in aid of Mr. Pott's plan, always appeared to me in a strong light, and I was induced to give my opinion on it more at large, in a pamphlet published in 1799, of which this is an extract.

Indeed the good effects arising from a *well-adapted* instrument in cases of curvature, from various causes unaccompanied with caries, is so generally known and acknowledged, that it is unnecessary to say more on the subject in this place: what I principally wished by the description of it in the pamphlet alluded to, was to show that it is safe and useful, and to endeavour to set aside the disinclination which I perceived in many practitioners, as well as in the writings of Mr. Pott, to admit of its use or assistance in cases of curvature attended with caries; and further, I have endeavoured to make it apparent, that such a contrivance is not only frequently useful, but often absolutely necessary. I need not observe that undoubtedly greater care and judgment are required in the application of it, where some of the bones of the spine being carious, the parts connected with them may

more easily be injured by improperly or suddenly stretching them, than when the curve has arisen from muscular action or other causes.

But I hope not to be misunderstood: I do not mean to say, indeed am far from thinking, that instruments of any sort are wanting in every case of curvature of the spine. The issues are often sufficient to complete the cure without any other assistance, as has been proved in many instances.

Mr. Pott has in his usual perspicuous manner given a circumstantial account of the method of applying the caustics and conducting his mode of cure: but as some alterations have since been introduced which appear to be improvements on his plan, I think it right to notice them. Mr. Pott has directed the issues to be made of an oval shape, and has left a sketch of one, as a pattern, one inch long by three quarters of an inch wide. From repeated experience I have found longitudinal eschars according to the extent of the curve answer better. They should be made so that the peas may lie imbedded on each side, and near to the spinal processes. Particular attention should be given that the caustics be applied so as to reach just above the curvature. I have many times seen a large and copious drain maintained without effect because it was made below the beginning of the curve; but, on its being opened above, the good effect derived from it soon took place. If peas or small beans are used, they should be softened by soaking them in water: they should then be strung on a thread and suffered to dry, when they are to be cut into proper lengths according to the drain, which, as was observed, must vary with the circumstances of the case: thus they are easily applied and easily removed. It has always been no small difficulty to keep these issues open and in a good state, so as to furnish a proper discharge. The means which have been usually employed for this purpose are painful, and the effects produced by them of short duration; so that the issues were perpetually closing and filling up with fungous granulations, in consequence of which the unpleasant task of using escharotics became necessary, at least once a week, or oftener in some subjects. This in adults was often as much as they could bear; in children peculiarly distressing to every one

concerned. At some intervals this was necessary to be done with fresh application of caustic, perhaps more painful than the original one.

Very small solid glass beads, placed all round the edges of the wound, have of late years been found to obviate these difficulties, for wounds never heal from the centre; and if the beads are properly applied, they will soon sink in beneath the granulations; and being foreign bodies, the sides of the wound will never heal over them. Another advantage which the beads have over peas, is, that when once they are fairly established, they may be left in, and the issues may be dressed like other superficial wounds; whereas peas or beans swell, and require to be daily renewed, as being vegetable productions they soon become putrid.

I have sometimes used setons, and in some cases am inclined to give them the preference for several reasons: they embrace a larger extent, which is of material consequence when the diseased part cannot be very accurately determined, or where there is reason to suppose that several vertebræ may be affected: they become efficient in three or four days, when the sloughs from the caustics do not separate generally in less than a week or ten days: they are not offensive; and they never need the application of escharotics, except at the extreme points from which only fungous granulations can arise.

The object is to procure a large discharge of matter by suppuration from underneath the membrana adiposa on each side of the curvature, and to maintain it until the cure be accomplished, or so long as may be thought necessary. Whether this be brought about by issues or setons is perhaps not very material, but the easiest means will always be the best. Mr. Pott disliked setons: he observes, "A seton is a painful and nasty "thing; besides which, it frequently wears through the skin "before the end for which it is made can be accomplished." In the common way of making and managing setons this was certainly the case; the usual mode was in general to make the track of the seton short, but, be the length what it might, the silk, or whatever it was thought proper to use, was passed through and cut off an inch or two above and below, and a knot was fastened at each end to prevent it from slipping out. This was ordered to be moved every day backward and forward,

and the wounds at each end to be made clean; but the seton was not changed, so that it constantly remained in the wound, immersed in, and confining a quantity of putrid matter, the acrimony of which certainly tended to inflame the skin, and made it wear its way out: but under different management I conceive the effect produced will be very different. The method I would recommend is the following.

A seton needle being passed in the usual manner through as great a space as may be deemed necessary, will conduct a skein of coarse silk, which, when brought out at the lower wound, should be cut off from the needle, leaving about an inch to be secured, by a slip of sticking-plaister, to prevent its being drawn back again. The remainder of the silk above should be neatly doubled up, and confined by a slip or two of sticking-plaister. When the suppuration is established, and the seton become loose, it may be drawn down. The part which is soiled by the matter may be cut off, and a fresh portion of silk introduced. When one skein is used, another may be connected to it, and drawn through in the same manner. Thus it may be changed as often as necessary, and the wound be kept perfectly sweet and clean. By these means the skin will not become inflamed or irritated, and the drain may be continued almost for any length of time.

I have frequently remarked that the first action or stimulus of the caustics produces an almost immediate effect; the patients in a day or two after they are applied find a considerable alteration for the better in the general state of their health, attended with a glowing warmth, and sometimes a degree of motion in the limbs. I have often pointed out this at the Hospital, at the same time observing that this agreeable symptom would soon be less apparent; nor until the issues should arrive at a more advanced stage, would any permanent good effects be observed; and my conjecture has seldom proved unfounded. I mention this, that people may not be discouraged at experiencing this kind of check upon their hopes: let them wait with patience till the drain is fairly established, and they will rarely be disappointed in their expectations.

Parents, nurses, and persons unaccustomed to these cases, dread the quantity of the discharge, and conceive it must tend to weaken the constitution; but it certainly has not such an effect. I have often remarked children improving in health and strength and growing fat under a very considerable drain of this sort. I do not mean to say that this is the cause of the amendment; the return of health probably arises from the stop which is put to the ravages of the disease; and I only mean to infer that neither health nor strength appears to be diminished by the discharge, which it is necessary to keep up in order to effect a cure.

Mr. Pott has remarked that "there can be no curvature "from within outward, without an erosive destruction of the "bodies of some of the vertebræ; but that there is not infre-"quently caries, without any curvature being produced; "that this happens more frequently in the loins than in any "other part of the spine; that what are called lumbar or "psoas abscesses are not uncommonly produced in this man-"ner; and that a caries of the spine is more usually a cause "than an effect of these abscesses." That caries of the bodies of the vertebræ may produce bad symptoms and may cause great mischief before it has destroyed sufficient of the boney support to make the spine bend, is not only probable but a fact well known. Not only abscesses are produced by it, but it is frequently accompanied with grinding deep-seated pains in the pelvis and thighs, sometimes to such a degree as to produce an inability of motion in the limbs, bordering on paralysis, but not to such a degree as when the bones have given way, and caused a compression on the spinal marrow. It is reasonable to conclude that the same means which are known to cure a disease in its advanced state, would be more likely to prove efficacious in stopping its progress in the beginning; but Mr. Pott has remarked, that "when these com-"plaints are not attended with an alteration of the figure of "the back-bone, neither the real seat nor the true nature of "such distemper is pointed out by the general symptoms, "and consequently that they are frequently unknown, *at* "*least while the patient lives.*" This is an observation of material import, and should not be passed by without a

comment, as it rather tends to damp our inquiry into this species of mischief, the progress of which might often be arrested if found out in time. It may be right therefore to observe, what from repeated instances I have learned, that, in cases which have led to a suspicion of the producing cause being derived from the back, if we attend to the patient's complaints and observe the part to which he points, the seat of the mischief may often be discovered, by pressure with the fingers, or tapping with the knuckles gently on each vertebra, singly, one after another. I need not repeat that this is a fact of great consequence to be known, as, when discovered, the incipient disease may often be stopped; and probably many lumbar abscesses, with all the consequences of increase of mischief, may be prevented:—

The following case will serve to illustrate this point of practice:—

In April 1795, Mrs. F———, a lady from Ireland, consulted Dr. Turton on account of pains, with which she was afflicted about the lower part of the loins and hips, which were thought to be rheumatic. As she received no relief from medicine, and there was some inability to walk, Dr. Turton, with his usual acuteness of judgment, suspected that her complaints might arise from some disorder in the spine. I was accordingly desired to examine it; I found the spinal processes of all the vertebræ perfectly regular and even, and could discover no reason to suppose that the disease had its source from that origin. On its increasing, I was desired to meet the doctor again. She was now considerably worse, her pains in bed were tormenting and almost constant: with great difficulty, and not without the assistance of a servant, she could drag one foot after the other across the room. I again examined the spine, and could discern not the smallest deviation from the right line; but, on pressing pretty firmly on every vertebra singly, I observed, when I came to the two lowermost of the loins, she shrunk from the touch, and said, in that part I gave her a sensation she had not felt before, amounting to pain, though not acute. From these observations alone, it was determined to apply caustics on each side of those vertebræ, the surprising and happy consequence of which was, that

in a few nights her pains grew better, and soon in a great degree left her. In a fortnight she was able to walk without assistance across the room: soon after she went into the neighbourhood of Hampton-Court, where her health and strength improved rapidly, and in about two months she was able to walk a couple of miles. In the autumn I saw her at Brighthelmstone, where she bathed, walked, rode on horseback, and enjoyed good health and spirits; and I may add, that I afterwards met her frequently in London, where she spent the winter, without any return of the complaint.

Many more instances might be adduced when the cause, though occult, has been discovered, and the mischief, which we may positively conclude would have gone on from bad to worse, has by the assistance of caustics been restrained and prevented. If any doubt should arise about the precise spot where they should be applied, the caustics, if it be thought proper to use that method, not being confined to small oval ones, but made longitudinal, so as to take in one or more of the vertebræ, according to circumstances, will be the means of finding out the disease and acting upon it; or if setons are used, they may be made sufficiently long to include with certainty the seat of the disease.

In the latter part of Mr. Pott's life, he had applied the method of cure by issues to other diseases: particularly in strumous affections of the joint of the hip, he had been several times successful in preventing an increase of caries, by means of an ulcer being established in the neighbourhood of it. In those deplorable cases, where one hip is let down below the other, where the parts are flabby, the glutæi muscles lose their firmness, the buttock its figure and convexity, and the leg is lengthened, probably by the increase in size of the head of the os femoris, he found that the progress of the disease may frequently be stopped, and the parts restored to their natural firmness and figure, by making an issue just behind the great trochanter. Mr. Pott remarked that the time when the change will take place, and the restoration be complete, is indefinite: it may take place in a few weeks or months; or, as was observed with regard to the effect of caustics in diseases of the

spine, it may require a much longer time. In short, every thing relative to the complaint is uncertain except the ultimate cure, which will rarely fail to reward our perseverance; provided, that at the same time the constitution is attended to, and the diseased habit of body corrected by medicine, proper diet, and good air.

When the thigh was retracted, and accompanied with a cnsiderable swelling, Mr. Pott was not sanguine in his prognostics of recovery, but spoke of most applications as inefficacious. Yet, even in these cases, I have known the caustics applied with great apparent advantage.

Some years ago I was desired by the late Mr. Berry to visit a girl about eighteen years of age. She complained of pain in her knee, leading up toward the hip; she could not straighten her thigh, which was drawn up toward the pelvis, and with great difficulty she could walk across the room; she had been electrified, and had used variety of remedies, by the advice of some gentlemen of eminence in the profession, to no purpose; the complaint grew rapidly worse, and she was obliged to take to her bed. The thigh was now drawn up to the pelvis, the knee turned inward, and the appearance was as if the head of the femur was dislocated; the parts surrounding the hip were turgid and enlarged, exquisitely painful to the touch, and on the smallest motion; blisters, embrocations, fomentations, &c. were tried in vain. The pain was now become almost incessant, the disease continued to increase, and bore the appearance of matter forming in the joint. Though this was not a case in which Mr. Pott recommended an issue, I was determined to give her the chance of one: a caustic was accordingly applied below and posterior to the great trochanter. She did not appear to be much served by it at first, though we remarked that her pain was not so violent: in about six weeks she seemed to have derived some benefit, and though the limb was still contracted she could straighten it better. I now found that the issue had been neglected and nearly suffered to close. I recommended it to be enlarged, which was done the beginning of September: in about a week after, when the suppuration was fairly established, she began to grow better, the joint became unlocked, and in a few weeks

she had lost the pain of the hip, and was able to straighten the thigh and leg perfectly; soon after she walked across the room without help, only complaining of a little tenderness in the joint, and in no great length of time afterward was perfectly recovered. No other method having been of the least service to her, as she appeared to receive some advantage from the first application of the caustic, and got well after the repetition of it, we may reasonably infer that they were the causes which produced the alteration and subsequent cure. As this was the first case of the kind I had tried it in, I regarded it with some degree of diffidence, but have now no doubt of the fact; as I have since seen several cases nearly similar, and have one at present under my care, which have received great benefit from the application of caustics. In those cases in which Mr. Pott succeeded, a much longer time elapsed before the effect was produced.

Mr. Pott also used caustics in scrophulous swellings of the joint of the knee where there was suspicion of beginning caries: they were applied just above and below the joint: in some cases they appeared to be materially serviceable in preventing the increase of the swelling, in many others they failed.

In similar diseases of the joint of the ancle he also tried them: but the caustics seemed to have less effect, as the part affected was at a greater distance from the trunk: in these joints no advantage appeared to be derived from them. The idea, however, is worthy of its author, and deserves further trials; indeed, whatever has the least chance of being beneficial ought not to be neglected in those desperate cases, which, if their progress be not prevented, terminate in the unavoidable loss of the life or limb. E.

AN ACCOUNT OF TUMOURS

WHICH RENDERED

THE BONES SOFT.

Communicated to the Royal Society,

BY MR. POTT,

SURGEON;

And printed in their Transactions, Vol. XLIst.

AN

ACCOUNT OF TUMOURS

WHICH RENDERED

THE BONES SOFT,

&c. &c. &c.

IN November 1737, a gentleman aged 27 complained to me of a swelling in the inside of his right thigh (being in every other respect in perfect health). Upon examination it appeared to be an encysted tumour of the steatomatous kind, lying loose between the *sartorius* and *vastus internus* muscles. I told him, I could propose no way of curing it but by taking it out; which was accordingly done, and he was very well in six weeks.

After this he continued well for near a year (except that he now and then complained of a slight pain in the joint of that hip, which went off and returned at different times); and then fell into such a disposition to sleep, that no company or diversion, nor his own endeavours to the contrary, could keep him awake after eight or nine o'clock in the evening, if he sat down.

This continued on him for three or four months, and then the pain in his hip grew worse; for which he used the cold bath, flesh-brush, and riding on horseback, but without any effect.

Hereupon he asked the advice of Dr. Beaufort, who put him into a course of æthiops mineral, cinnabar of antimony, and gum-guiacum, with the Spa-water, and purging with calomel by intervals. This method he pursued for a considerable time, but without any benefit.

After this, by the advice of some acquaintance, he took half a drachm of salt of hartshorn, night and morning, in a draught of warm whey, for some time, but without any sensible effect, even by perspiration.

Some little time after this, he began to complain of a slight periodical heat and thirst, which returned every night, with a quick hard pulse, but which was not so great as to make him uneasy.

It was now September 1739, when, having an opportunity of going with some friends, he determined to try what Bath would do for him: in his journey thither the nocturnal heat and thirst increased so much as to prevent his sleeping; but in the few days that he spent in recovering from the fatigue of the journey, they seemed to go off again.

He then began to use the waters both internally and externally; upon which the last mentioned symptoms again appeared, and

he was obliged to desist, and use cooling medicines.

His physicians then advised him to bathe the affected limb only; upon which they returned again, and with such violence, that the further use of the waters was thought highly improper, and he then left them off.

During this time the sight of his left eye grew dim, which dimness increased gradually for some little time, till he became quite blind of that eye; the bulb of it being considerably enlarged, and thrust forward out of the orbit.

For the most part of the time he had been at Bath he had generally been very costive; and upon leaving off the water, had no stool for some days; for which reason a common clyster was given, and produced so profuse a discharge of serous matter, and continued for so many hours (almost incessantly), that he was reduced as low as possible.

For some time past several small tumours had appeared in different parts of him; *viz.* five or six on his head, two or three in his back, and one in the neck; all lying just under the skin, and sensibly increasing every day till they came to a considerable size.

December the 2d, 1739, he returned to London.

His chief complaints now were an excessive languor, an inability to move his right hip, and, when moved by another person, a very acute pain in it, an incapacity of sleeping when in

bed, and an intense thirst in the night, with a quick hard pulse.

He now took the advice of Dr. Hartley and Dr. Shaw, who prescribed him the cinnabar of antimony three times a day, to drink the Seltzer waters, and keep to a cooling regimen; and allowed him a moderate dose of the pill Matthæi every night; by means of which he got some sleep, of which he had for some time been absolutely deprived.

When he had taken the cinnabar five or six days, and during that time had no stool, it was thought proper to give him a clyster, which brought away all the medicine, without the least alteration; nor was there ever after this time any appearance of any mucus being secreted by the intestinal glands, he never going to stool above once in a week; and then there came away a few lumps of excrement as hard as pieces of wood, which were expelled with such labour and fatigue as can hardly be imagined, though he generally took an oily clyster to render it more easy, and washed down his medicines with a soapy draught.

The joint of the hip was now become quite stiff, all the inguinal glands being loaded with the same kind of matter, of which the other tumours seemed to be composed; and a large cluster more of them might be felt under the glutei muscles and behind the trochanter.

The cinnabar was now left off, and mercurial unction proposed and consented to; and

accordingly a proper quantity was rubbed in every night, stopping now and then to see what turn it would take; and in this course he continued for more than a month, but without any benefit; nor did the mercury produce any visible effect on him.

Sir Edward Hulse, being called in, directed the burnt sponge, which he took for some time, till growing worse and weaker he determined to try Mr. Ward.

He took his sweating and purging medicines two or three times, but found no sort of effect from them; and being now quite tired of physic, and reduced extremely low, he determined to pass the rest of his time as easily as he could, by gradually increasing his opiate; and in this manner languished, incapable of stirring or helping himself, till the 2d of May, 1740, and then died.

For a considerable time before he died, he was nourished by fluids only; yet, as soon as ever they were received into the stomach, in however small quantity, they gave him an acute pain at the bottom of his belly, just above the pubis.

For two months, or more, before his death, he could never make any water while he was up, but always made a good deal at different times when in bed.

Soon after his return to London I opened the tumour I had taken out of his thigh two years before, and found the inside of it ossified.

Upon dissection, the first thing that offered

itself was a large tumour on the sternum, which had been perceived about three months before he died: it was as large as a turkey's egg, and so hard and immoveable, that I was in doubt whether it was upon or under the bone.

Upon removing the skin, it appeared covered by the expansion of the tendons of the intercostal muscles, and the periosteum: this coat being taken off, it was of a suetty kind of substance for about half an inch deep; and below this was a kind of cartilage intermixed with a great many bony particles. I then shaved off all this diseased body even with the surface of the rest of the sternum, but found no bone, it being quite dissolved and confounded with the mass of matter that composed the tumour, which was equally protuberant within the thorax, and composed of the same materials.

Part of the fifth and seventh ribs were dissolved in the same manner into a kind of substance between bone and cartilage, with a thick coat of steatomatous matter.

Within the cavity of the thorax were thirty-seven of these diseased bodies, most of them attached either to the vertebræ or the ribs; and wherever they were attached, the cortex of the bone was destroyed, and its internal cellular part filled with the diseased matter.

Immediately above the diaphragm was a large scirrhous body, lying across the spine and the aorta, the latter of which lay in a sinus formed in its lower part: it had no attachment to

any other part, and weighed 13 ounces and a half; and from its situation, I think, must have taken its rise from some of the lymphatic glands lying about the thoracic duct.

From the origin of the aorta, from the heart quite up to the basis of the cranium, all the blood-vessels were surrounded with these scirrhous bodies, and the thyroid gland was diseased in like manner, and boney within.

On the left side was another of these bodies, made out of the glandula renalis, weighing nine ounces three quarters.

On the right, the glandula renalis was in a natural state; but the cellular membrane, which surrounds the kidney, was filled with a large cluster of these bodies of different sizes, some of them entirely suetty, others intermixed with boney particles. Three or four of them were attached to the body of the kidney, and these were a sort of cartilage, beginning to ossify.

The pancreas was quite scirrhous and very large.

One very large tumour sprung from the spongy body of the third vertebra of the loins; the boney texture of which was so dissolved, and mixed with the matter of the tumour, that the knife passed through it with great ease.

The inner side of the os ilium, all the ischium and pubis, were covered with these appearances; and, upon removing them, the bone was found in the same state as the sternum and ribs; the middle of the right os femoris was surrounded with a

mass of the same matter, and the bone underneath in the same state.

In the bottom of the orbit, surrounded by the recti muscles, was a pretty large steatoma, which occasioned the protrusion of the eye; and, by pressing on the optic nerve (in all probability), the blindness.

AN ACCOUNT OF A HERNIA

OF THE

URINARY BLADDER,

INCLUDING A STONE.

Communicated to the Royal Society,

BY MR. POTT,

SURGEON;

And read Feb. 16, 1764.—Inserted in their Philosophical Transactions, Volume LIV.

AN

ACCOUNT,

&c. &c.

A HEALTHY boy, about six years old, was suddenly seized with a most acute pain, at the bottom of his belly: during the time the pain lasted he could not discharge a drop of urine, though he frequently endeavoured. After about an hour and half, he became perfectly easy on a sudden, and pissed very freely. A few days after this, a small tumor, about the size of a large pea, was discovered, in the upper part of the spermatic process, just below the groin. As this tumor was perfectly indolent, and gave the child no kind of uneasiness, no notice was taken of it. By slow degrees it descended lower and lower; and as it descended it seemed to increase in size: the boy was observed to make water oftener than usual, but without pain or difficulty. He was looked at by two or three practitioners in the country, who, not knowing what to make of it, advised the letting it alone:

at last, in the space of five years, it got to the lower part of the scrotum; and, after it was got thither, it was observed to increase in size much faster than it had done before. The boy was at a great distance from London, and his friends could ill bear the expense of going thither with him; so that another year passed away after the tumor was got into the last-mentioned situation. At last, when he was about thirteen years old, the swelling becoming troublesome, and the people in the country not caring to meddle with it, he was brought to London.

Two or three gentlemen of the profession, to whom he was showed, took it for a scirrhous testicle, and advised the extirpation of it; to which the child's friends would not consent.

When he was brought to me, I examined him very carefully, and was satisfied that the tumor (which was now about as big as a middling chesnut), was not formed by the testicle: but, though I was clear that it was not formed by that gland, yet I could not find any testis on that side.

The swelling was still perfectly void of pain; had a stony, incompressible hardness; was troublesome to the child when at play, or using any brisk exercise, but never gave him any uneasiness when he sat, or stood still. It had all the appearance of being dependent from the spermatic process; but the process, though it had neither the look nor the feel of being diseased, was yet too large and too full for

a child of that age, and larger and fuller than that of the other side. The perfect equality and smoothness of the tumor, its extreme incompressibility, and its being perfectly free from pain, even when pressed with some force, were the circumstances which induced me to believe that it was not the testicle; but, though I was in my own mind satisfied of that, yet I cannot say that I was by any means clear what it was; and all that I could determine was, that it certainly ought to be removed; as well on account of the trouble it now gave, and its manifest disposition to increase, as that I could not foresee any great hazard that was likely to attend its extirpation. From the uncertainty in which I was concerning the true nature of the case, I determined to act very cautiously. I made an incision through the skin and cellular membrane, from the upper part of the scrotum quite down to the lower; by which I discovered a firm, strong, white membraneous cyst, or bag, connected loosely with the skin by means of the dartos; I dissected all the anterior part of this cyst, quite clean; and found, that, as I traced it upward, it became narrower, and seemed to proceed from the groin: this determined me to try if I could not free the posterior part of it also. In doing this I discovered the testicle, which was much compressed, flat, very small, and lay immediately behind the tumor.

The dissection of the testicle, and of the

spermatic chord from the bag, and from its neck (which I was obliged to do in order to preserve the testis), took up some time, and gave me some trouble; but when I had finished it, I found that the cyst was dependent from, or continuous with, a membranous tube, or duct, of about the breadth of a large wheat-straw, which seemed to pass out from the abdomen, through the opening in the oblique muscle, along with the spermatic vessels.

When I had perfectly freed this duct from all connexion, I cut it through immediately above the tumor: upon the division of it a quantity of limpid fluid (not less than two ounces) followed, and the mouth of the cyst expanding itself discovered a large stone, exactly resembling the calculi found in the urinary bladder; which stone was closely embraced by the said cyst.

As there was not the least appearance of any fluid either in the bag or duct, before it was cut off, this discharge, together with the stone, induced me to suspect that the case was a hernia cystica. In order to be certain, I staid some time; and, when I thought it was probable that some urine was derived into the bladder, I desired the boy to make water: he endeavoured so to do, and a full stream of urine flowed out through the wound in the groin, which put the case beyond all doubt.

I dressed him superficially; he had no bad symptom; his urine all passed out by his

wound for a fortnight, or twenty days; at the end of which time, the wound gradually contracted; all the urine came through the urethra; and at the end of a month he was perfectly well.

OBSERVATIONS

ON

HÆMORRHOIDAL EXCRESCENCES.

BY THE EDITOR.

OBSERVATIONS,

&c. &c.

In the account of Mr. Pott's life, prefixed to my edition of his Works, I asserted that he had been remarkably successful in the treatment of those painful excrescences which are produced from within the verge of the anus, and the removal of which, when large, firm, and indurated, has generally been thought dangerous and unadvisable. Mr. Pott had entertained a design of writing on this subject, to lessen the apprehension of practitioners, by pointing out in what cases an operation may be safely performed. The method which he employed was not new: it has been described and recommended by writers, and has been frequently practised on piles in a small and flaccid state; but he often asserted he knew no one who would attempt to apply it to the advanced state of the complaint: as far as my experience leads me, I believe his assertion strictly founded, or if it be practised by some, it is by no means generally adopted. During the last ten years of Mr. Pott's life, he had many opportunities of performing this operation: most of the patients I attended with him, and found that several of them had

previously consulted other eminent surgeons, from whom they had not met with a proposition for a radical cure: in others the disease had been absolutely abandoned as an incurable cancer. For these reasons Mr. Pott often remarked, that he thought it a subject well worthy of being brought forward for the consideration of practitioners.

It is certainly a disease which, whoever labours under must endure a miserable existence; consequently, every attempt towards the relief of it must be proportionably valuable; and as the subject had escaped Mr. Pott's superior pen, I thought some account of it from the Editor of his Works would not be unacceptable, it was therefore inserted in my former Edition as an Appendix to his Treatise on the Fistula in Ano. By some accident it has been omitted in this; but as it still appears to me too important to be left out, I have thought proper to subjoin it in this place. My description, however, only professed to give a sketch of the complaint, and an account of Mr. Pott's method of treating it; and at present I see no reason for altering my plan, as it appears to me sufficiently to point out the leading characters of the disease, and those circumstances in the operation which chiefly deserve attention.

The intestinum rectum is well known to be subject to a variety of diseases, from various

causes; from its structure, use, and office; and from its situation, which renders it liable to be pressed upon by the whole power of the abdominal muscles: it is also sensibly affected by its connexion with other parts in its vicinity, and it often affects them.

The diseases we are to treat of are tumors originally formed within the rectum, and produced by a distention of the hæmorrhoidal vessels: in this state they are considered as inward piles, and give little trouble or uneasiness. In more or less time the tumors being increased in size are forced down in going to stool, and return back when the abdominal muscles cease to act. Soon after, grown larger, they return with difficulty, and require a considerable time and pressure before they will return: by degrees they are more irritable and painful to the touch; at length they become indurated and stationary, and are not to be reduced by any means, but are extremely inconvenient, and painful in the greatest degree. In some cases, while they are in this situation, the sphincter ani binds so tight round their basis as to produce a mortification of them, and thus effects a natural cure, analagous to that which we recommend—but certainly attended with much more pain and danger.

These tumors on their first production contain nothing but coagulated blood: perhaps this blood, at first either stagnating in the hæmorrhoidal vessels, or possibly effused under the internal coat of the rectum, may, in time, become

organised. This organic mass being irritated by frequent and severe pressure, may enlarge, and become firm and fleshy excrescences: in this state they frequently furnish a disagreeable sanies, or bloody discharge, and acquire an irritated, malignant appearance.

There are other tumors produced in this part from various causes; as an enlargement of the sebaceous glands, at the verge of the anus, and excrescences arising from a venereal or cancerous disposition in the habit, which in general are easily distinguishable from those here described.

The venereal verrucæ or excrescences are a frequent symptom of that poison, and are well known to practitioners. They differ in every respect from the tumors we treat of: the basis of them is generally broad: they do not arise from the intestine, nor particularly from the verge of the anus, but indiscriminately from thence and from the skin in the neighbourhood. They are rather flat than elongated: they may be tender to the touch, but, unless when exasperated by stimulating applications, are seldom productive of pain. In females, the same species of excrescence frequently surrounds the anus, covers the external parts of the labia pudenda and the internal of the thighs, seeming to be propagated in moist parts by contact: by neglect they sometimes spread over the groins and pubis, making a large fungous mass, separable into distinct excrescences. It is useless to attempt the removal of them, until the poison be eradicated from

the constitution, when, though sometimes obstinate and liable to reproduction, they may generally be made to shrink away by proper topical applications.

Those which arise from a cancer within the rectum, and being thrust out appear externally, are more liable to be confounded with the complaint I mean to describe, as they resemble each other in many circumstances: both are hard, swelled, and painful; both at times furnish a disagreeable sanious discharge; in both cases the patients have the same leaden, pallid countenance. There are however some leading features of distinction which may be noticed: in the cancerous protrusions the basis is generally harder, more incompressible, and broader; and has its origin higher up in the rectum, commonly occupying the whole circumference of the intestine, which so straitens the passage that the fæces are expelled with difficulty, and are compressed into a flat or angular form. In the cancerous affection of the rectum, the parts sometimes feel soft like a rotten substance. The pain of the cancerous, or malignant fungi, is unremitting: whether they are external, or returned within the sphincter, the patient is never at perfect ease, but complains of shooting pains in the region of the loins.

The pain attending the hæmorrhoidal tumors is sometimes great while they are external; but when this arises from the stricture of the sphincter, if they can be returned within the rectum, it soon ceases. When they have been long protruded

in an irreturnable state, by degrees they become accommodated to frequent pressure; and unless irritated by an access of inflammation to the constitution from exercise, wine, improper food, or other causes, they are commonly not so painful as at their first exit.

In both species of tumor anodyne injections give ease, but less in the cancerous: the return of pain also in the cancerous tumor is more immediate, more violent and lancinating. In the present state of medical knowledge, we are confined to a description of this dreadful disease: any chirurgical attempt to remove it would but aggravate the mischief.

A protrusion of the rectum is also not an uncommon complaint in persons of a debilitated constitution. People who have accustomed themselves to aloetic purges, are particularly subject to this complaint; and it is sometimes only a symptom of a generally relaxed state of the internal coat of the intestine, through the whole extent of the canal; in which case lime-water, joined with the bark, has been found to be very materially serviceable. This complaint may often be entirely removed by anodyne clysters; but astringent applications to the part frequently do harm.

Fortunately the procidentia ani is not easily confounded with the complaint we are now considering. The two diseases are perfectly distinct; the one is a protrusion of the gut, the other is an excrescence or enlargement of the vessels at the verge of the anus, protruded in many

distinct portions or lobes; of a dark, dusky-red colour; and in every respect different from the procidentia above mentioned.

When by long continuance and repeated irritations these tumors are formed into large unreturnable excrescences, nothing but the hand of surgery can give relief: this is the state of the complaint, in which I think the practice of Mr. Pott deserves our attention. However large and formidable the appearance of the excrescences, if there was no symptom of cancerous malignity, nor any contra-indication in the constitution or habit of the patient, Mr. Pott always recommended the removal of them. Having seen profuse and dangerous hæmorrhages from the use of the knife in these cases, particularly in one instance, in which the patient nearly lost his life, he always preferred the ligature. The following was his method of performing the operation:—When the patient by straining, as if going to stool, had forced out the tumors as far as could be done, he laid hold of one of each tumor or lobe, separately, with a blunt double hook, and drew it gently outwards until he discovered the basis of it, which is usually smaller and less indurated than the part which has been exposed to friction: then giving the hook to be held by an assistant, he slipped a ligature, previously tied in a loose knot, as near to the basis as possible. When he was satisfied that the ligature comprehended the whole lobe, he drew it tight, taking particular care to discriminate between the

natural skin and the tumor: none of the former, however elongated, should ever be included in the ligature; for, when the tumor is removed, this will corrugate, and retire to its proper place; while the loss of any considerable portion of it, by contracting and straitening the parts, would create an inconvenience severely felt in riding or any other exercise, and also in the natural functions of those parts. In the same manner Mr. Pott proceeded to treat the remainder of the lobes, one after another, taking care not to include more in each ligature than was necessary: if the basis was very broad, a circumstance which seldom happened, he passed a needle armed with a double ligature through the middle and tied them on each side.

In this manner I have seen him treat successfully several cases, in which the tumors had increased to a considerable magnitude, particularly two, where they were at least from eight to ten inches in circumference: they had been of long standing, and were exquisitely sensible. The patients had long been in a state of hopeless misery, almost wholly excluded from society, debarred from all exercise, and not able to sit but in a *chaise percée:* the appearances in both these cases were very similar; from the turgidity, at first sight uniform, but on examination they were divided into distinct tumors; which Mr. Pott carefully separated and treated as has been described. The operation succeeded perfectly well in both; and from that time neither of the patients has experienced the least inconvenience,

or return of the disease. I never saw any kind of mischief or alarming symptom from this method of extirpating this disease, except in one unfavourable subject, who had been liable to complaints about the neck of his bladder: in him the operation brought on a return of his old maladies—strangury and suppression of urine, which induced a necessity of using the catheter for some time; but this subsided, and left him as soon as the tumors were separated. I do not mention this case as a prohibition to the operation, but to show that it is right to attend carefully to the parts contiguous, which are liable to be affected by the necessary inflammation, that if the patient has been subject to complants about the bladder, proper care may be taken to obviate and prevent them. Except this, I know of no harm which ever does, or can arise, from the operation. Particular care should be taken to draw the ligature sufficiently tight: if it be at all too slack, some vessels remaining pervious, the circulation will be continued in some part, by which the duration of the pain and the existence of the tumors will be protracted. In general, the parts losing their nourishment die and drop off in four or five days. I need not mention that a proper antiphlogistic regimen both before and after the operation should be observed. An anodyne injection thrown up the rectum half an hour previous to the operation will be efficacious in lessening the subsequent uneasiness. A soft poultice will be found to be the best topical application.

The following cases were obligingly communicated to me by Mr. Harvey, who attended

them with Mr. Pott, and took notes of them at the time: they will greatly tend to elucidate the nature of the complaint, and the excellence of the remedy which I have endeavoured to describe.

CASE I.

A GENTLEMAN of about fifty years of age, and of a nervous, irritable constitution, had been during many years of a costive habit of body, and generally had recourse to aloetic pills to procure stools. About two years before Mr. Pott saw him, he first perceived a pain and swelling within the rectum, which was very troublesome whenever he attempted to discharge his fæces; until at length the difficulty of evacuating them became so great, that he was obliged to inject oil, and to sit over the steam of warm water, before he could obtain any natural relief. He was obliged to be very strict in his diet, as any food which was apt to occasion hardened fæces most certainly gave him excruciating pain. The frequent strainings had made a prolapsus of the gut habitual; neither could he get rid of the fæces, unless the excrescences were first protruded beyond the anus. In this situation he travelled from Cork to London for Mr. Pott's advice. I should have observed, that the surgeons he had before consulted were led to believe, from the usual remedies for the piles not having benefited him, and from the unalterable hardness of the tumors, that they were cancerous. When I first saw him, he was much weakened by the constant irritation, and probably by the continual ichorous discharge, which was so profuse as to

wet through many folds of linen in the course of a few hours. Mr. Pott immediately proposed the operation for removing them; and in this case, as in the others, he preferred doing it by ligature rather than by the knife or scissors: round the anus there hung a loose flaccid skin, which Mr. Pott supposed had been a double fold of the inner coat of the gut protruded, and which had lost its natural texture and colour. The first excrescence which appeared seemed large enough to have filled the circumference of the intestine: it had a broader basis than I have usually since seen; therefore Mr. Pott passed a double ligature through; and tying them on each side left it to slough off, which it did in a few days. Afterwards two smaller ones came forward, were held by the hook, and surrounded by the ligature: they also came away in the poultices, and the gentleman returned home in the course of three weeks perfectly cured.

The progress and symptoms of the other cases were nearly the same, therefore I need not be minute in describing them.

CASE II.

Mrs. —— had been many years dreadfully afflicted with this disease, and the surgeons of the town where she resided pronounced it absolutely to be a cancer: her pain prevented her from walking or sitting upright, and she lay on a sofa patiently expecting a painful death. Mr. Pott saw her during one of his excursions to Worcester: she followed him to London; and the operation was performed so successfully, that

not only the excrescences were removed, but her health and spirits, which were before wretchedly reduced, were again perfectly restored. The excrescence in this case was large, rugged, and unequal in its surface: it had an ulcerous appearance, and very well authorised the opinion which the surgeons in the country had given of it.

CASE III.

A GENTLEMAN between thirty and forty came from Carlisle on account of this complaint to Mr. Pott. I have seldom seen a man more debilitated or nervous: the least surprise made him hysterical: he had laboured under the disease about a year; and from his peculiar irritability, it was accompanied with spasms at the neck of the bladder, pain in the urethra, and a discharge from the penis, as well as from the rectum, which was also protruded. Two excrescences were removed; and afterwards two lesser ones, not having their support, came forward, and were likewise taken away.—This gentleman suffered more pain at and after the operation, than in any instance I have seen: he had a small fever, and a great tendency to strangury. With the exhibition of anodyne and proper antiphlogistic remedies he recovered, the protruded intestine returned, the irritation of the neck of the bladder left him, and he gained a very improved state of health.

The foregoing observations, as has already been stated, appeared in my edition of Mr. Pott's

works, published in 1790; since which a great number of cases of a similar nature have been submitted to my care. The attending progress and symptoms were so nearly similar to those which have been described, that it is needless to enter on a minute description of them: yet I cannot avoid mentioning the case of a young lady, who had the complaint to a great degree, and who resided at a very considerable distance from the metropolis. The case was described to me by letter, in which it was said that the excrescence was very large, and furnished so much blood at every exertion of going to stool, that her constitution was impoverished to the most extreme degree. From the hopes I gave her friends, they were induced to bring her by short journeys, in a kind of litter, to London. When she arrived, she had lost so much blood during the journey, that she was almost exhausted: her lips were nearly colourless; and the blood which continued to be evacuated from the part would scarcely tinge linen. I do not know that I ever saw a nearer termination of existence which did not really prove so. To maintain the small remains of life, Madeira, brandy, and strong broths were given, and eagerly called for. On examination, the tumor was about nine inches in circumference, separable into several lobes, and altogether like a piece of sponge, bleeding from every pore. It was, however, of a healthy appearance, soft and compressible. I lost no time in comprising it in a sufficient number of ligatures: from that moment the bleeding ceased. The next day she found herself better, her strength

improved, she gradually lost the desire for wine and spirits, which before were necessary to keep her from fainting. By the assistance of the bark, nourishing food, and proper attention, her constitution, which was naturally good, soon recovered itself, and in about six weeks she was able to return home in good health, which she has now enjoyed several years. I am informed that her florid complexion is returned, and that she rides, dances, and partakes of all the diversions which the country affords.

I think this was the most alarming case I ever met with, though I have seen several nearly as large, and which had reduced the patients to an extreme degree of debility.—After all my experience, the best advice which I can give, is, that whoever is afflicted with this complaint, should apply early for surgical relief: for, from the time that the protrusion is once established, it becomes an increasing evil, which never diminishes, but gradually grows larger and larger. Now, if it cannot be removed by any means but an operation, the difficulties attending such operation must be greater in proportion to the increase of the tumors; consequently it must be more easily performed, and attended with less pain when the tumors are of small size.

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A View of some of the Vertebræ in a case of Curved Spine which had been Cured by the Caustic, & which were taken from the body of the Patient who died of another distemper at some distance of Time after. In this may be seen the State of the Vertebræ which had been Crushed, and of the Consequent Anchylosis or Union.

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