Surgical tracts : containing a treatise upon ulcers of the legs; ... Together with hints on a successful method of treating some scrophulous tumors; ... / by Michael Underwood ...

Contributors

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J-39

Mr Bell
with the Author's Compliments

SURGICAL TRACTS.

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Benjn

SURGICAL TRACTS,

CONTAINING

A TREATISE

UPON

ULCERS of the LEGS;

IN WHICH

Former METHODS of TREATMENT are candidly examined, and compared

WITH

ONE more RATIONAL and SAFE;

Effected without REST and CONFINEMENT.

TOGETHER WITH

Hints on a SUCCESSFUL METHOD of treating some SCROPHULOUS TUMORS;

And the *Mammary-Abscess*, and *Sore Nipples* of *Lying-in* Women.

THE SECOND EDITION;

Revised, Enlarged, and Defended.

TO WHICH ARE NOW ADDED,

OBSERVATIONS

ON THE

MORE COMMON DISORDERS of the EYE,

AND

On GANGRENE.

By MICHAEL UNDERWOOD, M.D.

Æque Pauperibus prodest, Locupletibus æque.

HOR. Lib. i. Ep. 1.

LONDON:

PRINTED for J. MATHEWS, No. 18, STRAND.

MDCCLXXXVIII.

R54825

TO THE

MASTER, WARDENS,

AND

COURT of ASSISTANTS,

OF THE WORSHIPFUL

COMPANY of SURGEONS.

GENTLEMEN,

THAT great Ornament of our Profeſſion, the late *Sir Cæſar Hawkins, Bart.* having honoured a former edition of this little work with his approbation, will, I hope, apologize for the liberty I now take in

in dedicating this reviſed edition of it to you, and claiming your Protection.

The Public has long ago had opportunity of deciding on the merits of ſuch parts of it as then appeared; and though their judgment has not been unanimous, (and in what inſtance has it ever been ſo?) the Author has had abundant Evidence from his own Experience, and from the teſtimony of Others, of his labors having been productive of much Good. Nor has the practice he enforced, as far as he has been able to learn, produced the evils ſome people had apprehended; while the ſtrong manner in which another edition has been called for, is a preſumptive indication of the favorable opinion of Others.

His

His aim and expectation, from the firſt, was public Good; and he has certainly leſs temptation than ever to inferior motives, in the preſent publication. His deſire therefore ſtill is, that the work may ſtand upon its own proper merits; and he is now happy in ſubmitting it to a Court every way adequate to forming an impartial and valid Judgment; and deciding upon its future Reputation.

However devoted of later years to another branch of Medicine, the Author is ſtill proud of having received his firſt Education under the Beſt *Surgeon* in the World, and of ſubmitting to the Profeſſion, the reſult of ſome former experience in that line of practice. It were needleſs, therefore, to ſay what Claim You, Gentlemen,

have

have to his labors, ſhould they appear to have any merit, and the Honour you will do him in accepting this Token of Reſpect, from

GENTLEMEN,

Your moſt obedient,

humble Servant,

MICHAEL UNDERWOOD.

Great Marlborough-Street,
October 10th, 1787.

PRE-

PREFACE.

NO man publiſhes an opinion to the world, even on the moſt trivial occaſion, without ſome view to himſelf, or others, or to both; and cuſtom has eſtabliſhed an almoſt univerſal law, by which an author is bound either to diſcover his real motives, or to deviſe ſome plauſible, and handſome excuſe for his own boldneſs. The writer of the following ſheets, without affecting any uncommon ſhare of philanthropy, would not willingly have riſked the favourable opinion of his friends, had he not been perſuaded, that the practice he has ventured to recommend is founded on the moſt rational principles, and will not fail to be of ſome ſervice to the diſtreſſed. He is

encouraged to ſay thus much, at leaſt, having ſeen very conſiderable advantages ariſing from a method of treatment, materially different from that at preſent in faſhion. And if any improvement can be ſuggeſted, in a branch of ſurgery confeſſedly imperfect, (for who will deny that ſore legs are difficult of a laſting cure?) no great apology can be thought neceſſary, for communicating to the world any hints on the ſubject that may be uſeful.

It may add ſome weight to this little performance, to ſay, that it is the reſult of more than twenty years attention and experience; the writer having, for a long time, invited the poor to his houſe, and even common beggars, the moſt intractable of all patients, and ſuch as, either for want of proper food, and clothing, or from their diſſolute lives, are the moſt unlikely of all to be cured. He affects no other merit than this attention to ſo limited, and in general ſo much neglected, a branch of his profeſſion; to which he was led, ſo long ago, by an inſtance that fell in his way, of a cure performed with great eaſe, and without confinement, by a very ignorant empiric, after two eminent ſurgeons had failed in the attempt. The knowledge of this at an early period in life, when youth and inexperience

prompt

prompt to undertake any thing, having convinced him of the poſſibility of ſuch cures, and led him to the knowledge of many, induced him to turn his thoughts to a ſubject, which he has never ſince loſt ſight of. In the mean time, his education under the beſt of maſters, together with his long reſidence in one of the largeſt, and beſt conducted hoſpitals in this metropolis, as well as his attendance in thoſe of *Paris*, gave him ſufficient opportunities of ſeeing, that for ſome cauſe or other, the knowledge of completely healing old ulcers in the legs, has ever been very deficient and uncertain. The ſubject, though of ſo great importance to the ſuffering individual, has, perhaps, not appeared of ſufficient conſequence to eminent ſurgeons, whoſe employment has uſually been both of a more profitable, and agreeable kind. It is hoped, gentlemen of this claſs, who deſerve and poſſeſs the higheſt degree of public eſteem and confidence, will not think this an injurious ſuſpicion, eſpecially as the mention of it is principally intended, to ſave the writer the mortification of having his firſt attempt thought inferior to the dignity of a firſt rate practitioner. Beſides, any attempt muſt be laudable to reſcue this branch from the hands of quacks and ignorant pretenders,

who it muſt be confeſſed, have ſometimes got credit in theſe caſes, where men of ſcience and a regular education have failed. And here it may be proper, as the former claſs of practitioners needs no increaſing, to add, that the preciſe quantities and forms of ſome of the applications hereafter mentioned, are not ſpecified, but left to the judgment of the ſurgeon; who will find no difficulty in proportioning every active and powerful ingredient, to the nature and variety of each particular caſe, the writer not having the leaſt deſign of concealing any thing from him.

The form, indeed, in which theſe obſervations are preſented, requires more excuſes than the author knows how to make; but he truſts that the plainneſs, or rather homelineſs of their dreſs, will not ſo far prejudice them in the eyes of liberal men, as to prevent their being examined with candor, and made uſe of in practice, if they are found to be at all juſt and rational. A want of regularity and elegance in compoſition, may with truth in this caſe, be imputed to want both of experience, and leiſure to ſtudy the correctneſs and imbelliſhments of language. He has, indeed, no pretenſions as a writer—but though truth may be adorned by a florid ſtyle, or enforced by elegance of argument, the greateſt

deficiency

deficiency in theſe ornaments cannot invalidate facts, nor juſtify an ill-natured criticiſm, on that which made no part of the author's deſign.

As to the mode in which theſe obſervations are preſented, the preſent was judged the moſt likely to anſwer any good end, for though what the author has to ſay in point of directions, might have been expreſſed in a ſmaller compaſs, or have appeared in ſome periodical publication, he could not, in ſuch a channel, ſo fully ſupport the principles he has laid down, nor juſtify his deviation from eſtabliſhed authorities. He knew, moreover, that an attempt had been made in that way, by a gentleman of acknowledged abilities,* which did not ſeem to gain the attention of the public.

With regard to the few hints on ſcrophulous affections, and other matters ſlightly touched upon, they are likewiſe the reſult of ſome experience: how far they are worthy the attention of the public, is cheerfully ſubmitted to their conſideration.

The author, however, begs leave to urge again his good intentions, and to expreſs his

* *Mr.* Else, *Med. Obſerv. and Inquiries, Vol.* iv.

hopes, that the ſucceſs of his plan, may in other hands, be equal to his own; and then he ſhall expect the ſatisfaction of contributing very greatly to leſſen the difficulties and diſtreſſes of many afflicted fellow-creatures, to preſerve ſome of them from leading miſerable lives, and now and then prevent that moſt dreadful remedy for bad ulcers, the loſs of a limb.

THIS ſecond edition appears before the Public with fewer emendations, in point of ſtyle and manner, than might have been expected. But the author having been called to turn his thoughts ſomewhat another way, and to other publications, really has not found time ſince a ſecond edition has been much inquired after, to pay ſufficient attention to it. Indeed, without an entire change of plan, and new arrangement of matters, no adequate alterations, in theſe reſpects, could be effected; although he hopes there are others of much more importance to the ſtudent. Beſides, he is ſtill of opinion,

opinion, that, on account of the doctrine being ſo oppoſite to former practice, and ſome prejudices to it yet remaining, an attempt to abridge the work very much, by ſimply objecting to the lenient plan, and merely ſtating his own, were not the beſt method of combating inveterate prejudices, or likely to eſtabliſh a new mode of practice, as yet unſupported by great Names. The like reaſon, it is hoped, may apologize for continuing the long references and quotations from the ancients, which might otherwiſe have been omitted. He has, however, made a few corrections; has abridged and tranſpoſed ſeveral parts, and made conſiderable addition to others, in the tract upon ulcers; as well as attended to every objection that has come to his knowledge. The latter eſpecially, he thought incumbent upon him, as it is probable he may not take up his pen again on chirurgical ſubjects; and he hopes he has executed it with modeſty, though with a firmneſs becoming the defence of a mode of practice, which he conceives to be juſtified as well by theory as experience.

It was in deſign, indeed, to have made ſome farther Diſtinctions of ulcers, in order to aſſiſt young practitioners who may take up the plan; but he has not been able to do it to his mind.

Some progreſs, indeed, might eaſily have been made, but too many difficulties occurred to admit of a complete arrangement, with ſufficient clearneſs for any good, practical uſe. Such ſpecific diſtinction may, however, be made, and the careful obſerver, determined to purſue and profit by theſe hints, will not long be at a loſs for it; but it will be beſt attained by experience. For, beſides the peculiar ſymptoms attendant upon different ulcers, another diſcrimination is often neceſſary, which is ſo much an object of ſenſe, that it can be conveyed but very imperfectly in words. For apart from the obſcurity ariſing from the fluctuation of language, there are certain things of which words can convey no adequate ideas, however clear thoſe of the writer may be. Architecture (if ſuch an alluſion might be allowed of here) furniſhes an ample proof of this: for what words could have given any accurate conception of ancient buildings, (of which no drawings were preſerved) had not their Ruins remained? But from theſe, conveyed by the Pencil's ſiſter-art, ancient *Greece* and *Rome* are every where preſented to view, and modern buildings riſe in *Aſiatic* or *Gothic* magnificence.

From the difficulties neceſſarily attending ſuch an attempt in the preſent inſtance, it is

hoped, the reader, deſirous only of practical information, will be ſtill ſatisfied with the two former general diſtinctions of ulcers. Daily experience, it has been ſaid, will render familiar to him others of leſs importance, will enable him to make a practical arrangement, and from the directions laid down, to ſelect the treatment beſt adapted to every claſs he may make for himſelf.

The author would think himſelf happy if only the above objections might be made to the work, but he has to lament, that there are yet individuals of high rank in the profeſſion, who ſatisfy themſelves with giving their teſtimony altogether againſt a plan of which they have not been pleaſed to make a trial, either in their private or hoſpital practice; though it can be proved, that where their plan perſevered in for ſeveral months, has done nothing, a cure hath been eaſily and ſafely effected upon this. It has, indeed, met with ſufficient ſupport elſewhere, and the author received both from abroad, and from different parts of this kingdom, the repeated thanks of many practitioners with aſſurance of its great ſucceſs in their hands.

It is with concern, however, he has to obſerve, that it is not likely to prove ſo beneficial

in

in *hoſpitals* as to private patients; it being impoſſible ſurgeons ſhould viſit the former every day, much leſs dreſs every bad ulcer with their own hands. Such ſores muſt therefore be committed to pupils, many of whom come to *London*, and indeed too many leave it, poſſeſſed of ſo little knowledge or attention, that whenever any matter muſt be ſubmitted to their diſcretion and care, (of which the application of tight bandage is a moſt important one) it is well if patients do not conſtantly ſuffer by it. Not that the plan, indeed, is incapable of very extenſive uſefulneſs, even in hoſpitals and diſpenſaries, if ſurgeons would do their part in ſuperintending and directing the pupils, ordering proper rollers, and adviſing patients to walk, and eſpecially, would they become leſs timid in their uſe of the precipitate. As an inſtance, the author has Mr. *Pearſon's* permiſſion to ſay, that ſince the winter of 1783, ſome hundred patients have been cured upon this plan, under his direction, at the *Lock Hoſpital* and *Carey-Street Diſpenſary*; many of whoſe ulcers were very large, ſome extending nearly round the leg, and of many years ſtanding.

But howſoever the peculiar advantages of this plan may, in any inſtance, be leſſened, it is ſubmitted, with increaſed confidence, to the atten-

attention of practitioners of every rank, which the writer feels himself justified in doing, by the best of motives—from the benefit it has afforded to so many poor sufferers since the former edition appeared.

Agreeably to these assertions, he could refer to various other testimonies he has received in the course of the last two years. Out of these, however, he has ventured to select a letter, (not more flattering than many others) which howsoever regarded in respect to himself, he has thought it a justice to the Public to subjoin to this preface. It were unnecessary, it is hoped, to say, that it is presented in the writer's own words, as well as with his consent: and as its compliments would be very lightly esteemed by the author of this work, should their effects only terminate in himself, so shall be any censure to which the publication of them may expose him, should other practitioners be excited to make a like fair trial of a plan, which he is persuaded will exceed their warmest expectations, and ultimately benefit mankind.

DEAR

DEAR SIR,

MY time has of late been ſo much engroſſed by buſineſs, that I have not till now had an opportunity of anſwering the laſt letter you honoured me with—You wiſh to know if the ſame ſucceſs attends me in purſuing your plan as that I had the pleaſure of communicating to you, at the commencement of our correſpondence. I cannot ſay it is the *ſame*, Sir—it ſo much exceeds my moſt ſanguine expectation. I have really often been aſtoniſhed at the *Eaſe* with which I cure old and large Ulcers of the Legs, by a ſtrict adherence to the rules you have laid down, after they have withſtood every other mode I had been previouſly acquainted with.

It was this continual diſappointment that firſt led me, though prejudiced, *a priori*, againſt the plan recommended in your Treatiſe, to give a fair trial to it; and accordingly I took it up early in the ſummer of 1783.—I have perſevered in that plan ever ſince, and it now conſtitutes almoſt the *whole* of a very *extenſive* buſineſs. And I muſt declare in juſtice to you, that in the numbers I have cured, I have never ob-

obſerved any inconvenience following the *ſuppreſſion of a diſcharge*, that could be in the leaſt attributed to the running being ſtopped—And having been myſelf equally *fearful* with other practitioners of the *bad effects* ariſing from *the cure* of old ulcers, I have been *particularly attentive* to *this* circumſtance, till aſſured by long experience, that upon your plan, my fears had been groundleſs; while the Eaſe with which I have cured ulcerated legs of every kind, and of every period of duration, from one to thirty years, in more than two hundred inſtances; and the *few relapſes* which have ſucceeded, convince me, (and will, I doubt not, every other practitioner who will give your plan a fair trial) that it is the only one on which the cure of Ulcers of the Legs ought to be attempted.

Wiſhing you may long enjoy, &c. &c.

I ſubſcribe myſelf, with the moſt reſpectful eſteem,

SIR,

Your obedient,

humble Servant,

T. SMYTH.

CHERRY ORTON,
near Peterborough,
Jan. 11th, 1787.

The

The Reader is requeſted to excuſe and correct the following

ERRATA.

INTRODUCTION.

Page 4, Line 7, *Note*, for *ichorum*, read *ichorem*.

TREATISE upon ULCERS.

Page 60, Line 4, *Note*, for *Foot*, read *Sore*.
Page 62, Line 9, for *on*, read *no*.
Page 74, Line 6, dele *the*.
Page 83, Line 17, for *the*, read *their*.
Page 85, Line 6, from the Bottom, add *and* to the beginning of the Line.
Page 115, Line 5, *Note*, for *except*, read *effect*.
Page 119, *Note*, for 37, 38, read 31, 32.
Page 124, Line 15, for *his*, read *the*.

On SCROPHULA.

Page 24, Line 5, for *it*, read *they*.

On DISORDERS of the EYE.

Page 37, Line 11, *Note*, for *ſat* read *ſet*.
Page 39, Line 24, for *increaſing*, read *increaſed*.

On the MILK-ABSCESS.

Page 52, Line 21, dele *of*.

On GANGRENE.

Page 68, Line 14, for *ſpeciſics*, read *ſpecifics*.

CON-

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INTRO-

INTRODUCTION.

THERE are ſome diſeaſes which derive their importance, not ſo much from their fatal tendency, as from the pain and uneaſineſs they occaſion. Stationary ulcers in the legs, may be juſtly ranked under this claſs. In general, we do not eſteem their cure eſſential to life; but he who is the unhappy ſubject of them can beſt eſtimate, how much the comforts and enjoyment of it are impaired by them.

A variety of obſervations might be made on the ſeveral peculiarities of theſe ulcers; but it is, by no means, the deſign of this work to intrude upon the reader with theory on the nature of the complaint, any farther than it may be neceſſary, in order to eſtabliſh the means of a ſafe, and laſting cure.

In this view, it will be proper to drop a few words upon ulcers in general, and on ſome material differences between thoſe now to be conſidered, and all

other ſores; between recent wounds of the legs, occaſioned by ſome accident, and thoſe made on any other part of the body: ſome reaſon there muſt be, for the additional trouble in healing the former, as well as the greater difficulty with which they are afterwards preſerved in that ſtate. This is eſſentially neceſſary if we would eſtabliſh a rational practice, and ſo far as this end is kept in view, it is hoped, an attempt will not be accounted ſuperfluous.

It ſcarcely needs to be obſerved, that ulcers may be occaſioned either by every external accident abrading the ſkin,* or bruiſing the parts underneath, in a certain habit of body, prediſpoſed to ulceration; or by any internal cauſe,† exciting ſuch inflammation in a part as ſhall incline it to ſuppurate, though no external injury has been received: ſuch are fevers of different kinds. To theſe ſhould be added neglect, or miſmanagement, when an abſceſs is formed, by which a ſimple wound is converted into an ulcer, or continual ſore of the part.

Theſe are briefly the cauſes of ulcers in general, and where no ſpecific contagion prevails in the habit, are all that need to be conſidered.

In thoſe of the legs, indeed, we are farther led to remark the ſtate and circumſtances of the limb, which being a depending and an extreme part of the body, may be regarded as a particular and prediſpoſing

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* Ulcus eſt continui ſolutio ab eroſione facta.—GALEN.

† Ulceris cauſæ vel internæ ſunt, vel externæ.—PAREY.

cauſe.

cauſe. Its being an extreme part, appears to have a much greater influence than has generally been imagined, or at leaſt expreſſed by writers on this ſubject, and tends very much to account for the frequency of the diſeaſe, and to point out an indication of cure, which in practice has been entirely overlooked.

But previous to entering upon the cure, it will be proper to make ſome obſervations upon ulcers in general, enlarging a little on ſome peculiarities attending thoſe on the lower extremities.

§ Authors of credit* have uſually defined an ulcer to be a ſolution of continuity in a ſoft part, diſcharging a purulent, or ichorous matter.†

But the proceſs of ulceration conſiſts in more than a ſimple ſolution of continuity; there is a real loſs of ſubſtance in the ulcerated part. To obtain therefore a more correct definition, I would be underſtood to mean by an ulcer, a ſolution of continuity in a ſoft part of the body, from which an ichorous, purulent, ſanious, or vitiated matter is diſcharged; attended with a loſs of ſubſtance in the part.‡

§ This

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* HIPPOCRATES excepted, who calls any ſolution of continuity by that name.

† WISEMAN, TURNER, BELL.

"Partis mollis ſolutio purulenta, vel ichoroſa." CULLEN.

"Les ulceres ſont des ſolutions de continuité dans le parties molles, avec ecoulement de pus." *Traitè des Tumeurs et des Ulceres.*

‡ SENNERTUS and HOFFMAN give nearly this definition—"Ulcus dicitur ſolutio continui cum imminuta magnitudine, in parte molli,

§ This character may be very applicable to ulcers in general, and be quite ſufficient as a diagnoſis; but many important diſtinctions are to be attended to, which muſt have conſiderable influence in the treatment. It will be ſufficient, however, to hint at a few of them.

I. An ulcer may be ſimple, ariſing from external cauſes merely.

II. It may be the conſequence of, or be connected with a bad habit of body; or,

III. It may be owing to ſome ſpecific contagion.

IV. The ſituation alſo of ulcers deſerves our attention. They may affect the ſurfaces of parts, in

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molli, a materia erodente ortum habens. Differunt nimirum in eo vulnus et ulcus, quod in vulnere ſaltem eſt ſoluta unitas, nihil vero neceſſario de parte amiſſum eſt; in ulcere vero ſemper aliquid de parte affecta imminutum et amiſſum eſt, ſi non plus, ſaltem cuticula." SENNERTUS: *lib.* 5. *pars* 2. "Sunt autem ulcera partium ſolidarum, atque mollium cum cavitate quadam minori, ichorem tenuem, ſalſum et acrem fundente, diſſolutiones et eroſiones a ſero extravaſato, et corrupto originem ducentes." HOFFMAN, *cap vi.* § 1.

It is evident however, that HOFFMAN, SHARP, and ſome later writers, deſign moreover by an ulcer, an old, or ill-conditioned abſceſs; and there ſeems to be ſome reaſon for this diſtinction, if we would ſpeak with preciſion; for otherwiſe, every impoſthumation, when burſt or opened, as well as every wound after an operation, is equally an ulcer—HOFFMAN's words are, "Differunt ulcera ab abſceſſibus, tum in hiſce major, quam in illis deprehenditur cavitas, atque non tam ſanies aquoſa, ſalſa et acris, quam potius pus laudabile, bene coctum à ſanguine, in partibus muſculoſis ſtagnante, et mora corrupto, gignitur; licet negari minime poterit, ulcera ſæpe ex apoſtematibus oriri, quæ in principio meri fuerunt abſceſſus." § 2.

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the manner of an eryſipelas ; or partake more of the nature of a phlegmon, by being ſeated in the ſubſtances of parts.

But it will be neceſſary in this place to remark other diſtinctions, noticed by the beſt writers.

I. An ulcer, it has been ſaid, may be of ſuch a ſpecies, that it will not admit of cure.* This, however, cannot often be the caſe, and belongs not to the preſent intention.

II. The ulcer may ariſe from, or be accompanied with ſuch a peculiar ſtate of the conſtitution,† that the patient may be unable to undergo ſuch a diſcipline, as will be abſolutely neceſſary to its cure.

III. A patient's ſtate of health, or peculiar circumſtances in life may be ſuch, that the injunction of confinement and a recumbent poſture cannot be complied with.‡——The preſent inquiry will be more immediately directed to the treatment of ulcers occurring under theſe laſt-mentioned circumſtances; and as the lenient method is generally injoined with an horizontal poſition of the limb, they will both reſpectively fall under conſideration.

§ Ulcers troubleſome in themſelves, or of long ſtanding, are very often brought into a healing ſtate, by mild means, and abſolute reſt, where no cachectic diſpoſition exiſts.|| If the patient after this ſhould

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* Cancerous, &c. "Ulcera Hydropicorum vix imo ne vix curantur." Hippoc. *Lib. vi. Aph.* 45.

† Sharp's Surgery. *Introduct. page* 29.

‡ Ib. *page* 38. — || Ib. *page* 31.

live freely, or uſe much exerciſe, it is highly probable the ſore will break out again. In ſuch a caſe, it may be ſaid the perſon has been cured, but he is not reſtored to ſociety. A very natural inquiry ſuggeſts itſelf here, viz. Is this the only rational method of treating ſuch ulcers?—If it can be proved, that a ſtrict courſe of regimen is generally unneceſſary, and that abſolute reſt is often not only needleſs, but prejudicial; if it can be demonſtrated, that by a different mode of treatment, they may be as certainly, and often as ſpeedily cured, and without danger of relapſe; it becomes a ſubject highly deſerving the attention of every practitioner.

§ It has been obſerved, and long been a decided opinion, that wounds or ulcers, ſituated on the lower extremities, below the knee, do not generally heal ſo kindly as thoſe on the upper parts of the body.* Various reaſons have been aſſigned for this laſt-mentioned fact; and as principles are more or leſs connected with practice, it will be very proper to glance at this ſubject, which will bring forward the immediate object of inquiry.

Theſe extremities being depending parts, a ſtagnation of the circulating fluids has been offered by ſome as an explanation; whilſt others have attributed it to a deſcent of depraved or vitiated humors.†

It

* It is a maxim in ſurgery, that abſceſſes and ulcers will have a greater or leſs tendency to heal, as they are higher or lower in the body. SHARP's Surgery. *Introduct. page* 17.

† See WISEMAN, TURNER, SHARP.

GALEN. *De Ulceribus malignantis Naturæ.* "Talia enim appello, in

It is ever of the utmoſt conſequence, to ſeparate facts from hypotheſes. Our knowledge is actually increaſed by the one; we are not certain gainers by the other. Effects are obvious to every attentive obſerver, but cauſes are often latent and dubious.

The firſt theory cannot be admitted; as its proximate cauſe is, by no means, a conſtant attendant on ſore legs: Œdema ſometimes precedes, ſometimes accompanies, and often ſeems to be a conſequence of ulcers, but is only one evidence amongſt others, of cachexy.

The ſecond enumerated cauſe ſtands merely on an hypothetical baſis. 'Till we get more diſtinct ideas of what is meant by vitiated, or depraved humors, and have their exiſtence demonſtrated, it ought not to be admitted as the occaſion of the difference in queſtion; eſpecially as this difference is capable of being very conſiderably leſſened, merely by topical applications and exerciſe, as will be ſhewn in its proper place.

§ Without preſuming abſolutely to remove the difficulty, a few hints on the ſubject may not prove unworthy of attention.

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in quibus aut pars affecta tam vitioſo habitu eſt prædita, ut vel optimum ſanguinem, qui nutritionis gratia confluit, corrumpat: aut id quod influit, adeo perverſum exiſtit, ut etiamſi pars rectè ſe habeat, ab ipſo tamen ſolo erodatur." *(De comp. med. lib. iv.*

AMBROSE PAREY, on the cacoëthic ulcer, copies after *Galen*: "influentem corrumpit humorem," (ſays he) and on the cachochymia—"propter influentis ſanguinis, partem exedentis, pars affecta nimium humida non coaleſcit." *Lib. xii. cap. x.*

I. The living power of the animal exiſts in greateſt quantity neareſt the heart. In proportion to the different diſtance of parts from this centre of life, the circulation of the blood is more languid, the animal heat is at a lower temperature, and the animal functions are more liable to interruption. But the healing powers depend greatly on the general, or relative vigor of the ſyſtem: if therefore, the vital energy diminiſhes, at a diſtance from the centre, ſhall we be ſurpriſed to find, that the vis medicatrix (which owes its ſalutary power to the ſame cauſe) is diminiſhed likewiſe?

II. In the lower extremities there is diffuſed much tendinous or ligamentous membrane. This kind of ſubſtance, though not void of ſenſibility, poſſeſſes a very ſmall ſhare of it; its blood veſſels are ſcarcely viſible unleſs rendered ſo by diſeaſe, and in that ſtate it acquires a high degree of irritability. The ſtructure of the parts therefore, may in ſome caſes, have conſiderable influence in retarding the cure of ulcers. And perhaps the depending poſition of the limbs, though not ſufficient of itſelf, may in ſome degree co-operate with other cauſes in producing the evils complained of.

When an ulcer on the lower extremities, tolerably free from inflammatory ſymptoms, and unconnected with cacoëthic, or ſpecific affection of the ſyſtem, becomes intractable under the moſt prudent management, it is highly neceſſary to know the cauſe: Inquiſitive men have, indeed, aſſidiouſly inveſtigated it, but to how little purpoſe, the ſucceſs, or rather the

want

want of ſucceſs in general practice, too evidently demonſtrates.—I have ventured to ſuppoſe, that the moſt probable cauſe is a defect of vital energy, either general or local. If general, which it is of importance, indeed, to determine, and an atonic ſtate of the ſyſtem prevails, that plan muſt be purſued, which is moſt likely to produce a ſtate of general ſtrength; but if the cauſe be merely local, our views muſt be very different. It muſt then be treated as a diminution of action in the part. Not that it is meant to ſuggeſt, that thoſe two cauſes cannot exiſt together; they very often meet in the ſame ſubject. But it is proper to obſerve, that they may, and often do exiſt ſeparately. Nor are we to conclude, that becauſe our treatment has a tendency to ſtrengthen the patient, the deſired end will always be obtained. There may be a ſufficient quantity of power in the conſtitution to overcome a diſeaſe, though that power be not fully exerted. It is often neceſſary to rouſe nature to action, by the external uſe of ſtimulants. But in doing this, it will be well to obſerve, that as we have a certain end in view, our means muſt be adequate. Stimulating applications may be ſo uſed, as to fret or irritate the part, without the leaſt good effect, nay, with very bad effects. If the power and action of the part be not rendered ſuperior to the diſeaſe, every ineffectual effort of nature will increaſe it, and conſequently retard the cure.

Perhaps, the irritation ariſing from motion, may in this view, be accounted one kind of hurtful ſtimulus, when applied to ulcers on the lower extremities. A

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perſon affected with this kind of ſore, though he ſhould not entirely confine himſelf, will be diſpoſed to walk leſs than uſual, and to give the leg ſome little indulgence. The ſtimulus, thus irregularly applied, excites the veſſels to an increaſed action; pain becomes conſiderable; the ſurrounding parts are inflamed; and the diſcharge is increaſed.—He reſts.—Nature was making efforts to give a new ſurface to the ulcer, but the ſtimulus which excited her to action being withdrawn, her attempts are partial and ineffectual. And as more or leſs of loſs of ſubſtance, always precedes the ſhooting of granulations, perhaps only the firſt part of the proceſs is compleated; hence the ulcer is more foul, is deeper, and more extenſive than before. All theſe evils are attributed to the motion of the part, and abſolute reſt is deemed a neceſſary requiſite towards obtaining a cure.—Whether this be as evident as it hath been generally imagined, is a matter very much to be doubted indeed, and is worthy of farther inquiry.

§ It appears then to be rational, as well as agreeable to experience, to ſuppoſe, that, neither the only nor yet the chief obſtacle to the healing of ulcers can ariſe from the legs being depending parts of the body, but as hath been obſerved, from their being extreme parts, where the circulation is leaſt vigorous. Hence it is, that the complaints of younger people are chiefly confined to the head and upper parts of the body, which at a more advanced age uſually affect the lower; and it frequently happens, that ſuch as have had diſorders of the eyes when young, are afflicted with fiſtulæ in

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ano, or ſore legs, when they grow older; the circulation of the blood through the more extreme parts, and their conſequent tone, being then impaired: and every ſurgeon knows how much more frequently a gangrene is found to ſeize the feet or the toes, than any other part of the body. For although the fingers, with their veſſels equally ſmall, are at a conſiderable diſtance from the heart, yet the circulation in them is more vigorous, both on account of their veſſels coming from the beginning of the aorta, and the continued exerciſe from their more conſtant uſe. The lower extremities being ſtill farther diſtant, and not ſo much engaged, have theſe diſadvantages compenſated by the exerciſe nature has impoſed upon them, in the ſupport and conveyance of the whole body; for the want of which neceſſary ſtimulus, in indolent and ſedentary people, the circulation becomes too languid to preſerve their due tone. From this cauſe, as well as from the anatomy of their parts, it is eaſy to account for the ſwelling of the feet and ancles, ſo common in ſuch perſons, as well as for that which happens from the limb having been kept, for any length of time, in an horizontal poſition: for here, whilſt the *moles movenda* is great, the *vires moventes* are diminiſhed. It is therefore preſumed, that exerciſe being ſo neceſſary to ſupport general health, and particularly the vigor of the extremities themſelves, is ſo far from being poſitively detrimental, that under proper management, it muſt prove conducive to the healing of ulcers ſituate upon them. Hence it will appear to be the province of art, to deviſe ſome proper

per means to regulate the effects of exercise, rather than to aim at a cure some other way, by subverting the order of nature, and depriving the patient, for a time, of a necessary mean of supporting, or recovering his health; which pernicious custom, it is presumed, is one principal occasion of the difficulty in question.

It may be necessary to pause here, to take some notice of certain objections made to this mode of reasoning, particularly by the *Editors* of the *Critical Review*. It should seem, that some of their strictures have arisen either from my having expressed myself inaccurately, or from some mistake on their part; or it is not likely they would have adduced the instance of the division of the sacro-sciatic nerve of a frog, in opposition to the theory I had ventured to advance. By this instance they would intimate, that great nervous energy is not so necessary in order to the healing of ulcers on the lower extremities, as I am supposed to have imagined; and that "my theory is therefore "fallacious, and the consequences drawn from it, "erroneous."

I shall not stop here to make any remarks on the cold blood of this aquatic, as rendering it an improper instance for illustrating the subject in dispute, but shall only point out what my position has uniformly been, viz. that the circulation of the blood in the lower extremities is too languid for the purpose of due incarnation, and the speedy healing of sores seated upon them. That such a languor actually exists, besides a variety of other evidences, is demonstrable

ſtrable from the vaſt coldneſs of the feet and toes of people of a delicate habit, in whom, indeed, they are ſeldom warm but in the hotter months. The fact is certainly incontrovertible, the vis vitæ is actually leſs than in ſuperior parts; and wounds occaſioned merely by accident, and under every favorable circumſtance of age, conſtitution, &c. and brought into a good ſtate, are found to cicatrize more ſlowly than on other parts of the body: whilſt no wound heals ſo ſoon any where as on the head, let the natural conſtitution be whatever it may. As to nervous influence, which the objection alludes to, there may be enough of it, of a certain kind, for any thing I know, and perhaps often more than we wiſh for; no ſores being more irritable than thoſe of the legs. And if I have appeared to intimate, that the lower extremities are enervated, it was intended in ſuch a ſenſe only as to denote their atonic ſtate, for want of a due vis vitæ, a fact not to be denied; and I have no doubt, has for its cauſe the languid circulation in the parts. This, as well as every other inſtance of the animal œconomy is, indubitably, wiſe and ſalutary on the whole, though it will not follow that it is conducive to the healing of ulcers ſo circumſtanced; and will ſerve to illuſtrate the propriety of a meaſure of that exerciſe which nature has evidently deſigned the legs to ſuſtain, and which is ſo much inſiſted upon in the courſe of this work.*

§ The

* The idea of a defect of vital energy in the part, has lately met with farther ſupport from experiment, or rather from facts; which

§ The nature of the ulcerative proceſs next deſerves our conſideration. When from ſome cauſe, external or internal, ulceration takes place, a very uſual way of accounting for this ſolution of continuity has been, that there is a melting down of the ſoft parts into pus, ſanies, &c.* Experiments on dead and living ſubjects have been made to prove this; yet it is apprehended, this proceſs never takes place in the living body; it is a proceſs that contradicts every thing we know of the animal œconomy, and the obſervations of the moſt accurate phyſiologiſts.

The perfect ſolution of a ſoft part, even when removed from the body, is not eaſily affected by art, unleſs

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which being aſcertained by a gentleman in no wiſe concerned in this diſpute, may, perhaps, have more weight than if ſuch experiments had been made merely under my own eye.

Mr. Partington did me the honor of informing me, that as ſoon as he had peruſed my treatiſe, he tried the effect of electricity upon ulcers of the legs, ſcrophulous ſores in the neck, and upon chilblains, whilſt they were under the care of ſurgeons of eminence: and that both they and *Mr. Partington* were ſatisfied of its good effects in expediting the ſeveral cures, in conſequence of its local influence and ſtirring up the vires medicatrices in the parts. Upon the ſame principle, I apprehend, it has been found ſucceſsful in many cutaneous diſeaſes, improperly aſcribed to acrimony, and other obſcure qualities prevailing in the ſyſtem, which are rather owing to a diminiſhed vital energy, or to a morbid action, in the part.

* "Vaſcula diſtenta rupta cum dolore, calore, pulſu, liquores ſuos effundunt, ſolvunt, putrefaciunt leviter, ſolida tenera atterunt, ſolvunt, fluidis miſcent in unum ſimilem album, ſpiſſum, glutinoſum, pinguem humorem, pus dictum." Boer. *Aph.* 387.

"Pus or matter is certainly no natural ſecretion.—I believe I may

unleſs it be immerſed in cauſtic liquors; much leſs have we ever ſeen muſcular fleſh, and cellular membrane converted into a fluid reſembling pus. Simple diviſion of a living fibre does not neceſſarily produce the death of that fibre; but decompoſition, either by the putrefactive fermentation, or by art, never can take place without depriving the affected part of its life. Moreover, as the purulent matters diſcharged by ulcers, differ in their chemical properties from dead animal fibres in a ſtate of diſſolution, we are certainly not authorized to conclude, that there is a ſimilar arrangement of particles. Beſides, we ought to find the moſt profuſe diſcharge from an ulcer during the exfoliation of its ſloughy covering; whereas the reverſe of this is really the caſe: an ulcer never pouring out ſo large a quantity of good matter, as during a few of the firſt days after its ſurface has become clean. And every practitioner muſt recollect having ſeen caſes, where the dimenſions of an ulcer have been increaſed to twice its ſize, in the ſpace of a few hours, without ſuch a proportionate increaſe of the diſcharge, as we ought to expect under the idea of diſſolution.

The proceſs of ulceration ſeems to be a certain act of the abſorbent ſyſtem, whereby in conſequence of a ſtimulus, it takes up the ſoft parts, and carries them

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may venture to affirm, that the diſſolution of ſome of the ſolid particles of broken capillary veſſels, and a mixture of ſome part of the juices that ſhould circulate through them, makes a neceſſary part of the production. Mr. Pott. *vol. i. p.* 315.

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into the circulation.* No anatomiſt can doubt the poſſibility of this, when he conſiders, that ointments, and even powders are readily abſorbed, eſpecially where there is a want of cuticular covering.† If this account of the matter be admitted, we ſhall be aſſiſted in underſtanding the cauſe of the rapid progreſs of ulceration, the exfoliation of dead ſoft parts, and deſquamation of carious bone.

Since this tract firſt appeared, it has been objected to this idea of ulceration, that it is a doctrine as yet by no means eſtabliſhed, and although there certainly doth exiſt in the animal body a power of abſorbing its own conſtituent parts, yet it cannot be proved that this abſorption is always attendant upon ulceration; nor is there any reaſon that prevents us equally from ſuppoſing that ulceration may be the effect of ſome external corroding power, the nature of which is unknown to us.

Such an obſervation certainly deſerves a ſerious attention, and I do not know that any thing I have advanced is directly inconſiſtent with it. I pretend to no great phyſiological knowledge, and never intended to inſiſt upon the extent of the abſorption to which I have alluded, or have attempted to prove that it always takes place in ulceration; I have only

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* Phyſiology, I believe, is indebted to the ingenious Mr. Hunter for this no leſs probable, than curious idea.

† See Mr. Cruikshank's letter on the abſorption of calomel, to whom the world is no leſs indebted for his indefatigable attention to, and uſeful diſcoveries in the abſorbent ſyſtem.

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contended, that the idea of *Mr. Hunter* (as far as I have adopted it) appears to me truly ingenious, and far preferable to that of parts being melted down into pus; againſt which, at leaſt, I imagine ſome arguments are advanced that will not eaſily be overturned.

It is very probable, indeed, that the animal juices when extravaſated, may acquire ſuch an acrid quality in a diſeaſed part, as may deſtroy that coheſion of parts neceſſary to their life, and may ſo change them that very little of them may be ſeen; though the whole of them may not be taken off by the abſorbents. It is certain, that the conſtituent parts of animal bodies when reduced to their firſt principles, are but ſmall in quantity, and when the body is ſo reduced by putrefaction after death, the quantity of earth and water is but very inconſiderable. But whatever analogy to this putrefactive principle the juices may acquire during life, ſo as to be capable of mutilating the parts, it will by no means follow, that they are ſo changed as to be turned into pus; for not only is the diſſolution here ſpoken of, the effect of diſeaſe in the juices, but is ſuch as muſt reduce the parts to their firſt principles, at leaſt in a conſiderable degree, and exiſts only in a foul and bad ſtate of the ſore; whereas the formation of pus, eſpecially of laudable matter, depends on the healthy ſtate of an ulcer, and is uſually an indication of a favourable iſſue. So that, whatever corroding power there may be, whether internal or external, it can, by no means, account for the kindly ſuppuration of abſceſſes and ulcers, where the parts are ſuppoſed to be melted down into

pus. An idea, as I conceive, unbecoming a thinking mind, as it ſuppoſes ſomething utterly unlike every thing elſe of which we have any probable evidence in the animal œconomy; and which was, indeed, the chief matter I intended to controvert, and muſt ſtill think, is far leſs probable than that act of the abſorbents, conceived of by *Mr. Hunter*.

§ But this idea of ulceration ſuggeſts a very natural inquiry, viz. From whence comes the purulent matter diſcharged by ulcers? It has been ſaid, that ulcers are drains to carry off peccant humors;* or diſſolved cellular and muſcular ſubſtance; † we have been told, indeed, that pus exiſts in the blood, and is poured forth at theſe outlets.—The laſt-mentioned idea is in itſelf ſo improbable, and ſtanding unſupported by any deciſive proofs, it may be regarded merely as hypothetical.—A few remarks on the former will naturally ariſe in the farther diſcuſſion of the ſubject.

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* "Ulcers may be looked upon as drains which nature has made choice of to relieve herſelf." LE DRAN.

† "Pus is a mixture of various ingredients, viz. blood, which has loſt its red colour, and is the largeſt ingredient in the mixture; a little viſcid lymphatic juice, and the extremities of the lacerated veſſels, which fall off in ſmall parcels, and are converted into a ſoftiſh and whitiſh kind of glue." FIZES, *On Suppuration*.

"Si ſanguis in ventrem effuſus fuerit, præter naturam, neceſſe eſt ut ſuppuratur. HIPPOC. *Aph. xx. Lib. 6.*

"Hac enim parte caro putreſcit et exulceratur, et accedentem pituitam et bilem, inſuper putrefacit, et fit pus." Id. *de Morbis. Lib. 2.*——See alſo CULLEN.

"The

"The moſt probable opinion," (ſays a very ingenious and reſpectable author)* "hitherto advanced, concerning the formation of pus is, that it is always produced by a certain degree of fermentation in the ſerous part of the blood, after its ſecretion into the cavities of ulcers and abſceſſes." This opinion ſtands ſupported by the moſt reſpectable authorities, † but is not free from difficulties. Serous effuſions made from a ſurface, that is not in a ſtate of inflammation, will remain for months unchanged, and never aſſume the appearance of pus. ‡ More or leſs of inflammation || ſeems abſolutely neceſſary to its formation. It may likewiſe be obſerved, that the nature of the diſcharge depends greatly upon the healthy, or morbid ſtate of the ſore, as will be made to appear in its place.

Perhaps then, it may approach nearer the truth to ſuppoſe, that pus is a ſecretion ſui generis, from the ruptured veſſels of a cavity, or ulcerated ſurface, conſequent on a certain degree of inflammation; poſſeſſing originally the moſt bland and ſalutary qualities. § Not that it is meant to be underſtood, that pus is ſe-

* Mr. BELL. *On the Theory and Management of Ulcers*, &c.

† Dr. GEORGE FORDYCE.

‡ The water in hydrocephalus internus, aſcites, hydrocele, &c. which is generally coagulable.

|| "When a quantity of fluid is thrown out into any cavity, (the inflammation continuing) it ferments, and is converted into pus." Dr. GEORGE FORDYCE.

§ It is not neceſſary, that a part ſhall have preciſely what we underſtand by a glandular ſtructure, in order to ſecrete fluids for parti-

creted in the form under which it appears, but it is probable, that when it covers the ſurface of a wound, under the appearance of an adheſive glairy fluid, the only difference between this and white pus conſiſts in the quantity of ſuperfluous water: when, by remaining for ſome time upon the part, the thinner fluid is abſorbed, or exhaled, the remaining part aſſumes opacity, and acquires a thicker conſiſtence; * for if wounds, furniſhing a great quantity of good pus, are

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particular purpoſes. The mucous membrane, which lines every cavity expoſed to the action of external air, ſecretes a fluid called mucus, for the defence of that part, &c.—This, in a healthy ſtate, is mild and inodorous, and much reſembles the white of an egg, being perfectly inſipid; and conſequently, can be little more than a mucilage and water. Whereas ſerum contains neutral ſalts in abundance; ſuch mucus therefore cannot be effuſed ſerum. If it were merely ſerum, it would be more irritating as its conſiſtency increaſed, the reverſe of which is the caſe. When morbid ſecretion takes place, as in catarrh, gonorrhœa, &c. the effects of the neutral ſalts in the ſerum poured out, are pretty evident. Now, theſe diſeaſes cannot increaſe the quantity of ſaline matter, conſequently, we muſt ſeek for the cauſe of this acrimony in the different action of the veſſels.—Theſe variouſly excited, by external or internal ſtimuli, to irregularities in their action, may likewiſe aſſiſt us in our inquiries after the cauſe of the various appearances and qualities of pus, and of the difference between that and ſuch morbid ſecretions from an inflamed ſurface, as aſſume a purulent appearance.—With regard to the latter diſtinction, it may be worthy the conſideration of phyſiologiſts, how far the *ſimple inflammation* of a ſurface, may poſſibly be inadequate to the production of true pus; and whether an *eroſion*, or *loſs of ſubſtance*, may not be eſſential to that particular ſecretion.

* Sir John Pringle. (*Appendix.*)

examined

examined a few hours after being dreſſed, no ſuch matter as pus will appear, but a thin, ill-looking ſanies is ſpread over the ſurface.*—Indeed, the formation of true pus, and the putrefactive fermentation of animal ſubſtances, bear no reſemblance to each other, ſince pure pus is perfectly inodorous, whilſt the other emits a volatile alkali. Nor do we find, that matter diſcharged from a wound bears any regular propotion either in quantity, or quality, to the ſuppoſed degree of fermentation. If we only attend to the different aſpect of an ulcer, when it produces pus, ichor, or ſanies, whether we reaſon analogically, or from evident appearances, the idea that has been thrown out, of the healthy or morbid action of the veſſels, as the moſt probable cauſe of this difference,† appears, by no means, to be an unreaſonable conjecture. In ſupport of this theory, however, I ſhall

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* From hence, a fallacy may be diſcerned in the ingenious theory of the late *Mr. Freke*, though it is a much more rational one than that of concoction, or what is uſually meant by fermentation. He humorouſly obſerves, if it can be ſhewn, that any part of the blood, put into a ſand heat, and digeſted there, or that decocting it ever ſo long, produces any thing like laudable pus, he will give up his theory, viz. that pus is produced by deſpumation, or agitation, from the ſerum of the blood paſſing through the partially obſtructed extremities of divided, or ruptured veſſels, which like a ſponge, reſiſting a free paſſage to the globules of air contained in the blood, beats up the ſerum in its paſſage into a froth, juſt as ſoap and water would be by a like agitation.—ART of HEALING.

† See MR. BELL'S laſt edition of his Treatiſe upon *Ulcers*.

mention one fact that may merit ſome attention; viz. that not only by medicines, but by mere external applications, it is frequently in the ſurgeon's power to alter both the appearance, and the quantity of matter diſcharged from a ſore, as every man of any experience muſt often have had occaſion to obſerve.

But, the idea of true pus being a diſſolution of the muſcular and cellular ſubſtance, &c. may, in another point of view, ſeem to demand a little farther attention. In ſupport of this opinion, we are told, that in every collection of matter, there is actually very conſiderable loſs of ſubſtance in the part, and for proof of it we are pointed to the cavity from whence the matter has flowed, on the burſting, or opening of the abſceſs, and to the diſappearance of the cellular and adipoſe membrane; the greateſt part of which, however, ſeems only to be condenſed. To examine this point a little more narrowly, let us take a view of it where the fact ought to be the moſt evident, as in the caſe of large impoſthumations, ſuch as the pſoas abſceſs; from whence a pint, or more, of matter has run out on the ſpontaneous giving way, or artificial opening of the integuments. In ſuch caſes, has there been a deſtruction of muſcle, veſſels, cellular and adipoſe membrane, equal to the quantity of pus, or the cavity that is formed? What! a pound * of muſcle and adipoſe membrane deſtroyed? A bulk,

* Experiments on living animals have lately been made to ſupport ſuch an opinion.

equal

equal to a pint, or more, of matter?—We may, indeed, find the muſcles ſeparated one from another, and the cellular membrane torn away by the weight of the fluid; or ſometimes a muſcle divided longitudinally, or its belly eaten through; but the idea of a whole pound of organized parts being loſt, or melted down into matter, is really much more improbable than any thing that has been advanced concerning the formation of pus, or doctrine of the abſorption of parts into the conſtitution. For whatever has been ſaid on the latter, is merely to account for a loſs of parts, which ſometimes actually diſappear in the proceſs of ulceration; but the former opinion ſuppoſes a quantity of parts to be deſtroyed, (in order to account for exceſſive ſuppuration) where there is no ſuch manifeſt diſappearance. Moreover, in large collections of matter, there is not only a prodigious diſcharge on the firſt burſting of the abſceſs, but it often continues immoderate for days, and even for months, till the patient is deſtroyed by it: yet upon opening the body, only a very ſmall portion of muſcle appears to be loſt, and there is little, or no more deficiency of adipoſe membrane in the part, than throughout the reſt of the body; the whole of which, in ſuch caſes, is exceedingly emaciated, and the fat ſuppoſed to have been abſorbed. To ſum up the whole, it appears, that in the former inſtance of the ſudden ſpreading of an ulcer,* the diſcharge is, by no means, proportionate to the

* *Page* 15.

great loſs of parts; and in the preſent, there is not a loſs of parts proportionate to the immoderate diſcharge.

But it is ſaid by others, that there is not, indeed, ſo great a diſſolution of ſolid parts, as to furniſh the whole of theſe purulent matters, but ſo much of them is melted down as gives tenacity to the fluid; and is an eſſential ingredient in true pus.* Beſides what has been already advanced in anſwer to this latter aſſertion, it may be obſerved, that wherever there is an evident admixture of fat, or of the craſſimentum of blood, or the parts are in a lax and ſloughy ſtate, the pus is never good, but always thin, diſcoloured, or fetid. Whereas, when the ſurface of an ulcer is firm and florid, without the leaſt appearance of the melting down of parts, (as it is called) there, it has been obſerved, the pus is thick and good; there only is it *album, læve et æquale.*

Moreover, if the diſſolution of organized parts, does not furniſh a very conſiderable portion of the purulent diſcharge, it can ſupply only a very ſmall part of it, and is rather an accident, in particular inſtances, than a neceſſary ingredient in true pus. This, I think, may be ſufficiently manifeſt from what has been ſaid above on the ſtate of the parts, as they appear in thoſe who die of an atrophy, in conſequence of very large incurable abſceſſes, as well as from the foul ſtate of every ſore, and the impurity of the pus,

* Boerhaave, Mr. Pott, &c.

when-

whenever there is an admixture of fat, or of the craſſimentum of the blood. And if ſo little of the pus can be furniſhed by the diſſolution of ſolid parts, and its true purulent appearance be not occaſioned thereby, the difficulty is not removed, and the queſtion returns, viz. how is pus formed?—a queſtion I have attempted to anſwer, and it is hoped, in a manner, that for any thing that has yet been advanced to the contrary, may appear more ſatisfactory and rational than any other account that has been given of the matter.

§ When the conſtitution has, at a certain time of life, been long accuſtomed to the preſence of an ulcer in ſome part of the body, practitioners have been much divided about the propriety of attempting a cure. It has been deemed improper to heal it, without ſubſtituting a drain in ſome convenient part, in its ſtead.* This opinion is founded partly on theory, partly on obſervation. If we regard old ulcers as drains, or outlets for vitiated humors;† the evacuants of a conſiderable quantity of fluids, where retention muſt diſorder, or overload the ſyſtem, and induce plethora,‡ &c. ſuch ideas muſt naturally pro-

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* See Mr. Bell, *On Ulcers*, who thinks Iſſues in all caſes indiſpenſible; of which ſentiment farther notice will be taken.

† A meſure qu'on travaille à guérir l'ulcere, il faut avoir ſoin d'ouvrir un cautere à la partie qu'on jugera le plus convenable, pour donner aux mauvaiſes humeurs un èpanchoir à la place de celui qu'on va boucher. *Traitè des Ulceres, &c.*

‡ Mr. Bell,

duce

duce a doubt of the expediency of effecting ſo important a change: and facts are not wanting to prove that diſagreeable, and even fatal conſequences, have followed the drying up of long continued ulcers, and even of iſſues.*—But though the facts cannot be denied, the explanation given of them may be called in queſtion. † We know, that in many caſes, very ſuſpicious a priori, ulcers have been dried up, not only without bad conſequences, but where very conſiderable advantages have enſued. Whereas, fatal accidents have ſometimes taken place after the cautious healing of more recent ſores in apparently good habits of body, which would ſcarcely have been attributed to ſuch cures as to their proper cauſe.—The *poſt* Hoc and *propter* Hoc, it is well known, require a judicious diſcrimination.—Where, indeed, there has long been a very profuſe diſcharge of matter, a ceſſation of the accuſtomed evacuation may have ſome influence. But if particular caſes are excepted, it is more than probable, that the effect of ulcers upon the conſtitution, is not to be imputed to the Quantity,

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* Le Dran's Obſervations—Sharp's Surgery, *Introduction.*

† Ulcera diuturna et inveterata non ſine periculo curantur, niſi corpus diligenter purgetur, et victus ratio bona obſervetur; cujus rei exemplum habet *Gal. Fabricius*, de quodam viro qui cum ulcus inveteratum in crure ſiniſtro ab empirico ἀμεθοδος curatum fuiſſet, poſt menſes aliquot pleuritide in ſiniſtro latere correptus, atque inde mortuus eſt, et morbo durante *talia* expuit, *qualia* antea ex ulcere effluere ſolebant.

Sennertus, *Lib. v. Prognoſtica.*

much

much leſs to the Quality of the matter diſcharged by them; which it is likely, depend on the ſtate and action of the veſſels of the part, where, at leaſt, there is no ſpecific contagion. No opinion is more popular than the exiſtence of humors in the blood; and perhaps very few opinions have leſs foundation in fact. The ſerum of blood may differ in conſiſtency, and contain more or leſs ſaline particles; the red globules may exiſt in greater or ſmaller quantity; the coagulating lymph may vary in its relative proportion to the watery parts of the blood—if we advance much farther, we are treading merely on hypothetical ground.

Nor are we warranted to conclude from obſervation, that Quantity ought to influence us much more in the healing of ulcers. This has, indeed, been ſtrongly aſſerted by many, and is urged by *Mr. Bell* in the laſt edition of his Treatiſe upon Ulcers; but it is apprehended, without any appearance of argument—Let us inquire into the fact—Are the effects of ulcers upon the conſtitution, by any means, proportionate to the quantity of matter diſcharged by them? Nay, do they not more commonly take place in people of a ſpare and thin habit, and thoſe of a lax fibre, rather than in the athletic, and ſuch as are ſubject to plethora? And do we not ſee, that the ſpecies of ulcer, and its ſeat, very often determine its harmleſs, or miſcheivous tendency? Whatever may be the habit of body, were we always to form our prognoſtic of the termination of ulcers, from the quantity of

ſurface

ſurface they occupy, or the fluids they diſcharge, every day's experience would prove the fallacy of ſuch an indication. Small ulcers, (unattended with caries of the bone) may bring on hectical ſymptoms, and the amputation of the whole limb ſhall ſave the life, and reſtore the health of the patient.

It has been obſerved by the *Editors* of the *Critical Review*, in their remarks upon this tract, that they have ſeen "both aſthma and Palſy repeatedly brought on and cured, by healing an old ulcer and again opening it; nor would any remedy prevent the recurrence of theſe dangerous diſorders or cure them, without reſtoring the uſual diſcharge; and from the very ſame part."—I feel myſelf indebted to every reader who may ſtate objections in an open and candid manner, eſpecially when they relate to matters of fact, as in the preſent well-choſen inſtance. But, I imagine it cannot be a preſumption to ſuppoſe, that ſuch inſtances are very rare, and can therefore operate only in a way of general caution. As to the more common evils which may have followed the healing up of ſore legs, it has been obſerved, that they cannot all be attributed to the cure of the ulcer, though it is poſſible ſome of them may. But this, is has been ſaid, is an effect, by no means, peculiar to the cure of ſore *legs*; and I am certain, for I ſpeak from experience, is ſeldom owing to the *cure*, but to the *improper manner* in which the healing has been accompliſhed; whereby the veſſels of the part are left under a certain diſtempered ſtate and morbid action, which terminates

nates either in a new ulcer, or irritates the ſyſtem: effects that can very rarely follow a proper digeſtion and due cure of the ſore. And this is a circumſtance of ſuch importance in regard to ſore legs, that if properly attended to muſt, ſooner or later, induce ſurgeons to adopt the plan now, upon due reflection and experience, again commended to their notice; and will, I hope, eventually prove a laſting benefit to ſociety, when I can no longer have an intereſt in it.—But to return from this little digreſſion: it is *general* doctrines that good practitioners will have regard to, and the ſafety of healing old ulcers on the legs, is mentioned as ſuch; and as a *general* doctrine, I may venture to ſupport it both from reaſon and experience. Nor do objectors, I imagine, deſign to prohibit the cure of them on every occaſion, in the fear of aſthma, palſy, or any other chronic complaint. Particular exceptions there, doubtleſs, are to every general rule, and with which men of practice are very well acquainted, and to which they will cautiouſly attend: though by the bye, ſurgeons are continually attempting the cure of old ulcers on the legs in every large hoſpital, juſt as readily as if no kind of bad conſequence were ever to be apprehended; and when they fail of ſucceſs, are nevertheleſs in no fear of inducing an aſthma, by removing the ſalutary ulcer, at the expence of the limb. As to the peculiar objection to healing *old* ulcers, there is a deal of fallacy in the circumſtance of the length of time an ulcer may happen to have ſubſiſted, and particularly with regard to

poor

poor people, in whom it often becomes ſtationary merely from their neceſſitous ſituation, which deprives them of the beſt means of relief; to which may be added, their not being in a capacity of complying with the miſtaken notion of the neceſſity of reſt,* which has proved eventually the occaſion of more

* An anonymous writer, who lately ſuggeſted his thoughts on ulcerated legs, with a view to lead ſurgeons to inveſtigate the ſubject, juſtly claims from his candour a title to notice, eſpecially from me, for the polite mention made of the plan I had recommended, which was then but juſt publiſhed. And it is with pleaſure I can aſſure this gentleman, that the treatment of ſore legs is now a matter taken up in different parts of the kingdom, and with a ſucceſs that has ſerved amply to confirm the practiſe I had ſuggeſted. Every freſh inſtance has demonſtrated the propriety of the idea I threw out, as to the occaſion of the difficulty of the cure, and the means of removing it, as well as of the futility of attempting it upon the lenient plan, which, as this writer obſerves, either fails in the firſt inſtance, or the ſore often breaks out again. In farther confirmation of this ſentiment, I would remind this candid inquirer, that much more powerful applications than yellow baſilicon are required to bring ulcers into a good ſtate, which once effected, dreſſing them with a mild digeſtive will not keep them open, (as he has ſuggeſted, in caſes where he apprehends they ought to be preſerved as iſſues,) unleſs it be from its not being ſufficiently active; and not from its ſtimulus. Let the pea be taken out of an iſſue, and the ulcer dreſſed with yellow baſilicon; or a perpetual bliſter be treated in like manner, and they will neither of them be long kept open; whereas, common bliſters are ſometimes difficult to be healed; and every practitioner muſt have known them continue open for two or three months, in ſpight of every attempt to the contrary, eſpecially in teething children; though here, it is acknowledged, the evil is not local. This writer's

more amputations, than almoſt all the injuries from violence and accident, which uſually attend the lower claſſes of mankind.

§ The ill-effects which ulcers have upon the conſtitution depend, it has been ſaid, on the circumſtances and ſituation of the ſore, and ſeem to ariſe from irritation, and the conſequent general ſtate of excitement into which the ſyſtem is thrown. When the diſcharge is very profuſe, inanition is produced; but ſimple inanition is not a proximate cauſe of hectic fever, nor of ſymptoms of irritation. * The ſyſtem being kept in a perpetual ſtate of tenſion, by the conſtant ſtimulus of an ulcer, and nature fruitleſsly exhauſting herſelf to ſubdue an obſtinate diſeaſe, will ſufficiently account for that train of ill ſymptoms, which ſometimes accom-

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ter's idea may, however, ſerve to exemplify what pains are taken, upon the lenient plan, to compel ulcers of the legs to dry up, when the light ſtimulus of a mild digeſtive is ſuppoſed capable of keeping them open.—We cannot therefore infer, from ſome complaints ſucceeding to cures effected in the ordinary way, that there can be no ſafe way of healing old ulcers; nor learn from ſuch practice, when, or by what means they may be ſalutary, or injurious to the habit.

* Wounds of the tendons, ligaments, cartilages, and the cavities of joints, are more liable to be attended with ſymptoms of irritation, than the inflammation of other parts: by ſuch ſymptoms therefore are meant, great depreſſion of ſtrength, anxiety, frequent reſpiration, quick and ſmall pulſe, a tendency to delirium, or ſpaſmodic affections of the muſcles. Theſe ſymptoms do not indicate a diſeaſe of the general ſyſtem, but depend upon the preſence of an irritating cauſe; and when the cauſe is removed, the effect immediately ceaſes.

panies

panies ulceration. †—But though ſtimuli, in certain habits, and under certain circumſtances, may prove detrimental to health, yet in many inſtances, we find them excellent remedies. The good effects of bliſters and cauſtics, applied near the ſeats of diſeaſes, are generally known; yet we do not ſuppoſe, that there is any ſpecific virtue in cantharides, neither do we regard them as the evacuants of vitiated humors. It is a fact pretty generally admitted, that however plentifully a bliſtered part may pour out its ſerum, it is often more advantageous to heal the ſore, and apply a freſh ſtimulant, than to keep it open by mild digeſtives. If the good effects of bliſters, therefore, be admitted upon theſe principles, why reject this reaſoning in the caſe of ulcers, which may not improperly be termed perpetual bliſters or iſſues?

The effects of ulcers upon the conſtitution in general, being thus hinted at, the main queſtion may be reſumed, viz. Is it always proper to attempt the cure of ulcers? Were a general and direct anſwer to be offered, it might be given in the affirmative. Should a caſe occur (which is not improbable) where upon the whole, it may be judged a leſs evil to ſuffer the ulcer to remain, than to attempt its cure, yet if its extent of ſurface be very conſiderable, it will be prudent to leſſen its dimenſions. To this may be added,

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† Natura enim, ſemper ſolicita eſt in conſervatione individui ſui, morbiſque ſeſe opponit; ſed prout valida aut imbecillis fuerit, aut victrix evadit, aut ſuccumbit. HILDANUS, *Obſerv. Chirurg.* 77.

that

that as the ſeat of an ulcer, however ſmall, may be in a very inconvenient part of the body, a large iſſue * may, in many caſes, be ſubſtituted in its ſtead;‡ which if this reaſoning be valid, will much oftener than it is imagined, have the ſame good effect. Whether, therefore, we regard the operation of ulcers as a drain, or as a ſtimulus to the ſyſtem, there can ſeldom be any reaſonable objection againſt healing them.

The preceding obſervations are natural, they are founded on facts, and it is hoped, they will ſupport the inference intended to be drawn from them. Many of them almoſt inſenſibly occurred to the author in the courſe of his practice, nor did he diſcern half their force, till repeated experience conſtrained him to attend to them, and forced on his mind ſuch reflections as led to ſupport them. Be it obſerved, however, once for all, that ſucceſs preceded his reaſonings, and though he ſhould have failed in his theory, the facts ſtand unaltered, and every man will find himſelf at liberty to prefer his own illuſtration of them. He concludes it, indeed, far ſafer, even induſtriouſly to

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* In all theſe caſes, it is proper to purge once or twice a week with calomel, if the patient can bear it, and to make an iſſue when the ſore is almoſt healed. SHARP, *Introduction*, *p.* 40.

‡ LE DRAN, BELL. The latter has ſome obſervations tending to prove, that the diſcharge from a common iſſue is uſually much greater than is generally imagined.

invent a ſpecious theory in ſupport of experience, than to found a practice on mere metaphyſical reaſonings, however ingenious they may ſeem. If he has erred, he has erred on the ſafe ſide, and again cheerfully ſubmits both his principles and practice to the judgment of others.

A

TREATISE

UPON

ULCERS of the LEGS.

IN the treatment of ulcers on the lower extremities, it has been eſteemed of the utmoſt importance, to conſider the ſore in a peculiar connexion with the general health of the patient. In this view, it has been judged ſufficient to bring ſome ulcers into an eaſy, harmleſs ſtate; whilſt others, from their long continuance, magnitude, or advanced age of the patient, have been thought incapable of cure. But where none of theſe impediments may occur, ſurgeons, nevertheleſs, differ very much about the moſt ſafe and rational means of accompliſhing it.

Whether there be many ulcers whoſe cure may not be undertaken with the greateſt ſafety, and probability of ſucceſs, I ſhall not diſpute again in this place; and however numerous they may be, the known rules of art are ſufficient for every thing

that ſeems to be expected from it. I may, however, venture to add, that perhaps nothing will contribute ſo much to the eaſe of the patient, as the bandage hereafter to be mentioned, drawn moderately tight. It is the confeſſedly curable ulcer then, that will be the chief ſubject of this tract, including, however, many of thoſe found in that dubious ſtate ſome practitioners have imagined.

To purſue this intention more perfectly, it will be neceſſary to take a comprehenſive view of the uſual modes of treatment recommended, together with the internal remedies on which ſurgeons have at different periods principally relied. And here a large field for diſputation would open, if notice were taken of every thing that has been in vogue, or has had ſome warm advocates even from the preſs. But I ſhall only glance at ſuch things as have not been generally adopted, and ſhall chiefly confine my obſervations to thoſe in great credit amongſt ſurgeons of reputation, who the author of this little eſſay wiſhes may peruſe it with the ſame degree of candor, that he has meant to exerciſe of modeſty and reſpect, in the liberty he has taken in differing from them in opinion. He cheerfully acknowledges the ſuperior abilities of many of thoſe who may be his readers, as well as their more extenſive experience in the general practice of ſurgery—he thinks, however, he has ſome improvements to offer on the article of ulcers, though there are ſo many others, in which he ſhould think it ſufficiently honorable to ſay, *I præ, ſequar, ſi non paſſibus æquis.*

It

It may be proper to begin with the internal remedies, as they will require but few obſervations, and will ſerve to unfold the nature of the plan propoſed in the following pages. Amongſt remedies of this claſs, the CICUTA, SOLANUM, and NITRE were once in great repute with ſome practitioners. Of the former, which has been tried in ſo many complaints, little more need be ſaid in this day, than that it hath failed of that general ſucceſs we were once made to expect, in any of thoſe for which it was at firſt ſo highly recommended; though it is well known there are others, in which it frequently proves a moſt valuable remedy. In the hands of judicious phyſicians, and particularly thoſe great ornaments to the profeſſion, *Dr. Warren*, and the late *Dr. Fothergill*, many ſevere anomalous complaints have been immediately relieved by it, after having withſtood every rational mean that could be thought of *—The cicuta, however, is no ſpecific for

* Of this the writer of theſe pages was, perhaps, one of the moſt fortunate inſtances, when under the care of Dr. WARREN for a moſt ſevere and painful affection of the face. The cicuta alſo proved equally ſucceſsful in regard to *Mrs. Underwood*, when afflicted for a long time, with violent pain in the ſtomach, and for which *Dr. Warren* had previouſly directed cordials, bitters and opium, without any laſting advantage.—The author hopes he ſhall not offend that eminent practitioner, by taking this opportunity of publicly acknowledging, the very great obligations he has been long under to his friendſhip and ſervices; and as, by no means, the leaſt of them, that he has been, more than once, the kind inſtrument

ſore legs, and though it may have its uſe as an anodyne, in a few caſes hereafter to be mentioned, it will be ſufficient to obſerve here, that it hath, perhaps, done leſs for theſe than for any ulcers, for which it has been at different times recommended.

The SOLANUM, I believe, has been long exploded, as a remedy not at all to be depended upon, and would not have been mentioned here, if great things had not once been ſaid of it. It appears, however, to have had its uſe in ſome caſes, which I was witneſs to many years ago, when houſe-ſurgeon to *St. George*'s hoſpital, but it is certainly much too powerful and uncertain a remedy for general uſe, and no rule has been found whereby a judgment might be formed of the probability of its ſucceeding, unleſs it may be ſaid in caſes attended with great pain; and herein it is not only far leſs certain than opium, but much inferior to the cicuta. It may, however, be adminiſtered with ſafety for a few days, and will often produce a florid ſurface on an ill-conditioned ſore.

NITRE was a few years ago recommended in the cure of ulcers;* and having been long regardful of

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inſtrument of prolonging the valuable days of his neareſt relative, and choiceſt comfort in life. The cicuta hath likewiſe been ſometimes efficacious in diſeaſes of the moſt dangerous nature, and even in that opprobrium to the healing art, the cancer, when ſeated in the *uterus*. Of this, the writer may give the public a fuller account in ſome future work, if the remedy ſhould continue to be as ſucceſsful as he has in ſeveral inſtances lately experienced it.

* Dr. ROWLEY, *On Ulcers of the Legs*.

every

every thing that promiſed relief in theſe complaints, I was readily diſpoſed to attend to it. After a fair and repeated trial of it, I can venture to ſay only, that it is likely to be uſeful upon the lenient plan, as it certainly co-operates with the intention there purſued, of reſt, evacuations, &c. by its known quality of leſſening ſenſibility in the nerves of the ſtomach and the general ſyſtem, and thus making the fluids circulate more ſlowly: but it has been obſerved,* that the cure of ulcers, when accompliſhed by ſuch means, is ſeldom permanent. Beſides, the poſſibility of ſuch a medicine, in large doſes long continued, producing ſome unpleaſant effects in certain conſtitutions, may be conſidered as another objection to its general uſe. It is, indeed, a well known and powerful diuretic, but when taken in the large doſes preſcribed, its temporary good effects, I apprehend, are not ſo much to be attributed to this as to its ſedative powers. In more moderate doſes, however, it may be adminiſtered in thoſe caſes, wherein the above remedies are evidently called for, as will be noticed hereafter.

Before I proceed to inquire farther into the uſe of internal remedies, it may not be amiſs to glance likewiſe at ſome external modes of treatment not generally adopted, which might not, indeed, be thought worth mentioning, but that I wiſh to notice every thing that has been reputedly ſucceſsful.

One of theſe conſiſts of frictions, and though it may be accounted in ſome degree empirical, probably

* Vide the Introduction.

ſome good may have been done by it. And it ſo far coincides with the preſent plan, as it proves a ſtimulus, ſupplying the defect ariſing from the languid circulation in the extremities. It will thereby liberate the parts, and open the fine veſſels terminating on the ſkin;* but there is ſomething ſo painful (as I am told) in the operation, and ſo inelegant and inartificial in the mode, that no ſurgeon will probably ever adopt it.

There are other empirics who effectually cure ulcers of the legs without confinement, or regulation of diet, ſome of them with, and others without the uſe of tight bandage; one of theſe makes free uſe of the mercur. corroſiv. rub. and as it appears, with very good ſucceſs. But where no bandage has been applied, the ulcers are apt to break out again.

Another method among ſuch practitioners, is that of bathing the limb in aſtringent liquors, or applying aſtringent lotions or dreſſings. And indeed ſuch a practice in ſome caſes, with certain limitations and additions, ſeems more intitled to attention, than many other external applications; though it is capable of doing great miſchief in the hands of empirics. This method, however, as far as I have been able to trace it, does nothing without very tight bandage or reſt.

Beſides theſe methods, there are others which have been uſed in different parts of the kingdom, not

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* Defrictio poteſt ſolvere, ligare, incarnare, minuere; dura ligare: mollis ſolvere: multa minuere: moderata craſſefacere.

Hippoc. *Officin. Med.*

without

without ſome ſucceſs; but ſo much pains has been taken to conceal them, that their good effects are neceſſarily very limited. Amongſt theſe, the moſt remarkable that has come to my knowledge, is that long practiſed by a reſpectable gentleman not of the profeſſion; who died ſoon after the former edition of this work appeared. He, indeed, ever kept his remedies as ſecret as poſſible; but, it is to be hoped, his ſucceſſor in this branch of the healing art, may be prevailed upon to act with a liberality becoming the profeſſion.

I proceed now to take notice of ſuch internal remedies as have been in more general uſe, and are ſtill in great reputation with the beſt practitioners in ſurgery.

The firſt I ſhall mention is MERCURY.—This may, indeed, be uſed with great advantage in many caſes,* as a moſt powerful deobſtruent and ſtimulant. But when exhibited freely, ſo as to raiſe a ſalivation,† the caſe is entirely changed; it may, indeed, from the vaſt diſcharge it occaſions by the various ſecretions, in a few inſtances carry off ſomething that has been injurious to the habit, and may eſpecially keep it from the wound, and from counteracting the ſurgeon's deſigns; but it is very probable, it uſually acts far more powerfully by reducing the vis vitæ for the preſent, and thereby coincides with the intentions of reſt, diet, and purgatives, as will be farther ſhewn in the ſequel of this work. And every candid practitioner will allow, that of all the caſes of ſore

* See FALCK *on Mercury*. † See SHARP's Surgery.

legs

legs that return ſo frequently to the hoſpitals, the greateſt number is from thoſe who were cured under a courſe of mercury; nor is it even probable, that ſtrong and laborious men, whoſe ſores have been healed by the means of ſo debilitating a plan, ſhould continue long in a ſound ſtate, when they return to their uſual diet and exerciſe.

CALOMEL taken inwardly, and in ſmall doſes as an alterative, though it leſs powerfully promotes the ſecretions, acts nevertheleſs upon the ſame plan, and being, indeed, uſually joined with purgatives, cannot fail to effect juſt as much as other medicines of this claſs. It may have one advantage of them, however, by acting as a ſtimulus to the ſyſtem, and in common with other mercurials is likely to be ſerviceable where the habit may be tainted with lues venerea.

PERUVIAN BARK is directed in the cure of ulcers of the legs, as it is alſo of many other ſores, and is, doubtleſs, a very valuable drug. In the caſes before us, and perhaps in all others, it acts as a tonic, and as ſuch, often produces wonderful effects; neither phyſician nor ſurgeon would willingly practice without it: but in the preſent inſtance, it may be objected to, in many caſes, as a medicine to be very long continued, at leaſt, with the view in which it is ſometimes preſcribed. It is uſeful only where nature is languid, and her powers ſtand in need of aſſiſtance to bring an ulcer into a good ſtate; it may then, in general, be ſoon diſcontinued, as ſhould every other means uſed under the idea of expediting a cure. It may be doubted, indeed, if it ever acts as

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an aſtringent in this way, but if it does, it will be often injurious, as will be farther explained in its place.

After what has been ſaid, little need to be obſerved on the article of PURGING, unleſs it be to make an apology for ſo egregious a deviation from the general, and moſt antient practice ;* and this I am ready to do both on the preſent, and every other occaſion, when I ſhall be found differing from gentlemen who have made ſurgery their ſtudy and practice much longer, and to more advantage than I have pretended to.—But, *amicus Plato, amicus Socrates, ſed magis amica veritas.*—To yield to any authority, would here be criminal. Facts muſt, and will ſtand.—I have ſeen the practice of the moſt eminent of the profeſſion both here and in *Paris*, and have profited from it; but in this inſtance, at leaſt, general preſcription has failed, and every man knows how tedious is the cure, and how frequent the relapſe of ſore legs. Nature is compelled to dry up the ſurface of the ulcer, by the improper help of epulotics, reſt, abſtinence and phyſic, rather than encouraged to throw off by the ſore, whatever is offenſive, to fill up the ſurface with ſound fleſh, and gradually to abate the diſcharge, only in proportion as that ſurface diminiſhes.—This is the work of na-

* See HIPPOC. *Lib. de Humor.* TURNER, SHARP, and HEISTER on Ulcers of the Legs, the laſt of whom, more particularly, adviſes frequent purges to carry off the foul humours; forgetting that a continued recourſe to them, will carry off the good as well as the bad.

ture.

ture.—Νεσων φύσις ἰᾶτρος *—art ſhould do no more than aſſiſt her endeavours, or remove the obſtacles in her way.—But this is to anticipate the ſubſtance of the following ſheets; ſuffice it to ſay here, that whatever virtue the exhibition of purges may be judged to have in healing of ulcers, the frequent uſe of them certainly does not diſpoſe them to remain ſo; nay on the other hand, I venture to aſſert, that the long continued uſe of them is needleſs, and even prejudicial, in the cure itſelf, as is every other mean of lowering the ſtrength, and for the preſent impairing the general health of the patient.

Another mean in great repute, both with former and modern practitioners, is the uſe of ALTERATIVE MEDICINES.—What virtue ſome drugs may poſſibly be poſſeſſed of, it may not ſeem very modeſt to diſpute, but this I may venture to ſay, that ſome medicines have obtained very fine names, which it is well if they deſerve. That there are ſuch, as with very little or no ſenſible operation, may aſſiſt the vis medicatrix naturæ to make a ſalutary change in the ſyſtem, will not be doubted by men of experience; though there are certainly very few medicines that act ſpecifically on any diſeaſe, or induce any ſuch change in the blood, as the term ſeems deſigned to imply. There are caſes and conſtitutions, it is granted, that require medicines to aſſiſt the healing of wounds, but in ſpecific contagions excepted, we have little reaſon to think, there are any deſerving the

* HIPPOC. *Epidem. Lib. vi.* § 5.

name

name of alteratives, in ſuch a ſenſe, as to point them out as adapted to the ulcers now under conſideration, or that do any thing more towards the cure of them, than of any other wound. It will be ſufficient therefore, the general health be attended to, and ſuch medicines occaſionally directed, as are likely to promote it, (of which notice will preſently be taken); if it be otherwiſe, I have been hitherto fortunate in not having found the neceſſity of them, and the patient ſeldom cares how few he is troubled with.

The reader's attention is drawn next to the DIET to which ſuch patients ought to be confined; and here I muſt again expreſs my diſſent from the general opinion, which I would not do, without being thoroughly ſatisfied of the ſufficiency of the grounds upon which I advance ſo very an uncommon one. But it is apprehended to be a matter of very conſiderable importance.—The diet ought not to be ſlender, unuſually low, or limited, as is too frequently recommended,* but juſt that which the perſon ought to uſe in a good ſtate of health; lower than too many like to indulge in, and rather better than ſome people allow themſelves; paying due attention to cuſtom and habit, which, it is well known, are to a proverb become a ſecond nature. The ſafety and advantage of ſuch a diet will be parti-

* Modicus cibus et aqua omnibus ulceribus conducunt. HIPPOC. *De Ulceribus.* See alſo HEISTER, TURNER, and more modern writers on this ſubject.

cularized in another place, at preſent I ſhall confine myſelf to what is judged to be improper, and ſhall therefore briefly point out the diſadvantages of an error in this reſpect. A low, and very limited diet, by its effects in weakening the conſtitution, together with reſt and purging, tends to keep up that indiſpoſition to heal, conſtantly obſerved in theſe ſores; and thus conſpires with the weaker circulation in the parts, to prevent the formation of good and laudable pus, ſo neceſſary to the cleanſing and filling up of every old ulcer. Beſides, cures effected under ſuch a regimen are very unlikely to ſtand, and accordingly very rarely continue for any length of time. In many patients, and eſpecially the heedleſs, and often abandoned amongſt the poor, who ſoon return to their old and very different ſtyle of living, the yet tender cicatrice is unable to withſtand this new impetus of the fluids, the conſequence of which muſt be plain and obvious, without adverting to other conſiderations. Indeed, too applicable to this and other circumſtances of diſcipline, in the management of ſore legs, is that univerſal maxim, *omnis ſubita immutatio periculoſa*; for indeed nature is abhorrent from it.*—In ſhort, if the cure of very bad ulcers on the lower extremities is deſigned to be laſting, there muſt be a greater conformity in the non-naturals,

* Neque ex multa fame nimia ſatietas; neque ex nimia ſatietate fames idonea eſt.—Item, neque ex nimio labore ſubitum otium, neque ex nimio otio ſubitus labor, ſine gravi noxa eſt.

CELSUS, *Lib. i. cap.* 3.

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as they are called, both under, and after the cure, than ſeems to have been agreeable to the ſentiment, or practice of the generality of ſurgeons in any age.

The ſuppoſed importance and neceſſity of REST, and an horizontal poſition of the affected limb, has long been a *ſine qua non* in the cure of large and old ulcers on the legs, both amongſt the ancients and moderns,* and though it may ſeem bold, yet it is the leading deſign of this publication to attempt to ſet it aſide, at leaſt, to propoſe a method of cure without it, better, more rational, and laſting. And here it will, doubtleſs, be ſuppoſed, that every idea of neceſſity, or peculiar indication is excluded, ſuch as fever, local inflammation, &c. which certainly demand a temporary confinement; and that the objection is limited to the ſimple idea of reſt of the part, in order to facilitate, or perfect the cure. Whereas, the frequency, I had almoſt ſaid conſtancy, with which large and old ulcers on the legs are found to

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* Stare autem ulceri minime conducit, præſertim ſi quis in crure ulcus habeat; imo neque ſedere, neque ambulare. Verum otium et quies maxime conferunt. HIPPOC. *De Ulceribus.*

See alſo *Traitè des Tumeurs et des Ulceres. Paris*, 1759.

"I injoin reſt, with a due poſition of the limb, if not in bed or upon a couch, lying along at leaſt upon ſome chair or ſtool, near a level with the trunk of the body." TURNER.

"Above all things reſt, and an horizontal poſition; which laſt circumſtance is of ſo great importance to the cure of ulcers on the legs, that unleſs the patient will conform to it ſtrictly, the ſkill of the ſurgeon will often avail nothing." SHARP'S Surgery. *(Introduction)* p. 38.

return

return, is greatly owing to their having been healed in an horizontal poſition of the limb.

HAVING now conſidered many, and perhaps the chief of the internal means in general uſe, together with the poſition of the affected part, and the diet of the patient, I ſhall proceed to make ſome obſervations on the ordinary topical applications, the more immediate province of ſurgery.

And the firſt thing that demands a particular notice, is the long continued uſe of *Fomentations* and *Poultices*, which, however they may invigorate and warm at the inſtant, tend greatly to relax the open mouths of the fine veſſels, to deſtroy the tone of the muſcular fibres, and induce a flabbineſs of the ſkin over the whole limb;* thus laying an additional foundation for ulcers, healed in this way, to break out again. The uſe of them likewiſe generally obliges the patient not only to reſt, but to keep in his bed,† that the limb may be preſerved conſtantly warm; for where this is not attended to, little good can reaſonably be expected, ſince a common poultice, ſoon becoming cold, is likely, in many caſes, to produce more harm than advantage. What has been ſaid, it ſhould be obſerved, relates to their long continued uſe; an occaſional recourſe to them, eſpecially in the commencement of the cure, and in ſome inſtances hereafter to be ſpecified, may be ſometimes, though not very frequently neceſſary.

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* See BELL. *Part ii.* §. 2. † *Id.*

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Without examining particularly the great variety of *Dreſſings* that have been in common uſe, it will be ſufficient in this place to ſay, that mere greaſy applications without ſome warm and ſtimulating addition, however proper and uſeful in ſimple ulcers on other parts of the body, are liable to the ſame objections, and therefore not adapted to old ſores on the legs. For though, like the former, they may ſometimes, with the aſſiſtance of reſt and epulotics, bring the ſkin over the ſurface, they are ſure to leave the diſeaſe at the bottom.

After having thus ſtated ſome principal objections againſt the ordinary practice, I am happy that experience warrants me in propoſing a plan of cure more certain and agreeable, as well as more durable than any hitherto deſcribed. Indeed, the ſucceſs has been abundantly greater than was at firſt expected, and its ſimplicity cannot fail of recommending it in preference to any other, if it were poſſeſſed of only equal advantages. But to ſave the trouble and pain of confinement and ſtrict regimen, almoſt without the uſe of internal remedies, which in general are not very much reliſhed by patients of any claſs, is ſurely an object highly worthy of attention; ſo that very little need be added, if the rationality and ſafety of the method can be made equally clear with its certainty and eaſe.

In the treatment of ulcers, two things are principally aimed at, by whatever means we may deſign their accompliſhment; firſt, to bring the ſore into a good condition with reſpect to its appearance,

its diſcharge, and the ſenſations of the patient; and then ſecondly, to induce its ſurface to dry up, or form a cicatrice. In order to theſe, in the cure of every deep ulcer, it is neceſſary that its bottom ſhould throw up healthy granulations, and come up near, or quite to the level of the ſurrounding ſkin, unleſs the ulcer has been attended with great loſs of ſubſtance, or caries of the bone; but ſuch incarnation is here included in the firſt idea, as it uſually takes place at the time, or very ſoon after the ſore puts on a healthy appearance. To theſe intentions a third may be added, which enters peculiarly into this plan, which is to heal them by ſuch means as ſhall be moſt likely to prevent a return of the complaint.

An ulcer is here ſuppoſed to be unattended with much topical inflammation, or uncommon pain, and without any febrile diatheſis in the habit. Here the principal intention is to procure, and keep up a copious diſcharge, without any apprehenſion, in general, about the time it may continue, or the effects it may produce; the former will not continue long after the ulcer is become clean, the latter, (it will be ſhewn) may be regarded as the very object in purſuit; at leaſt, the ſame means that have produced and kept up a copious diſcharge, will cleanſe the foul ſurface, liberate the veſſels in the part, and occaſion a good appearance of the ſore, much ſooner than any thing elſe, and can therefore produce no manner of bad conſequence.*

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* "I ſhould be unjuſt if I did not remark, that when theſe terrible ſcorbutic ulcers are cured by this method (a ſuppurative poultice)

The means of accompliſhing theſe intentions may be ranked under four general heads, External Applications, Bandage, Exerciſe, Diet and Medicines. Of the firſt it would be difficult to make any exact, or regular arrangement; but it may be ſaid in general, that they conſiſt of digeſtives, deterſives, eſcharotics, and a certain kind of aſtringents.

In order to ſtate the advantages which it has been ſaid may be expected from this plan, it will be neceſſary to examine the ſeveral articles juſt now enumerated, and to obviate the objections that may ariſe in the minds even of eminent practitioners, againſt ſo free a uſe of the remedies propoſed; eſpecially as ſo much is expected from them, as to occaſion the diſcarding ſo many other means which cuſtom has ſtamped with an almoſt ſacred authority.

The Digeſtive in moſt caſes cannot be too ſtrong, if not productive of that kind of irritation, which may provoke inflammation in the neighbouring parts; nor is that much to be apprehended, for it is remark-

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tice) you may perceive during the cure, the patients countenances, which were generally of a ſquallid hue before, to be clearing up daily by the diſcharge from the ſore, till they come to a perfectly healthy appearance. And this being done without any internal medicines, I lay it down for a maxim in all caſes, that it is better for the patient to diſcharge any peccant matter externally from the part, which nature laid it on, than to retract it into the blood, by bleeding, purges, or other evacuations; for by this means, the matter is often tranſlated to the lungs, or other noble part: for it is a well known maxim, that *ab extra intus redire, malum eſt.*" FREKE's *Art of Healing.*

able, that very irritating applications to theſe ulcers ſcarce ever induce it, eſpecially, (however incredible it may appear) where exerciſe is freely allowed; which by its tendency to promote the diſcharge, ſo far counteracts inflammation.

The preciſe form of ſuch digeſtives, it would be thought trifling to inſiſt upon, as the Pharmacopœiæ of *London* and *Edinburgh* for the moſt part contain them, or ſuch as are very ſimilar to them;* though both pharmacopœiæ are deficient in regard to a ſuitable digeſtive for tendinous parts. In other reſpects, however, ſome one of the more active among theſe preſcribed formulæ, will in a very few days produce a fine ſurface on an old, and very painful ſore, and with the aſſiſtance of exerciſe, a good diet, and proper roller, will in a variety of caſes, and without any other means, effect a ſpeedy and laſting cure; though the patient ſhould have been ſubject to ſore legs for a number of years, and never eaſy a month together, after having been repeatedly healed in the ordinary way.

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* It may be uſeful, however, juſt to ſay, that the Unguent. Baſil. nigr. of the *London* Pharmacop. as a digeſtive for ulcers on the legs, is as much preferable to the Baſil. flav. as that would be to the Ung. album. And I mention this, and have alſo, in the preſent edition, taken notice of other applications I have found uſeful, in conſequence of being informed, that gentlemen who have adopted the plan, and with very good ſucceſs, have been at great pains in making experiments in regard to topicals, before they could be ſatisfied what might beſt correſpond with the hints I had formerly given.

I can

I can foreſee no formal objection to be made againſt any of theſe digeſtive, or deterſive ointments. Such made of the warmer gums, balſams and oils, have always been in uſe among ſurgeons; and if I have intimated, as I mean to do, that they cannot be too powerful (if calculated to promote digeſtion, and induce firm and florid granulations), and that they ought to be longer continued than is commonly done, it is on account of the more inert ſtate, and weaker circulation obſerved in theſe parts, and their diſpoſition to break out again into a ſore, if precipitately healed. It is to prevent this, that the diſcharge is directed to be kept up as long as nature ſhall be diſpoſed to it, inſtead of having early recourſe to drying, or healing applications, as they are called, in order to haſten the cure; and for which, in the greateſt number of caſes, there will be found little occaſion on this plan.

But to paſs on to things more liable to objection, ſuch as very ſtimulating, and corroſive applications. Here, I wiſh firſt of all to obviate in part the force of a principal objection, that they occaſion pain, (which, however, they often remove,)* by obſerving, that ſuch applications are to be uſed only now and then; and I can aſſert, that although they are to be applied in conſiderable quantity, they will not excite half ſo much pain as might be apprehended; as

* See WISEMAN, *On Ulcers with Pain. Chap. iv. Obſerv. 2. Book. ii.*

they are uſed chiefly to ſores in a certain ſtate, which will very well endure them, and are rendered very tolerable at the worſt, by means of that exerciſe ſo continually inculcated. For I am conſtantly told by patients to whom they have been the moſt freely uſed, that walking always mitigates the pain, which accordingly is ſevereſt in bed, at whatever time of the day they have been applied. Nor ought I to omit aſſerting, that filling a ſore with mercur. corroſ. ruber, affords very little more pain, than moderately ſprinkling it on the part; beſides which, we are to conſider that one dreſſing in this manner frequently ſuperſedes the neceſſity of many repetitions of it, in a more moderate way.

Another objection may ariſe from the ſtimulus, ſuch applications will occaſion, endangering inflammation, and rendering an ill-conditioned ſore ſtill more obſtinate, by producing a ſharp and ichorous diſcharge more abundantly corroſive. This is certainly true in a few caſes, of which I ſhall ſpeak in their proper place, but in a general way, facts prove directly the contrary; ſores on the legs require a ſtimulus,* and it has been ſaid, are not eaſily provoked to inflammation. I have applied the red precipitate to ſores exquiſitely tender and painful, diſcharging nothing but a thin ichor, which has covered the ſurrounding ſkin with heated pimples, and

* WISEMAN obſerves, that "applications to theſe ulcers ought to have a temperate heat; and whatever objections" (ſays he) "may be made againſt even cauſtic applications, where milder ones take no place, we proceed to the ſtronger."

ſmall

ſmall ulcers, and that after trying lenient applications to no purpoſe; the precipitate has immediately changed the appearance and diſcharge of the ſores, the ſurrounding ſkin has loſt its unpleaſant aſpect, the pain has been removed, and the ulcer, when ſmall, been nearly filled up in a few days.

Beſides objections taken from the pain, and other effects of ſuch evident ſtimuli, it may be farther remarked againſt the quantity and manner, in which ſuch applications are uſed, as well as the intention itſelf, that large ſurfaces, being thus repeatedly and rudely deſtroyed, and even deep ſloughs produced in ſome of them, is a very inelegant mode of dreſſing an ulcer, and has more appearance of the farrier, than the ſurgeon. I ſhall not on this occaſion ſtay to compare it with the actual cautery, very frequently in the hands of the former, and not altogether laid aſide by the latter, but reſting ſatisfied with the evident advantages ariſing from the means recommended, muſt urge the neceſſity of maintaing, in many caſes, a new ſurface; without which, though the ulcer may ſometimes heal up, under ſtrict regimen and reſt, it will moſt probably break out again when the patient returns to his uſual diet and exerciſe.

Beſide the arguments that have been offered in defence of ſuch applications as create a more than ordinary irritation, or ſeem diſpoſed to increaſe pain in the ulcer, there are not wanting obvious facts to ſupport them; it being univerſally acknowledged there are many caſes, even where a kind of ſpurious in-

ſlammation* attends, in which they prove more ſpeedily uſeful than any other applications. I might particularly inſtance the ſmall ulcers on the gums, and inſide of the lips, ſaid to ariſe from an affection of the ſtomach, which are generally cured in a few days, by a little burnt allum, a ſlight touch with the lunar cauſtic, or a drop of ſpirit of ſea-ſalt. Whereas, holding warm milk, or any other lenitive, for a much longer time in the mouth, and frequently repeated, though ſoft and pleaſant to their tender ſurface, offended even with the ſtroke of the tongue, would have little or no tendency to heal them. So alſo the true ſcurvy on theſe parts, will bear, by degrees, the undiluted ſpirit of ſalt,† and is cured by it, when bland applications would increaſe the complaint. It is alſo well known, that ſome ſmall ulcers upon other parts of the body, (and even affections of the eye-lids) which are apt to furniſh

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* I have made uſe of this term from a conviction, that there are frequent appearances of inflammation, as to colour and heat, where the action of the parts affected is very diſſimular to that always met with in true inflammation. Of this ſpurious kind may be ranked Eryſipelas, the treatment of which, it is well known, ought to be materially different from that of the true phlegmon—But the ſubject is not proper for farther diſcuſſion in this place, and would lead me too far; though it may be neceſſary the reader ſhould keep the diſtinction in view, in regard to various paſſages, as well as the practice frequently inculcated, in the following pages.

† See VAN SWIETEN's *Comment. on* BOERHAAVE, and LIND, *On the Scurvy*.

an almoſt cauſtic diſcharge, and are therefore intolerably painful, and difficult of cure under lenient applications, are frequently dried up in a very ſhort time, by a few ſlight touches of the lunar cauſtic; which by deſtroying ſome little inflamed gland, removes the ſource of the evil at once.

In regard to the bracing, or aſtringent applications I have mentioned, the propriety of them will appear beſt in their proper place. It will only be neceſſary at preſent to remark, that theſe aſtringents are different from thoſe in common uſe, both becauſe they do not leave a dryneſs on the ſkin, and becauſe they are of a very deterſive nature; neither are they made of ſuch a ſtrength as to ſuppreſs the diſcharge, but rather to brace the ſurface of ſome particular ulcers: beſides, the uſe of them is not conſtant, and is ſeldom long continued.

I come next to the ſubject of Bandage.—It may be an empirical, but is no bad argument, when the integrity and common ſenſe of the ſpeaker are not ſuſpected, to ſay, that facts are ſtronger than reaſoning; they are ſtubborn things even to a proverb, and they ſpeak in favour of very tight bandage. I have applied it to the corpulent, heavy and inactive, to the young of an inflammatory habit, to the aged, to the pale and leucophlegmatic, nor have ever repented the uſe of it when accompanied with exerciſe; which every one will ſee, has ſome tendency to counteract the poſſible ill effects of ſuch applications to the extremities. It is true, we have known tight rolling and the laced-ſtocking prove hurtful to ſome people,

people, when applied to large, hard ſwellings of the leg with varicoſe veins, and have been repeatedly followed by ſuch complaints of the ſtomach, as have made it neceſſary to lay them aſide, though the limb has been greatly benefited by their uſe. But this diſadvantage does not always take place even in theſe caſes, and the objection is greatly, if not totally removed, as I have had the cleareſt proofs, when there is a ſore on the leg; the diſcharge from which, cannot but tend to obviate all the apprehended ill-conſequences:* and whilſt that is, on this plan, encouraged

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* See WISEMAN's Surgery, *Book ii. Chap.* 4. *Obſerv.* 1.

Although for very obvious reaſons, † I have been unwilling to adduce any caſes of my own, in ſupport of my opinion, yet I am inclined to think the following is ſo fully in point, in regard to the difference made by the preſence of a ſore, where tight bandage is uſed in diſeaſed and diſordered limbs, as well as reſpecting the ſafety of healing up ſome ulcers in very ſuſpicious habits of body, that I have been prevailed upon, in this inſtance, to wave my prejudices againſt introducing caſes on diſputable points. To avoid breaking in upon the ſubject, however, I have thrown it into a note, that the reader may paſs it over if he pleaſes.—A young woman, whoſe mother had been afflicted with a painful tumor and hardneſs of the leg, a ſcirrhus in the breaſt, and afterwards died of a cancer in her mouth; had herſelf a ſimilar complaint of the leg from the age of eight years. On the firſt appearance of the menſes, this became more painful and enlarged, and ſoon after, confined her for ſome time to her bed; it was then fomented and poulticed, and ſhe was let blood and purged, which took off the inflammation, but the hardneſs

† Aut famam ſequere, aut ſibi convenientia finge,
Scriptor— HORACE, *de Arte Poetica.*

raged by digeſtives and exerciſe, it will abate only in proportion as the ulcer diminiſhes in ſize; which, as will be ſhewn preſently, is permitted, rather than compelled to dry up.

Beſides

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hardneſs and tumour remained as before. A linen roller, and afterwards a laced-ſtocking were applied, which kept it eaſy for three or four weeks, but her ſtomach being affected, ſhe was obliged to lay them aſide. In a ſhort time, the leg became painful again, but did not inflame for ſome years; when ſhe was again confined, and treated as before, but never got rid of the hardneſs and ſwelling, nor was ever long together perfectly free from the pain.—She was always eaſier after the flow of the menſes, and in moſt pain about the return of that period.

At the age of two and twenty ſhe married, and ſoon becoming pregnant, her ſtomach was much indiſpoſed, and ſhe ſuffered in that way for ſeveral weeks. During this time, her leg became abundantly better, the hardneſs and tumor abated, and ſhe could bear to preſs, and beat it with her hand, in a way ſhe had never before dared to attempt. About the end of the fourth month of geſtation, her ſtomach complaints conſiderably abated, aud her leg became inſtantly painful; and in two days was very hard and enlarged, was conſiderably inflamed, and had a little oozing from under the ſkin. At this time I was conſulted, and was informed that her ſituation in life would not allow her to reſt, or keep the leg long together in a horizontal poſition.

Upon conſidering the whole of her caſe, it appeared very prudent to prevent complete ulceration, but (as ſhe could not keep the part ſupported) I was fearful I could not prevent it; though had her habit of body been different, I ſhould have had no fears about treating the ſore like other inflamed ulcers on the leg, whenever the ſkin ſhould compleatly give way. I therefore did what I could to prevent the farther cracking of the ſkin; but without abſolute reſt, this was ſcarcely to be expected, nor is it certain,

even

Beſides theſe things, the kind of roller is to be conſidered, which ought to be made of the thinneſt *Welch* flannel, not thicker than coarſe linen, with advantages no linen can have; it not only being ſofter, fitting eaſier,

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even that could have prevented it. It accordingly gradually became ſore, and was painful to the higheſt degree, ſo that ſhe often ſat ſcreaming out aloud for hours together, unable to put her foot to the ground, though the ~~foot~~ ſore was dreſſed only with ceratum alb. or a ſaturnine cerate, and ſometimes with different kinds of poultices; and ſhe kept the limb as quiet as her ſituation would allow of.

Not knowing what to do better, I determined to try my own method, being ſatisfied that tumid legs will often bear rolling when affected with ulcers, though they would never endure it before. I dreſſed it with a powerful digeſtive, and rolled it up moderately tight, though it was ſwelled to a greater ſize than any leg I ever ſaw; notwithſtanding it had, for ſome time, been reſted great part of the day on a chair. It had broken into a ſmall, foul ſore, of an irregular ſhape, without the leaſt appearance of red fleſh, and the ſkin was diſcoloured half round the leg, which was exceedingly varicoſe; it diſcharged a ſcalding ichor, that deſtroyed the ſkin wherever it ran, increaſing the ſize of the ſore, and was getting daily more painful.

Having dreſſed it as above-mentioned, ſhe was now permitted and encouraged to walk, and became eaſier from the hour the roller was applied, which continued to agree perfectly well. The leg remained pretty eaſy throughout the cure, except for ſome time after it was dreſſed, when ſharper applications had been uſed, but continued to ſpread till the ulcer became clean, and a copious diſcharge was produced; which did not exceed ſeven or eight days at the moſt. After this, it was no longer painful, diſcharged laudable pus, and in about a fortnight's time, began to heal very kindly, and continued to do ſo till it was perfectly well.

Like

eaſier, and making no plaits on the ſkin, but is elaſtic to a very conſiderable degree. This is greatly increaſed by its being torn acroſs, and ſewed together ſelvage-wiſe, (the hard ſelvage-thread being firſt cut off) whereby

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Like many other ulcers, when the patient is permitted to walk, it was always moſt painful in the night, for which reaſon, ſhe was obliged to take occaſionally half a grain, or a grain of extractum thebaicum at going to reſt; which was ſufficient to quiet the pain, and ſeemed to produce a very good effect on the ſore. At the time this was the moſt painful, ſhe was not only permitted, but compelled to walk out, and always came home eaſier, though ſhe often walked farther than ſhe had been able to do at a time for a number of years; yet the leg never ſwelled, but evidently grew ſofter by the exerciſe. In this caſe, as well as in a variety of others I may afterwards ſpecify, the application of precipitate, though it ſometimes gave great pain for an hour or two, proved an occaſion of ſpeedier eaſe on the whole, as it deſtroyed the foul ſurface, produced a laudable diſcharge, and brought the ſore into a deſirable ſtate much ſooner than it could otherwiſe have been. When this application was made uſe of, the ulcer diſcharged a cauſtic ſanies, that corroded wherever it ran, and the ſurface was ſo ſenſible, that the patient could not endure the ſlighteſt touch of an armed probe, to wipe off the matter. It was only a few weeks in getting well, the hardneſs and tumor of the limb ſubſiding as ſoon as a copious ſuppuration took place; and before the ulcer was healed, the leg was, I believe, quite as ſmall as the other, and has continued ſo ever ſince, though there was no remarkable return of the ſickneſs, and ſhe has now lain-in above a twelve-month. Neither did geſtation afford any impediment to the cure, nor have I in all the caſes I have met with, ever taken notice of ſuch an effect, though ſome gentlemen of character have,

and

whereby the roller is made to yield to every motion, and varying ſhape of the limb, and admits of, and aſſiſts the patient ſo much in walking, that I have known perſons with ſuch painful ſores as prevented their ſtanding upright, find immediate relief in this reſpect, and be able to walk with comfort, from the firſt hour they were put on. To this fact numbers can teſtify, and it is from experience I can ſay, it will be found ~~or~~ the ſmall improvement in rollers for the legs, that flannel is ſubſtituted for linen, and that they are made up in the manner here recommended. I ſhould neither ſpeak with ſuch confidence, nor enlarge as I have done about trifles, having ſeen enough to prevent my depending on a few fortunate caſes, or venturing to publiſh my thoughts to the world, as containing any improvement, if not ſufficiently ſupported by facts, or if there were any room left to doubt, upon what ſuch favourable events had turned—Perhaps theſe, and other advantages † of this bandage, may be explained on the following principles.

I. The moving ſoft parts are not only kept warm, but receive a conſiderable and conſtant ſupport, and

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and much has been obſerved by authors on this head.—" *Impregnantibus ulcerum curatio difficilis, propter retentionem ſuperfluitatum earum, propterea quod ipſarum menſtrua retinentur.*"

AVICENNA, *de Ulceribus, Lib. iv.*

This perſon has ſince the former edition of this tract lain-in a ſecond time, and has enjoyed good health, the leg alſo continuing perfectly well.

† See page 77. *Note.*

their

their action is rendered more general and regular: we may even ſuppoſe that ſome part of the effects of action, is transferred upon the bandage, or its operation ſo modulated, that it is not wholly exerted on the ſkin.

II. The blood and lymph are determined to a more equable circulation.

III. The growth of fungus is conſiderably reſtrained, and callous edges are prevented, or removed.

IV. The ſurrounding ſkin is brought forward on the ſore, and the ſeveral parts are brought into contact; and conſequently, a lodgment of matter is leſs likely to take place.

V. Compreſſion warms, ſuſtains, ſtrengthens; and by repelling from the adjacent tumid parts, derives from the ſyſtem greater powers of healing, to the ſeat of the ulcer.

VI. The compreſſion diſpoſes the ſore to heal more ſmoothly; and theſe advantages which are very conſiderable, are increaſed, as hinted before, by the free uſe of the limb.

I have ſaid ſo much on this head, becauſe this, as a general practice, is ſo much out of faſhion, though once in great eſteem with eminent ſurgeons, and particularly *Wiſeman*, whoſe contrivance the laced-ſtocking ſeems to have been. The antients, indeed, made uſe of rollers much oftener than we do, and apparently to conſiderable advantage, but they ſpeak of them only as retentive bandages, or for bringing divided parts into contact, and to aſſiſt

the more ſpeedy cloſing up of deep ulcers after a proper digeſtion; or at the moſt, as expulſive, to prevent fluxion to a part; but their bandages were but ill-calculated to anſwer the end, and were never applied ſo tight as *Wiſeman* recommended, nor with particular reference to the legs. *Wiſeman* himſelf, however, does not appear to have underſtood all the advantages he received from the uſe of his laced-ſtocking, as he ſeems apprehenſive that the cure of ulcers on the legs obtained by this means, were leſs likely to ſtand, than thoſe effected without it. He appears, therefore, frequently to have recommended the ſtocking and rollers on the ſame principle with reſt, and an horizontal poſition of the limb, to prevent what is termed a deſcent of humours to the ſore, and the œdematous ſwelling that often accompanies theſe ulcers. But his reaſoning was certainly not ſo good as his practice, and had his bandage effected nothing beyond his intentions, his ſucceſs had been much leſs than it was. The roller has many other uſes beſides counteracting the diſpoſition to œdema, (to which the lower extremities are peculiarly liable), and one that I muſt beg leave to notice in this place, ariſing from the manner in which the filling up of every deep ulcer is effected. To this end, there is not only a trifling elongation of the capillary veſſels in the wound, but the parts contiguous to the ulcer are found to waſte, or diminiſh conſiderably; inſomuch that *Meſſrs. Fabre* and *Louis*,* eminent

* *Memoires de l'Académie de Chirurgie, Vol. iv.*

ſurgeons

ſurgeons in *Paris*, attribute the whole of this proceſs to what they call *un affaiſement*, or a waſting away of the extremities of theſe capillary veſſels. This, indeed, is by no means the whole of the caſe,* though it is principally hereby, that the cicatrice in deep ulcers approaches the level of the ſurrounding parts, when ſuch wounds are perfectly healed; and this, (as hath been mentioned already) ought to be the caſe in newly healed ulcers; and when it is not, the cure in general is not very likely to ſtand.

As this is a circumſtance evident to every attentive practitioner, I cannot help obſerving, it is matter of ſome ſurprize, that rollers are not more frequently uſed than they are, and a greater compreſſion made by them, not only for ſores on the leg, but alſo on many other parts of the body; as it is probable they would not a little contribute to their cure.

There is only one inſtance, however, that I know of (common inciſed wounds excepted) in which this practice has been much attended to, which is that of the venereal buboe; though even in this, the practice has not been general. But Mr. *Bromfeild*, I know, has conſtantly had recourſe to it for that ill-conditioned ſore, which it is well known is frequently very troubleſome to heal, after the venereal virus has been deſtroyed. Such, however, after reſiſting a variety of

* That there is a power of extenſion or developement in the veſſels of a wounded part, is evident from the vaſt fungus that will ſhoot up in ſome ill-conditioned ſores, and in various excreſcences, which are furniſhed both with blood-veſſels and nerves.

dreſſings and alterative medicines, have been preſently healed upon the application of a very tight bandage; for which information, when I firſt began buſineſs, as well as many acts of kindneſs, I am indebted to that gentleman, to whom the public well knows its obligations in matters of greater importance.

Upon this head, I am much indebted to the ingenious author of a Treatiſe upon Ulcers before-mentioned, * whoſe reaſoning long ago perfectly ſatisfied me, as to the ſafety and advantages of tight bandage, and determined me boldly to puſh the experiment, till I ſhould find reaſon to change my opinion; which this publication is proof enough I have not done. But the laced-ſtocking ſo much recommended by *Wiſeman*, falls far ſhort of this double intention, and is every way inferior to the flannel roller, which lies much ſmoother, tighter, and makes a much more even, pleaſant, and ſteady compreſſion, than can be made by any other contrivance. † By this means, as it

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* BELL, *Part ii.* § 2. See alſo CLARE, *On Abſceſſes.*

† WISEMAN, indeed, almoſt every where prefers the laced-ſtocking to the roller, giving for a reaſon that the roller makes a leſs uniform preſſure, and even bruiſes the parts: but however this may be with a linen bandage, no laced-ſtocking can be ſo ſmooth, firm, or ſo pleaſant as a flannel roller. The great advantages of which are now ſo evident to me, that however neceſſary ſurgeons may think reſt to be in ſome very bad caſes, however attached to particular diet or dreſſings, or prejudiced againſt any part of this work; I would, entirely upon principle, importune them to add to

it has been ſaid, the growing fleſh in a healing wound, is eaſily kept within bounds, and that troubleſome luxuriance is prevented, of which a more moderate degree is always required; and for the want of which, it will be ſhewn, ſores on the lower extremities do not heal ſo readily as on moſt other parts of the body.

As ſo much is expected from rolling, it will readily be preſumed, ſome care is required in doing it, and, indeed, the application of bandage is no contemptible branch of the profeſſion; for though I do not mean to hint, that ſo much judgment or memory is requiſite for rolling up a leg, as in the application of bandage to many other parts, yet great attention is neceſſary. The roller muſt make a due preſſure on every part, or ſome ſinus may unexpectedly be formed; but of this there is not the leaſt danger, if it be applied with care, and the proper directions obſerved, though it be drawn ever ſo tight; neither will it leave ſo much riſing on the ſkin as a linen one, which alſo will give conſiderable pain if the patient be permitted to walk. The warmth likewiſe which the flannel communicates to the limb, eſpecially in

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to all theſe, the conſtant uſe of a flannel roller, and can aſſure them of far greater ſucceſs than they have ever had, in every ulcer of the lower extremities. Its advantages, however, are not confined to ſuch caſes, for I may venture to aſſert from farther experience of its utility, that a flannel roller is greatly preferable to a linen one, in almoſt every caſe where a roller is had recourſe to, and particularly after amputations; eſpecially in the improved method, as Mr. *Allanſon*'s may now juſtly be ſtyled.

cold weather, has long appeared to me a matter of very conſiderable advantage.*

The manner of applying it, it has been ſaid, requires nothing but care. Every one knows that tight bandage ſhould begin at ſome diſtance below, and be carried ſome way above the parts it is chiefly deſigned to compreſs; otherwiſe, the matter attempting to iſſue from the ulcer, being confined by the tight preſſure upon it, will force a paſſage wherever it finds a leſs reſiſtance, and thus convert a ſimple ulcer into a fiſtulous ſore.

But for ulcers on the legs, eſpecially where exerciſe is allowed, this rule ſhould be conſiderably extended, and the bandage (which ought to be about four inches wide) ſhould begin as far below, and be carried as much above the affected part as the limb will allow of. To this end, it ſhould commence at the extremity of the foot, where it ſhould be drawn very tight, (the end of the roller firſt croſſing the inſtep) and after being brought two or three times over the ancle, ſhould aſcend ſpirally (the edge of one turn of the roller being not more than about an inch from another) till it riſes to the calf of the leg. Here the ſtricture ought to be leſs, to permit a free action of the muſcles, and the turns therefore be ſomewhat more diſtant; in which manner it muſt be continued up to the knee: above this part it would be improper to carry it, though recommended by con-

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* See BELL, *On Ulcers. Part ii.* §. 2.

ſiderable

ſiderable authority, * and that for moſt obvious reaſons, where exerciſe is both permitted and injoined.

I have been thus particular on this head, from the great conſequence I know it to be of, and hope it will not on this account be imagined that I affect any particular art in the performance. Every ſurgeon well knows of how much conſequence it is, that rollers be properly adapted to the end for which they are deſigned, and how much trouble may ariſe from great compreſſion being made above or below the preciſe part, for which ſuch compreſſion was employed: all ſuch are capable of doing it well, if they will do it with care, which is the thing I mean to inculcate; as otherwiſe, the patient whoſe leg is rolled tight, will ſuffer great pain, and the ſurgeon be long diſappointed in the cure. However trifling theſe directions may appear, experience will prove them to be otherwiſe—A very moderate ſhare of knowledge of the firſt principles of ſcience, were ſufficient to guard me from inſiſting on trifles; upon which the art of healing will never depend. But as there are many young men always in *London*, who come profeſſedly to learn, and ſome of them with very little previous education in ſurgery, for ſuch at leaſt, more particular directions may not be wholly unneceſſary.

WITH regard to EXERCISE, it may poſſibly be ſaid, that this in a great variety of caſes, (even without the preſence of fever, or topical inflammation)

* *Medical Obſerv. and Inq. Vol. iv.*

cannot fail to produce, or increaſe pain, eſpecially where ſtimulating applications are uſed. And that in all caſes, (though no pain or inflammation ſhould follow) it muſt have a natural tendency to retard the cure, if not entirely to hinder it, both by diſturbing the tender granulations as they riſe on the ſore, and preventing that proceſs of nature by which they dry on the ſurface, and produce a cicatrice.

Of this ſome notice has been taken already, as far as pain is concerned, and it has been ſaid, that exerciſe frequently removes it. In other reſpects, though ſuch reaſoning may be very juſt, as it regards many wounds on other parts of the body, it has not a like application to old ſores on the legs; where a more than ordinary ſtimulus is required. The latter are never ſo expeditiouſly cured, as thoſe on ſuperior parts, in whatever way they are treated; but I am ſatisfied from a variety of facts, will in many inſtances heal ſooner with exerciſe than without it. It is acknowledged, that after the operation for the hare-lip, and every other ſimilar caſe, where parts are to be united by the firſt intention, they muſt not only be brought into contact, but be kept ſo for ſome time, in as quiet a ſtate as is poſſible, or they will ſeldom unite firmly. But how very different theſe caſes are, it can be ſcarcely neceſſary to point out, and I have mentioned them only for the better clearing our way to the preciſe point on which the argument turns. For though the lips of ſuch wounds will not grow together, whilſt they are kept conſtantly in motion, yet both lips will be covered with ſkin in a very

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few days, and in this ſenſe, a healing of the wound is produced; and it muſt be very great motion indeed to prevent it. Now this is the kind of healing in queſtion relative to ulcers on the legs, and if motion of the part affected is capable of preventing it, (where a proper bandage is conſtantly worn) * it muſt either be ſuch, and to a degree that would prevent, not the union, but the healing of the raw edges of the lip I have mentioned; and ſurely no common action of the lips will do this. Or ſecondly, it muſt be effected from the exerciſe ſo greatly increaſing the diſcharge, as to prevent that diſpoſition to dry up,

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* It may not be uſeleſs in this place, to make a few general obſervations on muſcular action, with a view to point out the ſource of ſome of thoſe particular advantages of tight bandage before noticed,† where exerciſe is uſed. In muſcular action, there is always an accurtation of the moving fibre, and a general enlargement of the muſcle. This increaſe of bulk is not equal, but is greater about the belly, than at the extremities of the muſcle.—Diſeaſe in a part may render this action liable to great irregularities—Faſcia, and annular ligaments, &c. prevent unequal contraction, and its manifeſt inconveniencies.—It is true, we don't find the muſcles acting in ſuch a way, as to preſs from within outwards, to a degree capable of forcing up the ſkin very conſiderably; but they can, nevertheleſs, pull upwards and downwards, with ſufficient force to derange a healing wound.—Now bandage effectually prevents irregular action, and will keep the ſkin from moving conſiderably when the muſcles act, as well as diminiſh the ſwell of thoſe that lie immediately under it.—Theſe are preciſely the points aimed at; and that bandage will anſwer theſe intentions, is very evident, both from reaſon and experience.

† See pages 62, 63.

which ought to take place in the extreme veſſels of the ſore, whereby it has been ſaid, the cicatrice is formed. And if the quantity of diſcharge be the objection, in regard to ulcers on the legs, it proves all I contend for; it is deſirable if it be good, and the want of it is, during the greateſt part of the cure, the grand obſtacle in our way to the healing of the ſore. * For thoſe on the leg, and eſpecially the moſt painful ones, either diſcharge very little, or abound only in a thin and excoriating ichor. Nor can either of them be changed for the better, but by ſuch means as ſhall reſtore the due tone of the veſſels of the part, ſo as to condenſe the looſe, or unfold the callous texture of the ſurface, and thereby open a way for the ſecretion of laudable pus, frequently the beſt dreſſing that can be applied to a ſore.

Now, exerciſe contributes to this, inaſmuch as it tends to promote a free and bold circulation of the blood, to open the ſmall veſſels, and reſtore a free paſſage in the ſyſtem of lymphatics, whereby it increaſes the ſtrength and vigor of the limb. On this account, the diſcharge can never do harm, nor the exerciſe that promotes it keep the ſore improperly open; for if the habit in general have nothing particularly amiſs in it, and the circumſtances of the part be ſuch as have been deſcribed, the diſcharge will gradually abate as the ulcer diminiſhes, and its ſur-

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* L'ulcere ſec, qui ne ſuppure pas, ne peut pas ſe deterger, or tout ulcere qui ne deterge pas, ne peut pas ſe guèrir.

Traitè des tumeurs et des Ulceres. Paris.

face

face will always dry up in a reaſonable time. Such exerciſe of the part is not, indeed, neceſſary to the healing of ſores on the upper extremeties; but the difference in the lower ones, and particularly the inferior parts of them, is greater than has been generally imagined, or has, at leaſt, had any influence upon practice. Nature, therefore, ever attentive to the good of the whole, and provident for every defect, has wiſely ſupplied the natural deficiency ariſing from their diſtance from the heart, in the beſt way it was poſſible; beſides, therefore, that ſhare of labor they have in common with other parts, it has not only impoſed upon theſe (as was hinted before) the weight of the whole body, but has deſtined them to be the inſtruments of ~~this~~ conveyance from one place to another.

But on this ſomething has already been ſaid, and I may have ſtill farther occaſion to inſiſt as I go on; ſuffice it to hint here, how greatly prejudicial it muſt be to general health for any perſon, accuſtomed to labor and exerciſe, to be confined for a length of time in an inactive ſtate, and the greateſt part of it, in an almoſt horizontal poſition.—Can it then be neceſſary in the cure of ulcers on the legs, to deprive the part affected of thoſe very advantages which nature deſigned for its preſervation in vigor? * Has it the moſt

* Uſus corroborat, otium autem colliquet. HIPPOC. *Med. Officin.*

This obſervation is univerſally allowed, and is remarkably evident

moſt remote tendency to perfect the cure; I mean, to make ſuch a cure as ſhall ſtand?—If not, certainly our art is materially defective, or we are faulty in the uſe of it; for is not a perfect cure much more likely to be effected, under ſuch exerciſe of the limb as ſhall afford the natural ſtimulus, if the certain evils attendant upon that exerciſe can be obviated?

It is granted, however, that exerciſe may in the caſe of ſome large ſores, to a certain degree, retard the healing of ulcerated legs, for the ſame reaſon that very great motion might be hurtful to ſores on other parts. But inſtead of being otherwiſe injurious (by occaſioning fluxion of noxious humours, and I know not what other evils ſaid to be peculiar to the lower extremities), it is really uſeful in every other reſpect if a proper bandage be applied, and is therefore advantageous upon the whole for every ulcer on the legs, as I hope hath been tolerably proved; and particularly, as it hath a direct tendency to prevent the ſore breaking out again.*

Many

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dent in the vaſt influence that great exerciſe of the extremities is obſerved to have in watermen and porters; the former of whom have uſually large ſtrong arms, and ſlender legs; and the latter thick muſcular legs, almoſt without exception, if they are in health.

* How far the continuance of a roller, which I underſtand a very reſpectable hoſpital ſurgeon adviſes to his patients, may prevent a return of the complaint, I have no right to attempt to decide,

Many, however, would be the diſadvantages of motion in ulcers of the legs, if they were covered only with a common poultice, or left merely to the dreſſings that are uſually applied to them; but upon the plan here recommended, they are conſtantly ſupported by a firm, ſoft, and yet elaſtic bandage or roller, which in very many caſes, as infallibly counteracts every poſſible inconvenience ariſing from motion, as the motion itſelf, thus ſupported, has a manifeſt advantage. And though ſome objections in turn might, with equal propriety, be made againſt the remedy itſelf, or the conſtant application of ſo tight a compreſſion as has been recommended, yet all ſuch objections, it has been remarked, are greatly obviated by the uſe of exerciſe.*—I am aware, that

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cide, ſince I have never injoined reſt, in any inſtance, ſince I knew how to effect the cure without it; though, indeed, an hoſpital is not the propereſt place to determine the point, as the patients are often never heard of after their diſcharge: we know, however, how very common it is, for large, or old ulcers, healed by means of reſt of the part, to break into much worſe ſores than before they were firſt healed.

* A free uſe of the limb has been ſo generally exploded amongſt regular practitioners, that it has been more neceſſary to inſiſt thus largely upon it; and this appears, not only from its general diſuſe, but alſo from ſuſpicions ariſing in the minds of ſenſible writers,† after men of ſuch experience and reputation as Mr. *Elſe* ſeem to have approved of it. ‡

† Bell, *On Ulcers.*—The following ſpecimen will ſhew how ſtrict an adherence to reſt, authors have required, "Il faut faire tenir

‡ *Medical Obſerv. and Inquiries, Vol. iv.*

that ſuch argument appears to manifeſt diſadvantage, and may be thought to be little more than a *circulus in circulo*; however, it is conſonant to various maxims that were never diſputed: for inſtance, as a very nouriſhing diet would prove hurtful, where proportionable exerciſe were neglected, and vice verſâ, hard labor without adequate nouriſhment, but taken together, contribute to the health of the ſubject; ſo clearly has experience proved to me, the ſalutary effects of tight bandage and exerciſe united, in regard to the ulcers in queſtion.

Notwithſtanding what has been here and elſewhere advanced on this ſubject, I have been ſomewhat ſurpriſed, ſince the firſt appearance of this tract, to find that ſo attentive and judicious a practitioner as *Mr. Bell*, ſhould in the laſt edition of this treatiſe upon ulcers, ſo ſtrongly inculcate the neceſſity both of lenient applications and reſt, in the cure of ulcers on the lower extremities; without offering one argument in ſupport of the latter, or attempting an anſwer to thoſe I had advanced. Having barely mentioned my opinions, he obſerves, (p. 203) that he has tried every method that has been publiſhed to the world, and has ſucceeded in all of them; but that he finds no cures ſo eaſily or ſpeedily obtained, nor any

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tenir la partie malade dans le plus grand repos; le moindre mouvement eſt capable d'y faire des teraillemens, qui augmentent la douleur et la ſuppuration, detruiſent les chairs tendres qui renaiſſent, et briſent les premiers linéamens de la cicatrice." *Traitè des Tumeurs et des Ulceres.*

that

that prove ſo *permanent*, as thoſe effected by mild dreſſings and reſt. Now, ſuch ſentiments, eſpecially the latter, appear to me very extraordinary indeed; but being only aſſertions, I may, with the ſtricteſt regard to truth, venture in return to aſſert, that beſides all that has been adduced as evidence, in a way of reaſon and argument, my own experience, and that of numbers of others, in hundreds of inſtances, *runs directly the contrary way*. And I venture farther to ſuggeſt, that if *Mr. Bell* will be at the pains of dreſſing his patients with his own hands, will roll up the legs conſtantly himſelf, and by the due uſe of active applications will procure a ſound ſurface to ulcers, he will meet with many that will be healed ſooner, numbers more certainly, and *all* more *permanently*, than by mild dreſſings and abſolute reſt. But if ſurgeons will make uſe only or chiefly of bland applications, which it is granted may ſometimes more ſpeedily induce *new* granulations, as *Mr. Bell* has aſſerted, but will never induce *ſound* ones in diſtempered parts, or on a foul ſurface, they muſt expect ſuch a cicatrice, however induced, in a ſhort time to give way. And I may juſt obſerve in this place, that I do not wonder *Mr. Bell* ſo ſtrongly inſiſts upon the neceſſity of inſerting an iſſue previous to the cure of every ulcer of long ſtanding,* though he conſiders them merely as local affections.—As iſſues are not likely however to do any harm, and are ſometimes uſeful, it were needleſs to urge many arguments

* Page 230.

againſt

againſt ſo general a ſentiment; nevertheleſs, iſſues being always troubleſome, and to many people very diſagreeable, it is but juſtice to ſay, I rarely propoſe them, and have not, in any view, experienced the bad conſequences of the neglect.

THE DIET recommended in this method, may be as exceptionable to ſome people as any thing that has been advanced; but ſuch are deſired ever to keep in view the whole of the plan, one part agreeing with, and aſſiſting the other, and all of them conſpiring to the grand end in view, which is to heal ſore legs in ſuch a way as ſhall tend to perfect a cure. And, indeed, were it not for the depending ſituation of theſe ſores, ſurgeons would ſcarcely have thought of the propriety of a ſparing, or low diet,* for ſo many months together, in the cure of them; nor yet of that frequent recourſe to purging, without which the healing up of old, or large ulcers is never attempted. For theſe ſores, it has been ſaid, are not uſually attended with inflammation, and where they are, it is ſeldom difficult to be removed. Indeed ulcers of this claſs, are more generally to be met with, in weak, relaxed conſtitutions, than amongſt ſtrong plethoric ſubjects of an inflammatory habit, and are in ſuch circumſtances more difficult to be cured.

But when a way is diſcovered to prevent the ill-effects of exerciſe, and the deſcent of humors, as it is

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* See BELL, *Part ii.* § 2. where the ingenious author declares himſelf of this opinion.

called,

called, there can be no objection, (an evident ſtate of general, or local inflammation excepted), to any diet that would be found proper for ſuch people at another time; and which moſt are ſure to indulge themſelves in, as ſoon as the ſurgeon has taken his leave.

The above ill-effects, it has been already obſerved, are obviated by a proper bandage, and I hope it has been made appear,* that the ſeat of this ulcer being on a depending part, is not the chief hindrance to a cure, but its being an extreme part of the body, in which the circulation is leſs vigorous, and the vires medicatrices naturæ, for theſe reaſons, more languid and ineffectual.

If theſe things are allowed, many advantages muſt ariſe from ſuch a diet,† as hath a direct tendency to ſupport the patient in full health, and to aſſiſt the powers of nature to create, and ſupport a diſcharge of laudable pus, the conſtant forerunner of a cure in every curable ulcer.

THE laſt article mentioned relates to MEDICINES, of which ſome notice has been taken already, but chiefly in a way of objection to ſome in general uſe; it will therefore be proper here to enlarge a little on the ſubject, wherein I hope not to forget the caution its importance requires. I know how eaſy, and how common a thing it is with ſome writers, in order to

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* See Introduction, p. 8—13.

† Perhaps ſalted meats, and ſpirits, are the chief things to be interdicted.

ſupport an opinion, to bear down their opponents on every occaſion, by declaring facts to be on their own ſide; which they often do not, and ſometimes, indeed, are not permitted, to produce. Such an argument, therefore, ſeldom comes with proper teſtimonials but from hoſpital practitioners, or muſt, at leaſt, expect to ſtand or fall, according to the ſhare of credit due to the writer. As far as that can go, however, in the preſent inſtance, I am encouraged to ſay, experience has led me to ſuſpect, that leſs is to be hoped for, and much leſs is required from medicines, than is generally ſuppoſed; ulcers on the legs being, in general, mere local complaints, not connected with any particular diſeaſe of the ſyſtem. It is poſſible, I may be ſomewhat ſingular in theſe opinions; whilſt others have produced their experience to prove, that ſore legs can only ſafely be cured by internal remedies. It is, however, by no means, my intention to aſſert, that medicines are never neceſſary for theſe, as well as other ſores; but that they are frequently preſcribed in a very indeterminate manner, and their effects are conſequently uncertain. But ſhould the patient labor under the true ſcurvy, or the ulcer follow the ſuppreſſion of ſome periodical, or critical diſcharge, or the diſappearance of a long continued eruption on the ſkin; theſe, beſide other more common complaints, ſuch as evident ſymptoms of a venereal infection, the preſence of fever, &c. will conſtantly call for the phyſician's aſſiſtance, who will be at no loſs to purſue a rational intention. In ſhort, whatever is obviouſly wrong in the habit is to be corrected,

but

but where there is no peculiar indication, I neither know how to preſcribe, nor to expect much benefit from medicines. If ſurgeons will reflect for a moment, they will perceive the import of this obſervation; let them conſider only what are the medicines uſually directed, which, perhaps, excepting only the bark and cathartics, are adminiſtered under the idea of alteratives, by which ſome people intend a claſs of medicines that will effect a certain change in the habit, without ſo much as an idea, what that change is to be. The patient has a ſore; it looks ill, that is, it is not deterged, or will not continue ſo; the matter diſcharged from it is bad; or the ulcer is not diſpoſed to heal up.—Let every thing be done in ſuch a caſe, that has a tendency to mend the appearance of the ſore upon rational principles, and which generally is done for ſores on other parts of the body. Let recourſe be had to ſuitable dreſſings; let the patient enjoy the air, moderate exerciſe,* and a proper diet; let a tight bandage be applied to brace and contract the ſore, to keep down the fungus, remove callous edges, and prove a tonic to the part. If theſe things fail, ſuch medicines ſhould be adminiſtered as will brace the ſyſtem, or correct its manifeſt defects—farther than this, I muſt ſay again, I have neither known their uſe, nor that frequent want of them which others complain of.†

* CELSUS. *Lib. vii. Cap.* 3.

† By a modern *French* writer on this ſubject, we are adviſed, before the healing up of old ulcers, to correct the vitiated blood, and

Not that troubling patients with uſeleſs medicines, and the little unneceſſary expence, of importance, indeed, to ſome people, are the principal objections on this head; but the great miſchief is, that in moſt caſes, the ſurgeon's thoughts being hereby led off to a wrong object, he is diverted from an attention to the true means of affording relief. Inſtead, therefore, of making the moſt of the particular habit of each individual, by proper topical applications and general remedies, he is contriving how he may remove ſome imaginary, or at the moſt, ſome unknown complaint, or to cure a manifeſt dyſcracy, for which he is not likely to find an adequate remedy. But ſhould the time come, when ſome real alterative, or peculiar tonic ſhall be diſcovered that may co-operate with the ſurgeon's deſigns, I ſhall be as ready as others to embrace it.

Wherever ulcers are connected with evident diſeaſe of the ſyſtem, it has been granted, the aſſiſtance

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and to purify it from the foreign leven with which it is infected. To this end he gives us ſix general indications.

" 1. Si le malade a la verole, le ſcorbut, ou les écrouelles. 2. Si " le ſang eſt chargé de bile. 3. Si le ſang eſt âcre et ſalé ſans " être chargé de bile. 4. Si le ſang péche par être trop épais, et " trop reſineux, 5. Si l'on juge que le ſang ſoit trop ſéreux. " 6. En générale, il faut, dans tous les cas, purger ſouvent le " malade, mais le purger doucement; lui donner tous les jours " une ou deux priſes de quinquina; et lui faire obſerver un regime " exact, tant pour la quantité, que pour la qualité de la nou- " riture."—If the reader can acquire any practical knowledge from the moſt of theſe indications, I muſt confeſs he has greatly the advantage of me.

of

of ſuitable medicines will be required; all that I mean to inſiſt upon is, that this is not generally the caſe. The true ſcorbutic ulcer, attended with ſpongy gums, and other marks of putreſcency of the fluids, does not very often occur in this Iſland, or at leaſt in the neighbourhood of the metropolis; and the ſcrophulous very ſeldom attacks the legs in form of ulcers. The venereal, indeed, more frequently occurs, or at leaſt, ulcers will partake of the poiſon, and I have ſeen alſo the cancerous, or ſomething very like it; but as there will ever be, in theſe caſes, ſomething characteriſtic to their cauſe, the ſurgeon can ſeldom or never miſtake them.

There are, indeed, many foul ulcers, which when of very long ſtanding, are frequently aſſiſted by medicine; but ſuch generally attack the poor, who have either injured the conſtitution by hard drinking, or on the contrary, have been in want of almoſt the neceſſaries of life. In ſuch caſes, the bark is a tonic, (which is ſometimes improved by the addition of ſal martis) is of wonderful efficacy, and ought in many caſes, to be given in much larger doſes than it uſually is; and in a few inſtances, for a conſiderable time.

There is another medicine, which from its popularity, ſeems to claim an attention, and perhaps has been of ſervice in ſome caſes, though I am not yet ſatisfied the ſores would not have got well without it. This is the corroſive ſublimate, which in very large, and old ſores, has, in compliance with cuſtom, been frequently adminiſtered with ſeeming ſucceſs. But it is often improper for labouring men, who are

much out of doors, and for obvious reaſons more eſpecially in winter. However, where theſe objections do not equally take place, every ſurgeon of experience will judge for himſelf, what advantages he may reaſonably expect from the uſe of it.

Beſides the cicuta, opium, and other internal remedies already hinted at, I ſhall here mention other three—a ſtrong decoction of the woods, lime-water, and emetics. The firſt will be of ſervice chiefly in caſes of obſtructed perſpiration, and cutaneous eruptions, or the ſudden diſappearance of them; the lime-water, in the eriſipelatous ſore, (hereafter to be noticed) eſpecially where a great part of the limb is infeſted with a ſcalding diſcharge, which takes off the ſkin wherever it runs. But we ſhall be diſappointed, if we depend on this, or any other internal means; at leaſt I have always found external applications much more effectual—Emetics, may ſometimes be uſeful in ſome cacochymic habits, or where there is a cold phleghm on the ſtomach; and previous to the exhibition of tonics.

HAVING now attempted, at leaſt, to anſwer ſome principal objections to the plan I have propoſed, and explained what may be expected from it, with the manner in which the effect is produced, it is high time to proceed to a more particular application of it.

In order to this, it will be neceſſary to make ſome Diſtinctions of ulcers, ſince the general indications cannot be alike applicable to all.* Perhaps this

* See Introd. p. 4, 5.

might

might have appeared, with much more propriety, in a former part of the work, but it ſeemed of importance to be fully underſtood as I went on, and to obviate, as they occurred, the difficulties of an attempt to introduce ſo conſiderable an innovation in practice. On this account, I have preferred this deſultory mode to a more conciſe and formal method; but ſhould I ſo far ſucceed, as to point out a practice which others can with ſafety adopt, and furniſh the ingenious with hints that may be depended upon, it is hoped, that ſome, or even many defects in other things will be overlooked.

THE numerous claſſes of ulcers, of which writers have treated in ſo many diſtinct chapters, ſeem more calculated to diſplay the ingenuity of authors, than to lead to any uſeful diſcrimination; and muſt therefore tend to perplex thoſe whom they ought to inſtruct. Such diſtinctions are taken chiefly from certain accidental appearances of the ſore, and the nature of the diſcharge; but are moſt of them ſo made as to have very little relation to practice, when applied to ulcers on the legs. Whether, indeed, ulcers are indolent or painful, fungous or callous, moiſt or dry, or diſcharge ichor, or ſanies, amounts to little more than that their ſurface is in an ill-conditioned ſtate, can make only an accidental, and no eſſential difference in the grand indications of cure: all ſuch circumſtances being mere ſymptoms, requiring only a temporary attention, and not characteriſtic of a difference in ſpecies.

The moſt eaſy and practical diviſion I have been

able to make, will be to conſider them under two heads only, which are calculated to illuſtrate the preceding obſervations, and correſpond with the more eſſential points of difference in the treatment they will require.

The firſt Claſs will include ulcers attended with great enlargement, or hardneſs of the limb; recent ulcers originating from an abſceſs, or any internal complaint; and every very old ulcer of a moderate ſize, eſpecially in habits accuſtomed to them.

The Second comprehends the true phagedenic ulcer; ſuperficial ulcers where the ſurrounding ſkin is excoriated by an exceſſive and acrid diſcharge; various large ones in very old people, or thoſe of a relaxed fibre and habit, and all *very* large ulcers with a pale and looſe ſurface, generally the conſequence of bad health, poverty, or neglect.

In ſpeaking of each of theſe, it will be neceſſary to make ſuch enlargements and ſubdiviſions, as may relate to practical uſe.

And firſt, it will be proper to obſerve, there are two general affections, or ſymptoms, every ulcer is liable to, which will require their particular treatment. Theſe are inflammation and pain; for each of which it will be neceſſary to lay down ſome general rules.

With reſpect to inflammation, ſhould this attend a large ſore, where the pain is very conſiderable, (for the pain ſo common in very ſmall ulcers, is ſeldom the conſequence of much inflammation, but rather of a thin and cauſtic diſcharge;) an emollient fomentation

tation of white poppy heads, and afterwards a bread and milk poultice for a few days, may be applied to advantage: but if ſuch a caſe can ariſe as to require a much longer continuance of a poultice, it ſhould be changed for one of the ſaturnine kind. This will furniſh the ſame moiſture and heat, and is not only a leſs relaxing application, (for ſuch it has been obſerved, ſhould never be very long continued to the legs*) but is a more powerful antiphlogiſtic. And here I may venture to repeat from a long experience, that ſuch poultices and fomentations, however great their reputation, are ſeldom neceſſary but in the beginning of the cure, where the parts are in a ſtate of inflammation, and particularly in the poor, who have long endured, and ſtood much upon them in that ſtate; whoſe ſkin is likewiſe often dry and left dirty, and its pores conſequently obſtructed. But as ſoon as the inflammation and foulneſs on the ſkin are taken off, ſtrong digeſtives, with exerciſe and a roller, will produce a much ſpeedier and better digeſtion.†—This I am ſo ſatisfied of, that I have no kind of heſitation in ſpeaking peremptorily on the ſubject.

I wiſh to make one remark more on this head, which is, that when a bread and milk poultice is required, it ſhould generally be applied on the naked

* See alſo BELL, *On Ulcers*.

† WISEMAN gives a caſe very much in point, and obſerves, that after confining a patient to the bed for a very bad ulcer, which he

ſore,* whereby it ſits eaſier, and is much more uſeful, becoming the mildeſt application that was ever contrived, if it be well made.† And I hope I ſhall be pardoned if I add, it ought generally to be made, and

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he had poulticed a conſiderable time, he could not get it to heal till he left off the poultice, and applied a laced ſtocking. *Book ii. ch.* 9.

* See FREKE's *Art of Healing*.

† When I conſider the importance of a good poultice to ulcers, when the uſe of them is called for, and the number of pupils who viſit the metropolis every year, with an expreſs deſign of acquiring every kind of chirurgical knowledge, many of whom there is reaſon to think, have rarely ſeen a bread and milk poultice properly made; it is hoped, it will not be thought trifling on this occaſion to mention the beſt method of making it. This can be at the worſt, but a little time thrown away, and if only one young practitioner ſhould make a better poultice by this means, or if a ſingle patient be benefited by it, I ſhall readily forgive others who may ſmile at the receipt; for however well ſurgeons know how to make them, the fact is, they are ſeldom well made.—It has been too generally thought, that theſe poultices cannot be boiled too long; but on the contrary, it is long boiling that ſpoils them. They ſhould be made of the crumb of moderately ſtale bread, which ſhould be cleared from every thing the leaſt hard, or lumpy, and after being grated, ſhould be rubbed between the hands, till reduced, as near as poſſible, to its firſt ſtate of flour. The milk ſhould then be boiled, and the bread lightly ſprinkled in with one hand, whilſt it is kept ſtirring with the other. The difficulty with which the ſpoon is moved, will ſhew when a proper quantity of bread is put in, after which it ſhould not remain on the fire above two or three minutes at moſt, and ſhould be turned out boiling, by which means the bottom will retain its heat a long time, after its

ſurface

and applied by the ſurgeon himſelf, or at leaſt in his preſence, and not intruſted to a careleſs ſervant, or ignorant nurſe, as it uſually is; the former of whom imagines no ſkill is required, and the latter, that no body can make one ſo well as herſelf; though there is not one poultice in fifty, made and applied by either of them, that is properly managed. Before I quit this ſubject, I cannot help adding, that if much benefit is expected from theſe applications, they ſhould in many caſes be renewed oftener than they generally are: for the want of this, the ſmaller ones eſpecially, ſoon becoming cold, I am ſatisfied, are often likely to occaſion more injury than good.

Theſe, it is well known, are the caſes which call for bleeding and purging, and for which I have likewiſe ſometimes adviſed nitre and cicuta,* or opium; the

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ſurface is become cool enough to allow of its application. It ſhould be ſpread upon a piece of double linen cloth, (not over fine) by the help of a round-ended knife (greaſed with hog's lard or oil, inſtead of putting greaſe into it, which prevents its hanging together,) to the ſize it is required: and ſhould generally be about three quarters of an inch in thickneſs on the linen. If poultices are too ſtiff or lumpy, they will lie heavy, and become painful to an inflamed part; if too thin, or not well mixed into an homogeneous maſs, they ſoon become cold, and chill the part they are intended to nouriſh.—If a poultice is to be applied to a depending part, ſuch as the eye or the breaſt, where it will be apt to ſlip off, it will be an advantage to turn up the four ſides of the inner cloth, about half an inch over the poultice; which will thereby be greatly ſupported.

* This may ſometimes have one advantage of opium, as it hath no tendency to conſtipate the bowels, and if it has any other virtues

the laſt, however, will be leſs proper if the inflammation be conſiderable; but the antiphlogiſtic regimen can never be required very long, for if the inflammation does not preſently yield, there is probably ſome other cauſe for it than the ulcer, unleſs there be diſeaſe of the bone. The former, it will be the phyſician's province to diſcover and remove; but if neither of theſe ſhould be the caſe, and yet the inflammation continue, it will not prove of the phlegmonous kind, and I can venture to ſay will yield together with the pain, to ſuch topical applications as ſhall promote a diſcharge, and with the aſſiſtance of firm bandage and exerciſe, ſhall cleanſe or deſtroy the too ſenſible ſurface; which will immediately be followed by eaſe, and a healthy appearance of the ſore.

It may be neceſſary in this place, to take notice of a ſource of pain not mentioned, that I know of, by any writer, and for a clear account of which I am obliged principally to an ingenious correſpondent in the country, ſince the firſt edition of this tract; having myſelf obſerved it only once, in any conſiderable degree. This is an obſcure œdema, more commonly attending ſmall ſores, and occaſioning very great pain about the little ulcers, or not unfrequently along the whole ſpine of the tibia, eſpecially in the morning; and is effectually cured by only applying the bandage a little tighter than uſual. It may be met

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virtues than that of an anodyne, as ſome people have been of opinion, the patient will enjoy the advantage of them.

with

with not only in large and tumid limbs, but in very well ſhaped legs, where the œdema is not perceptible to the eye, but may always be diſcovered by a careful examination with the finger.—As I have rarely allowed any of my patients to apply the bandage themſelves, and have always been careful of drawing it tight, it is not likely this painful œdema ſhould have often fallen in my way. The ſingle inſtance I met with, however, has borne ſuch direct teſtimony to the obſervation of my correſpondent, (who is often obliged to allow diſtant patients to dreſs their own ſores for ſeveral days together), that it could not but appear to me as highly improper to overlook an obſervation, from which it is probable many patients may be benefited.

After what has been ſaid, another obſervation or two reſpecting the ſymptom of pain, is all that will be neceſſary. And here I remark, that ſevere pain muſt be mitigated, if it cannot be entirely removed, or nothing will go on well; whilſt the degree of pain, together with the nature of the diſcharge, will point out the moſt proper remedy for it; the quantity of the anodyne, is therefore not ſo much to be attended to, as its effects. I have known excruciating pain from ſmall ulcers, almoſt entirely removed by half a grain of opium, taken only every other night, whilſt at other times, three or four grains have given but little relief.

In theſe caſes, the diſcharge is always thin and acrid; and though ſuch vitiated matter may ariſe from the morbid ſtate of the ſolids, and of the ſecre-

tory

tory organs of the parts, which throw off ſuch kind of fluids as cannot be changed into laudable pus, yet this does not certainly ariſe from an inflammatory cauſe, and therefore is not always removed by antiphlogiſtics, and mere emollient applications; though it ever will be ſo, when that is the caſe. But if the habit is not particularly concerned, it depends more frequently upon a want of that ſpecies, or degree of inflammation, which is neceſſary to produce well concocted pus,* which is therefore often induced by ſtimulating applications, which are the moſt ſafe and and rational means of promoting it, and will, in this caſe alſo, as certainly be followed by a ceſſation of the pain.† And herein we go back as far as relates to ulcers on the legs, to the practice of the antients,‡

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* La ſeconde cauſe (du defaut de ſuppuration) eſt le defaut d'inflammation dans la playe. *Traitè des Ulceres, &c.*

† PAREY ſpeaks exactly to this purpoſe in the cure of ulcers, *lib. xii. cap.* 9. where after having directed cataplaſms of ſolanum, cicuta, poppey ſeeds, and ſometimes opium; ſhould theſe fail to procure eaſe in ſome caſes, he adds, "neque anodynis, neque narcoticis, ſedari poteris, imò blandis medicamentis appoſitis magis ac magis irritabitur. Itaque ad catherætica confugiendum erit, nempe fortibus morbis fortia remedia ſunt optima. Quare ulceri imponatur pulvillus forti et viribus aucto egyptiaco, aut paulo oleo chalcanti imbutus, his enim domandi efferi illius doloris vis eſt." To this he adds, "interim ulceri circumponetur refrigerantia, ne virium remediorum vehementia fluxionem excitet."—But this latter is greatly obviated by the uſe of a proper roller.

‡ See GALEN, particularly his book *De Compoſit. Medicament. ſecundum Genera*, and CELSUS. *Lib. v. cap.* 26.

whoſe

whoſe ointments, it has been noticed, generally conſiſted of the warm gums, ſpirits, and eſcharotics, which though, in many caſes, juſtly exploded from practice, in the treatment of ulcers in general,* are of admirable efficacy, in ſuch as attack the lower extremities.

What has been ſaid will probably be quite ſufficient on theſe heads; we have here manifeſt indications before us, and the remedies are therefore uſually ſimple and obvious—not always thought equally evident, through the whole indications of cure.

SYSTEMATICAL writers, who have been fond of multiplying diſtinctions of ulcers, have been equally preciſe in their directions for obtaining a cure.† We are to digeſt, deterge, incarn, and cicatrize; ſinuſes are to be laid open, callous edges are to be removed by the knife, or deſtroyed by the actual or potential cautery; ſome intemperies is to be corrected, or the whole habit to be altered: and above all, they adviſe a horizontal poſition of the limb, and

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* See BELL, On Ulcers, who has made ſeveral very uſeful obſervations on this head, though the *French* ſurgeons are ſtill of a different opinion, (as appears from their 4th volume of *Memoires de Chirurgie)*, and indeed ſome latitude muſt be allowed; for the fact is, that in the cure of every ulcer, as of fever, a certain degree of inflammation, or exertion of the ſyſtem is neceſſary; and too little, or an undue effort, does as certainly, though upon a different principle from Plethora, fruſtrate the ſalutary intentions of nature.

† Compoſiti ulceris ad curationem multæ ſunt indicationes propoſitæ. PAREY.

injoin

injoin abſolute reſt. The whole proceſs of cure is moſt accurately delineated, and ſome appoſite remedy preſcribed to effect every intention, as if art were ſufficient for it all, and nature had nothing to do in the buſineſs. And indeed, were ulcers ſuch very tractable, methodical things, as the picture repreſents, memory might ſupply the place of judgment, and this part of ſurgery would be reduced to arithmetical exactneſs. But he whom practice has made moſt converſant with nature, well knows that her operations and the arrangements of ſcience too little reſemble each other.

It is univerſally admitted, however, that except an ulcer becomes clean, it will not cicatrize, though practitioners are not ſo well agreed, concerning the beſt means of bringing it about. But we are always to know our proper place, art being in this, and in every other inſtance, a mere hand-maid to nature, to lend aſſiſtance in a way the moſt agreeable to her own laws. In the introduction to this little work, an attempt has been made to reduce the principles of the cure of ulcers to two only, viz. an attention to the general vigor of the conſtitution, and to the action of the parts; but with this view, it may be neceſſary to pay ſome regard to the nature of the different proceſſes that are going on in the healing of every ulcer. There is, it has been intimated, a production of new ſubſtance in its cavity, and a condenſation of its ſurrounding parts to a certain level and extent. The former of theſe, indeed, is, I believe, very inconſiderable; it is, however, by the union of the two,

that

that nature accompliſhes her end. That theſe proceſſes do take place, may be known by an examination of the ſubſtance which is formed in the cavity of every cicatrized ulcer; and by the apparent evenneſs of the newly formed cicatrice with the neighbouring parts. And every one muſt have obſerved, that the loſs of ſubſtance is more evident at ſome months diſtance from the time of cure,* than on the firſt healing of the ſore.

Now, if the principles I have all along been laying down, as well as thoſe laſt mentioned, are at all juſt and rational, they will at once ſerve to diſcover the impropriety of depending upon very mild applications,† whilſt they inforce the expediency of the means I have recommended.

The cure, it has been ſaid, is brought about by the general vigor of the ſyſtem, and the action of the the parts, together with an abſorption of thoſe contiguous to the ulcer, the moſt appoſite to which in-

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* This obſervation has been long made in the caſe of thoſe foveolæ which remain after the ſmall-pox.

† Perhaps the very beſt of theſe is the ſuppurative poultice ſo much recommended by Mr. FREKE, but it does nothing without the horizontal poſition of the limb; and has even then been too frequently ineffectual, or it is probable, would not have been diſcarded from hoſpital practice. His intention, however, was perfectly rational, which was, "to ſweat out the diſeaſe:" an idea I have always had in view, in oppoſition to that of drying up diſtempered parts; which muſt always be wrong. But the former intention may be much better accompliſhed by other means, that do not require reſt and confinement.

dications,

dications, are good diet, exercise and bandage, with the external use of invigorating applications. And how much may be effected by them, experience alone can demonstrate, and it is a principal design of this treatise to set forth. I am happy, however, to find an author of considerable esteem, and amongst the best of the later practitioners, so much of my mind, I mean *Wiseman*, who had continual recourse to warm and active applications, and rarely dressed an ulcer on the leg in the first stage of the cure, without merc. corrosiv. ruber in one form or other. By this means, and the help of a roller, or laced-stocking, he succeeded much better than most practitioners have done since, with all our improvements.* And I am satisfied from what I have experienced, that had he allowed his patients to walk, and by the help of a flannel roller, had made a still tighter compression than the laced-stocking can pleasantly admit, or indeed can effect, and had been yet bolder in the use of stimulating applications, he had not had reason to

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* Notwithstanding all sciences have been improved by reducing them to a state of simplicity, yet, in an attempt to purify them, artists have been sometimes led to overlook the principles on which some practice has been founded, and have therefore discarded many things that were valuable—like some unprincipled empiric, who in order to get rid of an imaginary ill-humor in the blood, directs so large a quantity to be taken away, as reduces his patient to a worse disease than he laboured under before; forgetting that the good and bad blood would run out together.

See *Thoughts upon Amputation* by Dr. KIRKLAND.

complain

complain, that healing ſome kind of ulcers was in general only a palliative cure. For it has been very evident in reading his caſes, and comparing them with my own experience, that the principal things which he failed in (beſides forbidding his patients to walk, which it ſhould ſeem, was not, however, always the caſe) was the not continuing his ſtimulating applications much longer than he did, and his changing them for very drying ones in the end, in order to haſten the formation of the cicatrice. See his caſes, in chap. x. particularly; in reading which, I could not avoid being ſurprized he had not himſelf made the remark. The like obſervations may be made on *Dr. Turner*, who was in many reſpects but a copyer from him, but in others, ſeems to have had an advantage; and had he been well acquainted with the uſe of the roller, and been leſs fond of abſtinence and reſt, would have ſet an example, which after-practitioners would have made but little improvements on.

THESE things then, viz. Exerciſe, Bandage, and active Applications, may be ſolely depended upon in ordinary caſes; and where there is no ſpecific poiſon, or other manifeſt evil in the habit, they will effect every thing in this claſs of ulcers, which art hath hitherto accompliſhed by reſt, diet, and medicine; and will moreover effect ſuch a cure as will ſtand through all the ordinary ſituations of life.

Any common digeſtive is rendered deterſive in the degree it may be thought fit, by the addition of a little calomel, corroſive ſublimate, the white, or red

precipitate, or by a ſmall portion of verdigreaſe; or we have a very excellent one ready made to our hands, the unguent. citrinum: but, however uncommon the practice, it is ſometimes better to uſe the red precipitate alone in the firſt ſtage of the cure, than to mix it with the digeſtive; and this the ulcer will alſo readily bear, when exerciſe, and a good diet are allowed. And here it is, that the judgment of the ſurgeon diſcovers itſelf, in adapting his dreſſings to the nature of the ulcer, which (laying aſide the refinements, and nice diſtinctions I have ventured to diſcard,) muſt by one mean or other, be brought to diſcharge laudable pus, whatever appearance its ſurface may have; for nothing goes on well till this is effected. On the other hand, ſurgeons have generally been too eaſily ſatisfied, eſpecially in regard to old ſores; and if the ulcer has but appeared clean, it has been preſumed, that all has been going on well. To this end, therefore, various trifling applications have been made uſe of, ſuch as waſhing with a ſtrong decoction of hemlock, dreſſing the ulcer with the gaſtric juice, and other light ſtimulants, or aſtringents, or covering it with ſedative and emollient poultices. But all this is inviting a ſore to heal up at any rate, and by leaving the diſeaſe at the bottom, has inſured its breaking out again. But not only muſt the ſurface be clean, but the granulations firm, and ſuch a plentiful digeſtion promoted, as may liberate the veſſels, reſtore the due tone of the parts, and furniſh laudable pus. This, the moſt inveterate ulcers on the legs may be brought to afford, as freely as

ſores ſeated any where elſe; unleſs, perhaps, thoſe on the head are excepted, which, I think, furniſh pus more perfectly *album, læve, et æquale,* than thoſe of any other part.

Probably nothing but experience can induce any one to think, how eaſily this may, in ordinary caſes, be effected by powerful digeſtives, and exerciſe, and how ſoon afterwards many troubleſome ſores put on a proper appearance, and are brought into a healthy, and healing condition. But where theſe things fail, recourſe muſt be had to more powerful means,* and ſuch as no ſurgeon is ever at a loſs for; which if freely applied, interpoſing lenient applications if the appearance of the ſore ſeems to demand them,† will deſtroy the foul ſurface, and give nature (aſſiſted by a good diet) an opportunity to exert herſelf; and as *Hoffman* ſays on this very occaſion," ex voto ſuccedit conſolidatio."

Perhaps, one of the beſt applications of this kind, is the merc. cor. ruber very finely levigated; this is peculiarly uſeful in ſome ſmall and obſtinate ulcers preſently to be noticed, nor will it be immediately ſuſpected, with what freedom, and frequency this

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* " Vulnera maligniora valentioribus egent remediis; imbecillioribus, autem, mitiora."

GALEN. *De Compend. Med. Lib. iv.*

† In caſes wherein the author has made uſe of any remedies out of the common way, he has in this edition pointed them out, and deſcribed the kind of ſores that may call for their uſe; though in this claſs of ulcers ſuch inſtances are very few.

active mineral may be applied. It may be ſaid of this, as *Hippocrates* ſays of frictions, that it ſoftens the hard, ſtrengthens the relaxed fibres, deſtroys the unſound, ſtimulates and elevates the growing fleſh; that it promotes, or diminiſhes diſcharge, and keeps open, or heals up the ulcer, juſt as you would direct it. Nor is this ſaying too much of it, with reſpect to a great number of caſes, for all this is a very certain conſequence of a proper uſe of it, where a tight bandage is applied, and adequate exerciſe allowed. But then, it has been hinted that, for ſome of theſe purpoſes, (which will hereafter be ſpecified) it muſt be uſed with great freedom, and be often repeated, and inſtead of being lightly ſprinkled over an ill-conditioned ſurface, the ulcer muſt be filled * with it, the ſurgeon taking up a large pinch of it, and plugging up the ſore.

It has been ſaid, that the above practice is particularly uſeful in many ſmall ulcers; but even in large ſores, ſomething of the ſame kind will be found neceſſary. The foul ſurface muſt be removed, and the ſore brought to the ſtate of a freſh wound, which can be done only by the diſtempered parts being melted

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* While I was engaged in drawing up this little tract, I chanced to meet with more authority for the above practice than I expected, for looking over WISEMAM, I found him making uſe of the very expreſſion; to which practice, I am ſatisfied, he, as well as Dr. TURNER, owed much of their ſucceſs. The former tells us he performed cures on the legs in as few weeks, as the patients had been years under the hands of thoſe he calls the barber chirurgeons of the time. *Book. ii. ch.* 9.

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down (as it is uſually ſaid) by powerful digeſtives, or deſtroyed by corroſives; and till this be done, ſome obſtacle or other will continually ariſe,* but this once effected, you remove the greateſt hinderance to the cure. And it may be more eaſily done than is generally imagined, and though the ſucceeding ſurface ſhould put on the ſame unpleaſant appearance, after the firſt, or even ſecond application, yet the amendment, though gradual, is certain, and the pain is leſs ſevere than might be expected. The digeſtives are ſtill continued when the eſcharotics are left off, and the parts being, by theſe means, put into action, in general nothing farther is required, than to wait till nature is able to accompliſh her proper work. The want of this ability, or occaſion to exert herſelf, is the grand impediment to the cure, but this reſtored once and again, will effect every thing that is required.†

* Ulceribus haud diligenter deterſis, hyperſarcoſis ſupervenire ſolet. PAREY, *De Ulceribus.*—See alſo RHAZES, *Lib. Divis. cap.* 134, 138. In which caſe (ſays a modern writer) "the granulations are either ſoft and ſpongy, and ariſe only from the ſurface of the ulcer, or elſe riſe too high in the form of fungus, or ſoon ceaſing to ſhoot, are not followed by a diſpoſition to form a cicatrice; or if the ulcer heals, it ſoon breaks out again."

† From the very judicious obſervations on the *Malvern-waters* with caſes annexed, publiſhed by Dr. WALL, it ſhould appear, that the good effects produced by them on ulcers of the legs, have ariſen from their volatile ſpirit. Such an idea agrees very well with the theory I have adopted, and which every day's experience has confirmed. Dr. WALL, indeed, in one place ſpeaks of the coldneſs, and aſtringency of the *Malvern-waters* externally applied,

Beſides the abovementioned uſe of the precipitate, for the purpoſe of bringing foul ulcers into a good ſtate, it is not unfrequently neceſſary in order to preſerve them ſo, and to promote incarnation; and even in this view, it often anſwers much better by being ſprinkled upon the ſore, than mixed up with the digeſtive. I know how much that mode has been objected to by the late *Mr. Sharp*, who both as a writer and practitioner, I ſhould be more inclined to envy than to cenſure. Nevertheleſs, experience is the beſt teſtimony, and has demonſtrated to me how much, and to how great advantage, ulcers on the legs will endure the uſe of precipitate. Perhaps, an inattention to this, has been one occaſion of the very unfavourable opinion ſurgeons have always entertained of ſore legs, and of the difficulty of their cure; but ſo various are the inſtances I have ſeen of the ſpecific power of precipitate, in different kinds of ulcers, where every common application had been uſed to no purpoſe, that I can recommend it with more confidence than ever. I do not ſpeak merely of foul, or callous ulcers, but of thoſe very aptly denominated *dyſepulotic*, wherein nothing has appeared particularly amiſs, but there has been no

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applied, but this is only an opinion he has taken up from ſome caſes, in which they had not proved beneficial; for he obſerves, they often occaſion ſo great heat in the part as to induce ſuppuration in cold tumors, and that in almoſt every caſe where they have been uſeful, they have raiſed more or leſs inflammation, and have often occaſioned very conſiderable pain for ſome days.

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diſpoſition to heal. The ſurface of ſuch ſores has ſometimes been glaſſy, and the edges ſharp and angular as if newly divided with a knife; without the leaſt diſpoſition to granulate or incarn, but at the ſame time not of that irritable nature which inclines them to ſpread; which I ſhall ſpeak of under the next head. The free uſe of the precipitate, for four or five days, though it has, indeed, ſometimes produced little ſloughs, which, however, have not ſeemed to render the ſores deeper, has put the atonic parts into action, and like the exhibition of the cortex on ſimilar occaſions, has removed every unkindly appearance, produced a diſcharge of good pus, and diſpoſed the ulcer to heal. I have already hinted in another place,* that this ſtands no longer on my authority; the accounts I have been favored with from different practitioners, both here and on the Continent, ſince the former edition of this treatiſe, bear a direct teſtimony to the advantages the Public has derived from the hints I then ventured to throw out. Patients have alſo been treated in this way in different hoſpitals, where the good appearance of large ulcers, repeatedly covered with precipitate, has fully anſwered every expectation I had formed, or had previouſly experienced in my own practice. Some conſiderable knowledge in the profeſſion, as well as experience of this plan, and attention to the effects of the remedies, are, indeed, eſſentially neceſſary, by which alone the practitioner can be enabled

* Additional Preface to this Edition.

to judge how long he may continue the bold uſe of ſo active an application: for it ſometimes happens, that one day too long will offend a ſore that has been inexpreſſibly benefited by its uſe; whereby the cure will be retarded. And if the plan has met with leſs ſucceſs in hoſpitals than in private practice, it is not unfair to attribute much of this, not only to the foul air of the wards, and the improper manner in which (it has been noticed) a tight bandage is ſometimes applied, but to the inattention or ignorance of ſome of the pupils in this reſpect; it being impoſſible for the ſurgeon, in every caſe, to lay down rules ſufficiently preciſe for the pupils to follow, which conſtrains him to ſubmit leſſer things to the temporary diſcretion of the dreſſers.

Having ſo fully ſtated, and endeavoured to defend the principles and practice laid down, it remains only to collect them into one point of view; and then to ſelect a few of the varieties of ulcers to be met with in this claſs, with the treatment of each, as illuſtrative of the ſeveral indications and remedies propoſed. And to this end, it ſeems only neceſſary that the reader ſhould be reminded of what has all along been obſerved of the peculiar circumſtances of ſores on the lower extremities, and of the cauſes and operation of theſe peculiarities.—To obviate the force of theſe, by proper bandage, and other ſuitable topical applications, and general remedies, tending to remove, or correct, the atony, and other ill-diſpoſitions of the parts, and both enable them, and the ſyſtem at large, to make ſuch well-directed and ſalutary exer-

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tions as ſhall place ulcers, ſo ſeated, in circumſtances as ſimilar as may be to thoſe on other parts of the body, has been the leading idea throughout this work. How far this reaſoning may have been juſt, or the means above pointed out may appear rational and adequate, the reader himſelf is now called upon to decide; whilſt the author, for his part, has the ſatisfaction of thinking, that ſucceſs has, at leaſt, juſtified his attempt, and given ſome ſanction to the practice he ventures to recommend.

Amongst the few inſtances to be ſelected from particular caſes, is a ſmall ulcer, frequently hinted at, and for which, after every other mean has failed, the precipitate, or other eſcharotic is a ſpecific. It is improperly accounted ſcorbutic, and particularly affects the parts about, and even below, the ankles; which, indeed, cannot therefore properly be called a ſore leg. This is exquiſitely painful, and for ſome time appeared difficult of cure without reſting the limb, ſo little advantage being obtained from the roller; which cannot be made to afford much compreſſion below the ſeat of the ſore. It was in theſe caſes more eſpecially, that *Wiſeman* preferred a laced-ſtocking, becauſe (as he tells us) he "could not with a roller make a ſuitable compreſſion ſo near the ankle, without cauſing a ſwelling on the foot." But this is certainly a miſtake, for having, at firſt, found the ſame difficulty, I was ſoon able to remedy it, by carrying the roller ſeveral times over the ankle and foot, ſo as to leave no part but juſt the point of the heel uncovered by the roller; and by this means, I

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alſo make a tolerable compreſſion below the ulcer itſelf: to which intentions, the circumſtance of the roller being made of flannel, very greatly contributes. Theſe caſes are often attended with a conſiderable puffineſs, and a tetterous appearance of the ſurrounding ſkin, accompanied with a thin and acrid diſcharge, which renders the parts additionally tender; whilſt the little ulcer is almoſt perfectly dry, and cannot eaſily be brought to ſuppuration, till the complaint of the ſkin is removed. This I once thought was relieved by bathing the parts in *Nevil-holt* water, as lately recommended for this purpoſe, but I ſoon learnt, is much more ſpeedily removed by drying applications, which inſtead of the common cerate, may be ſpread on lint, or linen cloth, and applied over the uſual dreſſing to the ſore; for which common treacle is often a very good one, as well as for many other irritable ulcers. The outer dreſſing may conſiſt of cerat. alb. with bole and powdered allum; or the ung. deſiccativ. rubrum, or in more obſtinate caſes, a compreſs of linen may be wetted in a ſolution of ſacch. ſaturn. and vitr. alb. with an ounce or two of camphorated ſpirit, in a pint of ſpring water; which, notwithſtanding the tumor, and heated appearance of the part, I never found diſagree.* If the ſore ſhould not ſoon change its com-

* Theſe affections of the ſkin, vulgarly called ſcorbutic, have uſually no one ſymptom of that diſmal complaint, and being merely local, ſhould always be treated as a diſeaſe of the ſkin; for true ſcorbutic

complexion, on the diſappearance of the affection of the ſkin, the little ulcer ſhould be filled with precipitate,* pulv. angel. diſſolved lunar cauſtic, or any ſimilar eſcharotic, and when the ſlough is come out, be immediately repeated, if the ſore ſhould not then put on a kindly appearance, which it certainly will in a very little time; but the cure will not ſtand if this be neglected. But though ſo much has been ſaid on the bold uſe of very deterſive, and even eſcharotic applications, it is to be remembered, that recourſe need not always be had to them in the firſt inſtance; but whenever leſs active means, aided by the bandage and exerciſe, ſhall prove ineffectual, I reſt it upon every man's experience to demonſtrate the utility of them.

There is nothing I can be more ſatisfied of, than the propriety of the method here recommended. There is no ſmall ſore on the leg uſually ſo trouble-

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ſcorbutic ulcers are of a very different kind, and will not endure the uſe of eſcharotics. See Dr. CULLEN's *Synop. Noſolog.* alſo Dr. LIND, on this diſeaſe. *Part ii. chap. 2.*

* WISEMAN ſpeaking of ſuch an ulcer, has this bold expreſſion, which I doubt not was the reſult of experience, "the beſt anodyne had been to have filled it with precipitate." *Book ii. ch. 4.*—He was not afraid of the conſequence mentioned by *Hippocrates*, or knew better how to diſtinguiſh caſes, than to be in any danger of the evil he mentions; who ſays, "Thrinon Damonis filius, habebat malleolum ulcus, juxta nervum ſane non purum, huic a pharmaco corroſo contigit, ut opiſthotonos moreretur."

Epidem. Lib. v.

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ſome to heal, by ordinary means, as an old ulcer near the ankle, and there are ſcarce any of the antient writers but mention it as ſuch; whereas, there is no ulcer on the leg, that is ſo eaſily, ſoon, and certainly cured, when properly treated. The numbers, and variety I have ſeen, leave me no room for doubt on this head; of which ſome have been from three to thirty years ſtanding, breaking out again as conſtantly as they were healed, and inexpreſſibly painful. But if not of the phagedenic kind (of which I ſhall treat in another place) are perfectly cured, in a few weeks, by taking much exerciſe, and dreſſing with the warmeſt digeſtives, or (where theſe fail) by a free uſe of precipitate, and a bandage. This may be very tightly applied, if no true inflammation attends, or as ſoon as this ſhall be removed by bleeding, and a few days application of *Freke's* ſuppurative poultice;* which it will be ſometimes proper to begin with, if the ulcer is deep.

Since the former edition, I have had an inſtance of the efficacy of the precipitate, in a ſore on my own ankle occaſioned by a burn. A ſmall and very painful little eſchar was formed, which, after I was tired of poultices and other emollient applications, and common digeſtives, I loaded with precipitate twice a day, and applied a tight flannel roller; which I ſhould have done ſooner, had it not been ſo recent a ſore. The ſmall ſize, and dryneſs of the ulcer, in-

* See his *Art of Healing*—his poultice conſiſted of figs, onions, marſhmallows, and white lily roots.

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duced me to dreſs it ſo often; and by this means, a kindly ſuppuration ſoon took place, which ſeparated the ſlough. Imagining, now, the little ulcer might be healed by any common means, I made uſe only of a few turns of a linen roller, to ſecure the dreſſings, and for ſeveral days, applied nothing but ceratum album, and afterwards, common digeſtives; but one ſlough formed after another, whilſt under this courſe. I then returned to my flannel roller and dreſſed again with precipitate, which I ſprinkled on the ſore every day. After this no more ſloughs appeared, and the ulcer healed kindly, under the conſtant uſe of the precipitate.

There is another ſpecies of ſmall ulcers, accounted difficult to heal, that is likewiſe, improperly, termed ſcorbutic, and is exceedingly painful, though without any tumor of the limb; and ſometimes attacks young and robuſt people. Theſe ſores are diſperſed over a great part of the leg, particularly along the ſpine of the tibia; are generally round, and rather deep, with thickened edges; and are often not larger than peas: whoſoever has once noticed them, will readily diſtinguiſh them from every other ſore. Though difficult to be healed, and diſpoſed to break out again, as they certainly are, when treated upon the lenient plan, frequently nothing more is neceſſary than to bathe the limb for a few nights in tepid ſalt and water; to dreſs the ulcers with precipitate and digeſtive, and apply a very tight bandage, which immediately removes the pain; and I have known ſuch ulcers, though of long ſtanding, perfectly healed

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in ten or twelve days. Should others, however, prove obſtinate, from having their ſeat on more tendinous parts of the leg, the ointment muſt be made more active by the addition of a little lapis infernalis; which forms an admirable dreſſing for many dyſepulotic ſores.

There are other ſmall old ulcers, which often require a peculiar kind of dreſſing, merely from their being ſeated on tendinous or ligamentous ſurfaces, ſuch as the inſtep and lower parts of the leg. On this head, I need only to obſerve, that common treacle with freſh lemon juice boiled up in it, agrees with them ſo well, that they require nothing more, unleſs it be to have the ſurrounding parts touched with a lotion of the tinctur. martis cum ſpir. ſalis, ſufficiently diluted; both which applications ſhould be continued as long as the ſores remain in a very irritable ſtate. I ſhall juſt remark, that the like dreſſings agree equally well with many foul ulcers, that are irritated with moſt other dreſſings.

I have alſo met with other deep, and painful ulcers, ſomewhat larger, of no regular figure, nor confined to any particular parts, for which the fine powder of bark is often a good dreſſing. After the ulcer has been filled with this, morning and night for a few days, and covered with a good digeſtive, ſuch ſores will begin to fill up with firm and florid granulations, and will loſe their morbid ſenſibility; but if they ſhould not, the ſurface muſt be deſtroyed by precipitate, as formerly directed, and trial made again of the bark, if it ſhould ſeem to be neceſſary.

In ulcers of long ſtanding, and where the conſtitution is thought to be concerned, it ſometimes happens that beſides a large ſore, the leg ſhall be exceedingly ſwelled, with hard tumors, or lumps, in one or more parts of it, which will not always be diſſolved by the diſcharge. But while this is kept up, the application of a large piece of oil'd-ſilk will produce the happieſt effects, and with ſafety diſperſe the indurations. And as it ſometimes happens, that the other leg will be equally ſwollen, and exceedingly hard, though without ulceration, that ſhould likewiſe be rolled, and covered with a like piece of oil'd-ſilk; which, by exerciſe, will daily produce a conſiderable perſpiration, and without the leaſt aſſiſtance from medicine, will bring down the hardneſs and ſwelling, by the time the ulcer on the other is healed. This direction, however trifling it may appear, I have found ſuch evident advantage from, that I think I ſhould not have done juſtice to my ſubject, if I had not made particular mention of it. For the like purpoſe, the leg may be well rubbed with volatile liniment and about an eighth part of mercurial ointment; but I think, I have never found occaſion to have recourſe to any embrocation for this ſpecies of ſwollen leg, ſince I firſt made uſe of the flannel roller and oil'd-ſilk.

Having now ſaid every thing that can be neceſſary, with reſpect to cleanſing and incarning, and pointed out a few uſeful medicines, and ſome particular caſes in this claſs of ulcers, I ſhall cloſe it with ſome obſervations on healing; an article

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of as much importance, as any that has been noticed.

This laſt proceſs of nature is by no means to be hurried; and if every thing is right, and the bottom of the ulcer become ſound, no particular means will be required for it, it being, in general, ſufficiently diſpoſed to heal of itſelf, and will, even with the uſe of ointments not a little deterſive.* For it is ſuppoſed (as will ſoon be explained), the more active ones have been weakened already, but not ſo much as to become mere greaſy applications; which (eſpecially warmed ones,†) upon this plan, do as much injury, by relaxing the parts, as do very drying applications, when uſed to haſten the production of the cicatrice.

If this latter be attempted too ſoon, and eſpecially if early recourſe be had to drying applications, the ſurgeon will ſoon perceive his miſtake. The ulcer being only partially digeſted, like thoſe treated upon the lenient plan, when apparently about to heal up, will burſt out in one form or other. This will eſpecially follow in thoſe termed conſtitutional ſores, attended with diſeaſed ſkin, and of very long ſtanding. Here ſmall ulcers will be formed in the diſtempered parts of the ſkin, which in a while becomes pappy, and denotes the parts underneath to be un-

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* WISEMAN particularly notes having cleanſed, incarned, and healed ulcers on the legs, by the uſe of precipitate.

† See BELL, *On Ulcers*, in regard to the relaxing nature of warmed applications. *Media tutiſſimus ibis.*

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ſound. Hence matter may be forced up by preſſure, through many little orifices, putting on ſuch an appearance of diſeaſe throughout a great ſurface of the limb, as may diſcourage the ſurgeon from expecting a cure, without a great length of time, and aſſiſtance from reſt. But all will go well notwithſtanding, under the advantage of good rolling and exerciſe, if the diſcharge be kept up; for the exerciſe, inſtead of protracting the cure, I am ſatisfied, tends in ſuch caſes, directly to enſure it; and I accordingly always deſire it may be increaſed. All that can be neceſſary, is to lay the ſmall contiguous ſores into one, by a ſlight touch of the lancet, which will afford very little pain, as the parts are now become perfectly ſodden, and the ſkin parted from the edges of the ſore; or ſhould this be objected to by the patient, the little holes may be filled up, once or more, with precipitate, and the cure will go on as effectually, and almoſt as ſpeedily as could be wiſhed.

It was ſaid, the digeſtive or other dreſſing, after a time may be weakened, and this may be done without improperly diminiſhing that diſcharge, which it has ſo often been inſiſted upon ought to be kept up: for when the moſt active remedies have been uſed, in bad caſes, for two or three weeks, the ſtimulus from exerciſe will ſufficiently maintain it; and it is a good maxim to proceed gradually to that change between a copious diſcharge, and its total ſuppreſſion, which ſhould be always kept in view through the whole of the cure.

As ſoon then as the ſore, however large, puts on

a perfectly healthy appearance, this change in the dreſſing ſhould begin, which ſhould be repeatedly weakened, three or four times, at ſuch intervals as the ſize of the ſore, and the time ſuppoſed neceſſary for its cure, ſhall point out. But great caution is required not to be too haſty in this, or to continue it, if the diſcharge is ſtill very conſiderable. An attempt to ſuppreſs this is always improper, and if it ſucceeds, will, indeed, divert the diſcharge ſome other way for a time, but without any advanatge to the patient; and the matter inſtead of burſting through the ſkin, where that happens to be diſeaſed, will form a paſſage in different places through the ſurface of the ſore. In this caſe, the bandage ſhould be drawn tighter below the ſeat of the ulcer, and the matter by preſſure with the fingers, at each dreſſing, ſhould be carefully forced up; the ſurgeon muſt likewiſe return to more active applications, by which the ſore will ſoon recover a more pleaſant appearance. But if no ſuch change ſhould preſently take place, either more time is required to cleanſe ſome diſtempered parts in the ulcer, or elſe the whole ſore is unſound to the bottom. In the former caſe, time, it has been ſaid, will do every thing that is wanted; but if it does not, recourſe muſt be had again to eſcharotics, which, if the bone be not diſeaſed, will invigorate the parts, and ſoon improve the diſcharge; or if ſtronger be uſed, a thick ſlough will be made, and the ſurface, the moment that is thrown off, will be clean, and will put on a promiſing appearance again.

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Upon this head it may be proper to obſerve, that when large and old ulcers are brought to a copious diſcharge, whilſt the ſurgeon, from their unkindly nature, is afraid of too haſtily weakening his dreſſings, though the ulcer may be very conſiderably diminiſhed in ſize, it will often be proper to defend its tender edges, and new ſkin, as it is called, with a little cerat. epulot. or ſome ſimilar application. But it may be ſtill better, in very irritable ulcers, and ſuch as are much indiſpoſed to heal, to ſpread a margin of cerate on the ſame dreſſing, that the whole may be covered with one piece of lint, by which means the diſcharge finds a readier way to run off; a matter of the greateſt importance in ſuch ulcers as are eaſily offended. The pledgit, for this reaſon, ſhould likewiſe extend conſiderably beyond the ſurface of the ſore, eſpecially in ſmall ulcers, or the tightneſs of the bandage will prevent the matter from eſcaping, and thereby occaſion a continual irritation, which will diſpoſe the ulcer to ſpread. * But though

* The doctrine here inculcated, though founded upon repeated facts, I find ſtrongly controverted by MR. HUNTER—"When treating of pus, in my lectures" (ſays that able teacher) "I obſerved, that I was inclined to believe that no matter, of *whatever kind*, can produce any except upon the part that formed it: nor do I believe that the matter of *any* ſore, *let it be what it will*, ever does, or can do any hurt to that ſore; for the parts, which formed the matter are of the ſame nature, and cannot be irritated by that which they produced, except extraneous matter is joined with it.—If what I have now advanced is true, wiping, or waſhing away

cerate is allowed of with the view I have mentioned, the uſe of drying applications will, by no means, haſten the cure in this claſs of ulcers, which, perhaps, contains much the greateſt number.

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away matter, under the idea of keeping the parts clean, is *in every caſe* abſurd." See his Treatiſe on the *Venereal Diſeaſe*, page 36, *Note*.

It is ſomewhat unpleaſant to have to combat ſentiments with ſo reſpectable an opponent, whoſe experience as a ſurgeon, as well as his phyſiological attainments, might well claim a reverence from the moſt eminent practitioners. But the doctrine contained in the above extract ſeems to be far too *general*, and I think may lead to erroneous practice; for an enemy as I am to a ſcrupulous attention, and rude manner of always wiping off all the diſcharge that may be furniſhed by ulcers, I am equally perſuaded, that much matter confined upon them will often occaſion their ſpreading.—It is very pleaſing, indeed, to be able to account for the changes taking place in diſeaſes, and for the operation of certain remedies, as we are thereby often enabled to extend the application of the latter to different complaints, and render them more generally uſeful; but we may be too nice in our inquiries, and a turn for theory, and phyſiological diſquiſitions may poſſibly be carried too far; and certainly are ſo, when not only unſupported, but contradicted by facts; as appears to be the caſe in the preſent inſtance. For though it is very probable, that the ſyſtem may not be affected by the abſorption of new venereal matter, any more than inoculated patients are by a freſh application of the variolous; there are nevertheleſs other ulcers that will ſuffer by the acrid matters which they ſometimes ſecrete. The diſcharge furniſhed by a cancerous ſore, it is well known, will erode the ſkin, and extend the dimenſions of the ulcer when not otherwiſe in a ſpreading or ſphacelating ſtate: and the like will happen to many other ſores when there is no admixture of foreign matters. To prove this, let an ulcer on

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It may then be laid down as a general maxim, that they ſhould rather be ſuffered, than invited to ſkin over; and to ſpeak plainly, I would, eſpecially in thoſe of long ſtanding, rather irritate than coax them, for I know they will heal in the end. And I wiſh to enforce this idea very ſtrongly, as of the greateſt importance,* and to recommend, in all ſuſpicious caſes, and eſpecially where ulcers have been diſpoſed to return, the long continued uſe of deterſive applications, not only till the ſores have long put on a very florid and healthy appearance, but almoſt, or intirely to heal the ulcer under the uſe of ſuch active applications; nor will even time always be loſt in ſo doing. For if every part is become perfectly ſound, the bandage will furniſh that warmth which inclines them to heal; whilſt on the other hand, if nature be not yet diſpoſed entirely to ſuppreſs the diſcharge, the ſurgeon, as hath been ſhewn, by attempting to heal up the ſore, will have

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the leg be dreſſed with a little white cerate, or any other bland ointment, ſpread upon lint, and afterwards with the like ſpread on a thin piece of ſponge, and the part be ſo rolled up as to confine the diſcharge: or ſhould the cerate be thought capable of communicating this property, the different appearances of the ſore will be ſtill more evident when dreſſed one day only with dry lint, and another with ſponge. In a certain ſtate of the ſore, when diſcharging plentifully, the ulcer will be either foul or raw, and its dimenſions increaſed, under the former, but will appear freſh, healthy and granulating, by means of the acrid diſcharge being more abſorbed by the latter.

* Vide page 28, of the *Introduction*.

great part of his work to do over again. For this reaſon, dry lint, blue vitriol,* nor hard compreſs,† ſhould never be uſed, though I know they have ſucceeded for a preſent cure in ſeveral inſtances. The caſe, indeed, is different, when patients, at this period, are confined, dieted, and purged, (though upon that plan ſores are not ſo ſoon brought into a good ſtate;) ſuch applications may then both agree, and expedite the healing of the ſore: but ſuch ulcers being rather deſiccated by art, than cicatrized by nature, many ſuch patients muſt ſoon make application again.

The habit is to be firſt gradually relieved, and to ſpeak a popular language, the humors are to run off, and the change from a long accuſtomed, or copious drain, to be cautiouſly effected; but which gradually abating as the wound diminiſhes in its ſize, nature, however averſe to ſudden tranſitions, will when left to herſelf, in a reaſonable time find ſome other vent.

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* WISEMAN experienced this in a caſe that appeared to be going on well, but ſuddenly turned foul, and in a few days became as bad as ever. *(Book ii. ch. 9.)* This, however, ſeems to have been his uſual method, and it muſt be acknowledged, that ſome ulcers on the legs healed in this manner may ſtand well, but there is no adequate rule to determine by; and therefore would a ſurgeon be certain of healing an ulcer, and perfecting a cure, that muſt not be his method.

† See Mr. ELSE's paper in the *Med. Obſerv. and Inquiries*, where he ſpeaks of covering the ulcer with a ſheet of lead; ſo alſo a late *French* author; though, indeed, the practice is very ancient.

This

This remark, and what has been ſaid above, it will be ſuppoſed, is peculiarly applicable to ulcers of long ſtanding, but although in more recent caſes, it may not be ſo neceſſary that nature ſhould find ſome other outlet than the ulcer, nevertheleſs, all the above reaſoning, as far as it relates to practice, will generally hold good: though it may, perhaps, be better accounted for upon very different principles. * Experience proves that few ulcers on the legs, though brought into a clean ſtate, ought to be healed by any other means than preſerving them ſo, nor will any other, under the directions here given, in ordinary caſes, be found in the leaſt neceſſary. Every ſurgeon knows very well, that the great difficulty reſpecting the cure of ulcers, and more eſpecially thoſe on the lower extremities, is to bring them into a good and healing ſtate, and when that is accompliſhed an entire cure will follow of courſe. This is one reaſon that wounds on the head fill up ſo readily; they are not long in a foul ſtate, and therefore after a few days uſe of ſome lenient digeſtive, want only to be kept clean, or at the moſt, to have their luxuriant granulations kept within bounds, which are merely a conſequence of ſtrong digeſtive powers, and of nature over-doing her part. But in the caſes before us, there is little

* Having already offered an opinion on that ſubject, (vide the *Introduction*, p. 37, 38.) when ſpeaking of the good or bad effects ulcers have on the conſtitution, which, it was ſaid, were probably rather owing to irritation than the diſcharge; it was more natural to expreſs myſelf here in the common language of writers upon this ſubject.

of this to be apprehended, for it has been ſaid, the conſtant and firm preſſure from the roller, (which may be increaſed as may be found neceſſary,) will always keep down this looſe fungus. It will therefore be ſufficient to apply a mild, defenſive plaſter, or ſometimes one more drying, (as formerly recommended, if there are heats on the ſkin) which ſhould be ſpread only on a piece of doubled linen, and be laid over the digeſtive; but if hard compreſs, or merely drying applications are laid on the ſore, the ill-conſequences I have mentioned will generally follow, or the ſore, for want of proper digeſtion, will break out again.

Upon the above plan, however, every objection to healing the ulcer, as well as our fears for its return, are ſufficiently obviated, and for want of which, the author of the paper in the *Medical Obſervations*, appears to have obſerved the above unpleaſant effects; for if old ulcers are dried up inſtead of digeſted, and ſkinned over inſtead of being cleanſed and incarned;*

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* HIPPOCRATES ſpeaking of recent ulcers, hints at this expeditious method of healing under particular circumſtances, but how inapplicable to the caſes before us, reaſon and experience will determine—"aut ſi quis avertat (viz. ſuppurationem) ut omnino non ſuppurentur, præterquam neceſſario, eoque pauciſſimo pure, et ſicca ſunt quam maxime, ex medicamento non moleſto,"—though in another place he adds, "ulcera non purgata, non committi ſolent, etiamſi adducuntur, neque ſua ſponte coeunt. *De Ulceribus*, § v.—No better proof, however, need be ſought for, that ſuch is the general mode of treating ulcers of the legs, than the candid obſervation of the anonymous writer mentioned in the Introduction, page 30. *Note.*

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if any thing is ever to be apprehended from the ſuppreſſion of an accuſtomed diſcharge, or the leaſt attention to be paid to the depending ſite of a wound, it is here we muſt expect all the evils that theory ſuggeſts, or experience is ſaid to have proved. But, indeed, it generally happens, that ulcers thus healed, form a callous cicatrice, which ſoon falls off when the parts are not ſound underneath, and ſo prevents the miſchiefs expected. Whereas, having thoroughly digeſted the ulcer, and brought it into a healing condition, leave it to nature at this particular period, and not only will the cure be effectual, but as hath been obſerved, will often be accompliſhed in as little time, as it is uſually done by reſt, diet, and purgatives, with the aſſiſtance of all the alteratives, as they are called, that I have ever ſeen uſed.

One caution more, however, may be neceſſary, in regard to a circumſtance juſt now mentioned, the healing up with a callous cicatrice, or ſcab; oftentimes not eaſily avoidable indeed, and as ſeldom thought of upon the lenient plan, but almoſt uniformly an occaſion of ulcers breaking out again. This is, however, by no means, ſo likely to happen upon the plan recommended, as under the lenient one, practitioners being often glad to get old ulcers healed by any means in their power, eſpecially in hoſpitals, which are crouded with them.

It were needleſs, I apprehend, to inquire into the cauſe of the breaking out of ulcers that are covered in part with a ſcab, though it were eaſy to deviſe a ſpecious theory; but the fact is a ſtanding one, that

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if ulcers are ſuffered to heal up before the whole of the ſurface has been covered with firm granulations, or if after this, they have been dried up with a thick ſcab, or ſuch be formed afterwards, they will be apt to break out into worſe ſores than before. Such ſcabs ariſe either from the ſurface of the ulcer becoming dry in different parts, in the form of iſlands, as they have been called, or from the thickening of the edges of the cicatrice. The former muſt never be allowed of in this claſs of ulcers; but ſuch ſpurious covering muſt be deſtroyed, the bottom of the ulcer, in ſuch parts, being unſound; no ſore on any other part of the body ever healing in that manner, when defended from the air. In the latter inſtance of ſcab, when the ſore is become ſmall, the edges of the new cicatrice are found, from day to day, riſing above the level of the ſound ſkin, as the cicatrice advances on the ſurface; and certainly indicates a ſucceeding ſcab. This is therefore to be prevented, eſpecially in ulcers of long ſtanding, or ſuch as have diſcharged very copiouſly, and in patients who have been accuſtomed to ſore legs. In order to prevent ſuch kind of healing, the new edges ſhould be well rubbed daily with an armed probe, or be ſcraped down with the ſpatula as long as they ſhall appear thick; and ſhould this not be ſufficient, they ſhould even be deſtroyed by lunar cauſtic, and the deterſive powers of the dreſſings be increaſed. This may be done by the unguentum citrinum, or the cerat. epulot. with precipitate, by which ulcers may be healed very kindly, and on the above account, I have obſerved this ſort of dreſſings

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are in many caſes, preferable to a weakened digeſtive, in the laſt ſtage of the cure.

Only large ſores will afford any difficulty; whatever pain, ſwelling, or humors, ſo called, attend ſmaller ulcers (of this claſs), they will occaſion very little trouble, after a little experience of this method of treatment. The copious diſcharge, which a proper diet, exerciſe, and the digeſtives always produce, remove theſe, and many other ſymptoms, that are found ſo troubleſome on every other plan; and ſoon bringing the ſore into a healing ſtate, uſually no farther difficulties occur, if the bottom be ſound. If therefore, after this period, a large ulcer is found indiſpoſed to heal up, (though there be no other reaſon for ſuſpecting miſchief at the bottom) and the uſual ſtimulants are found ineffectual, the ſore after the uſe of them, ſtill continuing at a ſtand; ſomething farther is neceſſary: the powers of nature being, in ſome habits of body, often inſufficient to cover a large ſurface with new ſkin, without other aſſiſtance, and a very different ſtimulus, which will preſently be deſcribed.*

This brings me to the Second Claſs of ulcers, which in ſeveral reſpects, requires a treatment different from the preceding. It was a juſt obſervation of *Ambroſe Parey*, "neceſſe quoque eſt varia adeſſe medicamenta, viribus pariter et virium gradibus diſtincta;" for ſays he, "nihil mirum ſit, ſi ſuo ſæpe excidant fine, qui eodem medicamento, omnia maligna ulcera curant, et ſanare ſe poſſe putant.†

* See pages 140, 142. † *Cap.* 9. *Lib. xii.*

Under

Under this head then, I ſhall treat that ſpecies of ulcer called eryſipelatous,* or herpes exedens, occupying merely the ſurfaces of parts, which is always glaſſy, and in its firſt ſtage, eaſily offended by every unctuous application; alſo many ſmall ulcers, attended with an eryſipelatous affection of the ſkin, furniſhing a copious, and almoſt cauſtic diſcharge; the true phagedenic, and various large ulcers in very old, or poor people, and in patients of a relaxed fibre and habit; including every *very* large ulcer of long ſtanding, with the like pale, and looſe ſurface, the conſequence of bad health, neglect, or intemperance. Not that I mean to imply that no *very* large ulcer will yield to the former method, nor that the means there laid down, have no ſhare in the cure of thoſe now to be conſidered, unleſs the eryſipelatous be ſaid to afford an exception; for whatever may be the circumſtances of the ulcer, it is to be digeſted and deterged, before we proceed to incarn.†

Theſe things premiſed, the cure of every ulcer is to be undertaken with the ſame intentions; powerful ſuppuratives, digeſtives, and deterſive applications are to be uſed, and we are to proceed to eſcharotics as occaſion may require. But when active remedies under every form are found to diſagree, after a ſore has been properly digeſted, and has put on a tole-

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* *Introduct. p.* 4, 5.

† To incarn before we mundify, or deterge before we digeſt, is building without a foundation, or to lay ſuch foundation on the houſe-top. Dr. Turner.

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rable appearance, it is to be ranked in the ſecond claſs, however ſmall it may be; and eſpecially that ulcer, the moſt obſtinate of any, deſcribed under various names,* and uſually known amongſt us by that of the putrid or phagedenic—I ſhall begin with the eryſipelatous.

I HAVE adopted this term, for the want of a better, to deſcribe an angry, ſuperficial ulcer, which is ſometimes likewiſe accompanied with an affection of the ſkin that will ſpread over the greater part of the leg; and chiefly attacks the aged and infirm. It always furniſhes abundance of thin, and very acrid diſcharge, eſpecially if the ſurrounding ſkin is affected, rendering the limb intolerably painful; and when the dreſſings are removed, frequently emits a ſteam like boiling water. I have known poultices and fomentations uſed a long time to no purpoſe; the ulcer either not healing at all, or breaking out in freſh places almoſt immediately, and the pain ſtill increaſing. Purges likewiſe are here of no uſe; as to medicines, opium and bark ſeem of the greateſt avail: the pain muſt be mitigated, and the habit be ſtrengthened. The dreſſings ſhould likewiſe be calculated to prevent fluxion to the part, or but little advantage will be gained; and in this ſpecies, I have never ſeen any harm from ſuppreſſing the diſcharge, though the remedies ſhould increaſe the pain at their firſt application.

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* Ἕλκος φαγεδαινικον, or Νομὴ of the Greeks.—Ulcus depaſcens, rodens, or ſerpens; ulcus ambulativum; ulcus putridum, et phagedænicum.—L'ulcere putride.

Having,

Having, in bad caſes, made uſe of a mild ſuppurative poultice for a ſhort time, to cleanſe the ſkin, and empty the little inflamed and obſtructed glands, by promoting their ſuppuration, I always apply ſome digeſtive to the deeper parts, for two or three days. After which, they may be dreſſed with an ointment made with as much true *armenian* bole as *Goulard's* cerate will take up, or a cerate to which ſome fine crocus martis is added, inſtead of the pulv. lap. calamin: whilſt the whole limb, when the ſkin is affected, ſhould be well duſted with the fine powder of bark, or covered with the unguent. deſiccat. rubrum, and after a while, with a compreſs wetted in the drying ſolution, made with ſacch. ſaturni and vitr. album, formerly mentioned,* to avoid loading the ſkin with the ointment. With ſuch applications, it will ſometimes be uſeful to give the cicuta, and aq. calcis minus compoſ. or the *Liſbon* diet-drink, where the pain has been ſo far abated as to admit of laying aſide the opium, and there is no peculiar indication for the bark. But if the above externals ſhould fail, recourſe muſt be had to the aſtringent ſolution, or ointment, I ſhall preſently make known,† which will certainly be effectual; and may, I hope, in many caſes, prove a valuable addition to chirurgical pharmacy. This is of itſelf, the remedy for thoſe ſmall ulcers attended with ſuch an affection of the ſkin, as will cauſe a ſteam to riſe from it like boiling water, which, after

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* Page, 106.

† See Pages, 140, 142.

applying

applying a poultice a few days, I am not afraid of ſuppreſſing by theſe means; and indeed have found medicines incapable of doing it.

Where almoſt the whole leg has been affected, a ſcurf, or ſcab, will remain for a conſiderable time, which muſt not be haſtily rubbed off. But the parts may, now and then, be touched with a little unguent. cærul. mit. and at other times be waſhed with the drying ſolution till the ſcales fall off of themſelves, or are very eaſily ſeparated; at which time the ſkin will be found, and perfectly ſmooth underneath. In all ſuch caſes, a piece of oil'd-ſilk ſhould, now and then, be applied under the roller, about the time the ſcabs begin to looſen, though ſome of the ſores ſhould not yet be healed up; which will haſten the ſeparation of the ſcales, and take off the ſtiffneſs of the limb. This ſhould likewiſe be worn for a ſhort time after the cure is compleated, which it will contribute greatly to the continuance of, but muſt occaſionally be laid aſide, if it induces too great moiſture on the ſkin; and the flannel roller be continued.

There is a ſimilar, but leſs violent affection of the ſkin, attending not only this, but ſome ulcers of the former claſs, which may be treated in a manner that may appear ſtrange on the firſt mention of it, but is perfectly ſafe. This is lightly duſting the fretted parts with precipitate very finely levigated, which ſo far from increaſing the diſcharge, or aggravating this ſpurious inflammation, uſually checks them very ſoon; which it is evident ſuch a remedy cannot do improperly. I was myſelf ſurprized at the firſt good effects

fects I experienced from it, after the afore-mentioned drying applications had proved leſs friendly to the parts than uſual. This appearance of the ſkin in common ſores, happens generally in the caſe of ſmall angry ulcers, where upon the healing up of one or more, others conſtantly break out; which nothing I have ever tried, ſo often prevents as the treatment here recommended. But ſhould any of the excoriated parts get deeper under this treatment, and a little ulcer be made, it will always prove leſs ill-conditioned than thoſe which had been ſpontaneouſly formed, and will be ſooner healed than theſe angry excoriations would be, by any ſedative, or drying applications. The diſeaſe ſeems to be in the ſebaceous glands, the nature of which, ſhould ſeem from the remedy, is an atonic, rather than phlegmonous diſpoſition of the parts.

From theſe I paſs on to the phagedenic ulcer; in treating on which, perhaps every thing will be ſaid, that can be neceſſary for any other large and troubleſome ſore, claſſed under this general diviſion.

This ulcer is always attended with an obſtinate callus on the edges, and on ſome parts of its ſurface; is often ſtreaked with red lines, and is foul, glaſſy, and ſmooth, or reſembles a newly made wound, where a portion of fleſh has been rudely torn away by the bite of an animal. It is very eaſily offended, and often ſpreads and eats like a canker, on the application of common eſcharotics,* (which, indeed, it

* See Freke's *Art of Healing*. See alſo Parey from Galen, "nam

it will ſometimes do under any treatment) the acrid matter either diſſecting its way between the muſcles, by deſtroying the cellular membrane, or elſe eating through the ſkin. Its edges always put on an irregular, and unkindly appearance, are often ſwelled, and ſtreaked with blood-veſſels like the bottom of the ſore, and are diſpoſed, from their laxity, to bleed upon the ſlighteſt touch. This ulcer generally takes place in the very pooreſt people, whoſe blood is broken down by hard labor, or intemperance; is very difficult to cure, and when very large often baffles every attempt of the beſt hoſpital ſurgeons.

There are, however, more ways than one of ſubduing many of theſe obſtinate ſores, and to this, the free exhibition of the bark will greatly contribute. The efficacy of this medicine may frequently be greatly increaſed by being joined with aromatics, or in women whoſe menſes are obſtructed, with chalybeates; which eſpecially in that form preſcribed by the late *Dr. Griffiths*, is, perhaps, the beſt remedy in chlorotic, and other cachochymic habits, ever adminiſtered.

Where the patient's ſituation will conveniently admit of reſt, (though indeed the remedies may be adminiſtered without it,*) a fomentation uſed for a

" nam diuturnior, et copioſior ſiccantium, et detergentium uſus,
" ulcera excavant indies; quare (ſays he) prudens videbit medicus,
" quando à valentioribus detergentibus, et corrodentibus ad mi-
" tiora ſit digrediendum." *Cap.* 9. *Lib. xii.*

* The different intention with which a common bread and milk poultice,

few days, and the ſuppurative cataplaſm,* ſupported lightly by a flannel roller, about a week longer, never fail to leſſen the moſt troubleſome ſymptoms, and ſo far to ſubdue them, as to render this ulcer more tractable under ordinary means. That kind of dreſſing, beſides every other advantage, has that of abſorbing, and therefore, ſheathing the corroſive, and cauſtic diſcharge, increaſed by moſt other dreſſings, to the great aggravation of the ſore.

When the callous edges become ſoft, their inequalities are removed, and a fine ſkin begins to cover them, the poultice may be diſcontinued, and the ulcer be dreſſed with ſome mild ſuppurative ointment, with the occaſional addition of a little ſaturnine cerate, which is peculiarly friendly to this irritable ſore, or ſometimes, the cerate made with crocus martis; but more frequently, the beſt application, in this ſtate, is *Goulard's* cerate and bole juſt now mentioned.† By

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poultice, and that now recommended, is made uſe of, is ſuch, that although the former is ſeldom of much ſervice, unleſs it be preſerved warm, by the patient being confined to his bed, the latter, from its potential warmth, will anſwer tolerably well when lightly ſupported by a flannel roller, though the patient be ſuffered to walk; which he may do, not only about the houſe, but to the ſurgeon's to be dreſſed, or examined, as I have repeatedly proved.

* See page 108.

† Beſides experience, ſuch ointments have the ſanction of all the old writers from the time of GALEN, who conſtantly adviſe ſome preparation of lead with the abſorbent earths, or other powder, for this malignant and eating ulcer.

theſe

theſe means the ulcer will become manageable, and will ſoon bear more effectual remedies. This period may be known, both by the appearance of the ſore, and by, now and then, mixing a little red precipitate with the digeſtive, or by dreſſing with the unguentum citrinum. If the ulcer will bear theſe, a very few days will produce a wonderful change, healthy granulations will ſhoot, the remaining calloſities will diſappear, (which may be haſtened by repeated ſcarifications) the hollow parts will fill up, and, probably, no farther difficulties will ariſe. And here, I muſt return to the caution, *feſtina lente*, which can ſcarcely be too often repeated with regard to ulcers on the lower extremities. But whenever gentle eſcharotics, and powerful digeſtives are found to diſagree, recourſe muſt be had to lenients, either ſuch as are above-mentioned, or at times more ſuppurative ones, according to the particular appearance of the ſore; now and then interpoſing a dreſſing with a little precipitate, or ſprinkling the ſore with lapis calamin. and myrrhe, whenever the cure ſeems to be at a ſtand.

By theſe means I have ſucceeded in very troubleſome ulcers of this ſpecies, though perfectly intractable at firſt with every common digeſtive, and abhorrent from ordinary deterſives; and I believe they will generally ſucceed very well if the ulcer is ſmall: but if it be very large, it will not always be healed by them, without reſt, the bad conſequences of which have been often adverted to. Mr. *Freke*, indeed, in regard to theſe caſes, has ſpoken very poſitively of

the effects of his ſuppurative poultice, but it will certainly prove inſufficient when there are large fungi, or of very long ſtanding. The diſeaſe often runs too deep, with too hard a callus, to allow the parts to get unloaded, and however ſuppurative the poultice, it is not active enough to anſwer the end. The hardened parts, however, muſt be removed; and it may be proper in this place, to hint at a method of treating them that is often preferable, becauſe much leſs ſevere, than the cautery, or total excifion with the knife. It is true, a fungus but rarely occurs, ſo as to prove troubleſome, under the plan I have mentioned, and which both the bandage and exerciſe have an uniform tendency to prevent; yet it ſometimes happens that a large and hard fungus is formed ready to our hand, and is generally the conſequence of a bad bottom to the ſore. If this ariſes from a narrow neck, it may often be removed by preſſing ſome fine lint pretty firmly round its baſe; or if this fail, a tight ligature may be eaſily paſſed round it. But if the baſis be large, and it ſhould not ſeem diſpoſed to yield to digeſtives and bandage (which the ſofter fungus generally will, as the bottom of the ſore is leſs frequently unſound,) it will be ſufficient, in moſt caſes, to make one deep incifion to its bottom, after which its ſides will frequently waſte away by digeſtives and bandage: but ſhould this prove inſufficient, eſcharotics ſhould be ſprinkled between the lips, and be occaſionally repeated, till the fungus ſhall ſubſide. This effected, proper digeſtives ſhould be continued, by which the diſcharge will be kept

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up, and every thing Mr. *Freke* expected from his ſuppurative poultice will be happily accompliſhed, without the baneful effects of reſt of the limb; and without it, he never looked for a cure.

The large phagedenic ulcer is the only one that will create any great difficulty to the experienced ſurgeon; ſmall ones, of whatever duration, and whatever may be the age and conſtitution of the patient, as far as I have ſeen, are healed by the above means, with eaſe, expedition and ſafety, after having withſtood a variety of others under a tedious confinement. And many common large ulcers, though deep, with diſeaſe of the ſkin to a conſiderable extent, it has been ſaid, are cured in a very reaſonable time, and require nothing but patience; I mean require the caution ſo frequently given, not to be anxious to heal them entirely, till the ſurface becomes perfectly good, and they are diſpoſed to it with any common dreſſing. But the very large phagedenic ulcer, which is eaſily put out of humour, and diſpoſed to ſpread on every little occaſion, is that which will prove the ſkill, and ſometims try the patience of the ſurgeon.

However, from what I have known, I can venture to recommend a method to others; though it is confeſſed, want of opportunities has limited my experience in the worſt ſores of this kind,* which falling

* In one of the *Medical Journals*, anno 1785, we have a particular account, by *Leonard Gilleſpie*, of the wonderful efficacy of lemon-

to the ſhare only of the pooreſt people, are ſeldom ſeen but in large hoſpitals, which I have therefore occaſionally viſited, purpoſely to make obſervations upon ulcers on the legs, by comparing ſome of the worſt caſes with thoſe I have been concerned for. The poverty, and evil cuſtom of theſe patients, indeed, greatly aggravate the complaint, and though the plan recommended be ever ſo well adapted to the diſeaſe, want of compliance on their part may render it abortive; and it is poſſible, there may be ſome caſes will yield to no treatment whatever.

If very active applications are uſed, in the form of an ointment, theſe are often moſt advantageouſly applied to the large, and irritable ſore, upon a thin piece of ſponge; by which means very deterſive ointments will agree very well for the ſhort time they are neceſſary, when they would otherwiſe eat the

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lemon-juice, as a dreſſing for the ſcorbutic, or putrid ulcer amongſt ſeamen; and the public has been favoured with a like account by *Dr. Blane*, in his treatiſe on their diſeaſes. How far this application may be ſerviceable in what is termed, at land, the putrid, or phagedenic ulcer, I have had no ſufficient opportunity of experiencing ſince I have been acquainted with thoſe publications. However, from the good which I conceive has been effected from a mixture of lemon-juice and treacle, it appears probable, that lemon-juice alone might be very uſeful in ſuch ſpreading ulcers, particularly from its tonic qualities; a circumſtance of great importance, as will preſently be noticed. At any rate, however, deſirous as I am of throwing every poſſible light on the treatment of ulcers on the lower extremities, I thought it proper to communicate this practice to ſuch readers as may not have ſeen the uſeful publications that firſt recommended it.

ulcer

ulcer into holes, and give it a raw, dry, and indigeſted appearance. I received this hint, from what *Freke* ſays on his poultice, that it abſorbs the acrid diſcharge, whilſt it conveys to the ſurface of the ulcer a ſuitable application. This led me to reconſider the very frequent uſe the ancients made of ſponge, which is one of the many valuable remedies of antiquity, that the moderns have indiſcriminately diſcarded; though it is in many caſes, one of the fitteſt means of conveying appoſite dreſſings to a ſore, that was ever deviſed. It is liable to no poſſible objection that I know of, in point of utility, if not made uſe of too long, and which every ſurgeon will know how to avoid.

There is, however, a very bad phagedenic ulcer, and always a large one, that diſlikes almoſt every thing in an unctuous form, at leaſt will not be healed by ſuch applications, till brought into a different ſtate; that is, till its ſurface is braced.—There is here, I apprehend, no virulent humor, as is uſually ſuſpected, no virus that wants to be diſcharged at the ſore, nor an *irritans aliquid* which nature cannot otherwiſe get rid of. Facts demonſtrate the contrary, for not only do patients enjoy very good health, after getting rid of the ulcer and their limb together, by undergoing a painful operation; but the cure of ſome of the worſt of them, proves ſuch ideas to be rather apologies for the want of ſucceſs, than founded in the reaſon of things. Sores have been, and are healed by empirics, under all circumſtances, and no ſuch dreadful evils have enſued; but we have not

known their art, and have contented ourſelves with ſuppoſing it to be unſafe, and diſputing the propriety of a cure we have not been able to effect!—*Hic labor, hoc opus eſt!*

This I would ſtir up my brethren to attempt, and am perſuaded they may ſucceed oftener than it is imagined; and perhaps the moſt rational means is to remove the local affection, a relaxed, and therefore irritable ſtate of the parts. That this has been frequently the great obſtacle to their cure, it were eaſy to prove by a variety of obſervations taken from healing ſores, and from ſuch as having promiſed well for a while, and then looking pale for a few days, have run into a gangrene; or at leaſt have continued at a ſtand—but I am ſatisfied, every experienced ſurgeon is before hand with me, and is inclined, at leaſt, to ſuppoſe it probable, that the hint may be juſt.

It is not deſigned, however, to dry up ulcers on the legs, as one would a ſcratch on the finger; the veſſels of the part are firſt to be freed, and the ulcer properly digeſted, and deterged; eſcharotics are to be applied if found neceſſary, and the ſore to be treated as directed in the former part of this work, ſo long as nature is diſpoſed to be active; but the moment ſhe flags, or cannot be rouzed to a ſalutary exertion, by ſtimulating applications and exerciſe, (or whenever ſuch applications offend,) the inference is as obvious, as an attention to it never fails to be uſeful. The ſore is to be *braced*, and the parts diſpoſed to contract; the certain conſequence of which will be a freſh, and healthy appearance of the ulcer;

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a pretty ſure ſign we have not miſtaken the caſe, and that the means we are uſing cannot be wrong.

But if this be attempted too ſoon, the plan is perfectly irrational, and the cure will not be accompliſhed, or cannot be expected to continue. For this reaſon I have objected to the early uſe of thoſe drying applications, which ſome empirics have entirely depended on, as well as againſt dreſſing ulcers with aq. vegitab. miner. dry lint, and covering the ſurface with lead; which I may venture to ſay, would, at leaſt, be uſed with more ſafety and ſucceſs at a later period, when ſores are well cleanſed, and nature flags under fruitleſs efforts to cover a large ſurface ſhe cannot firſt ſufficiently *contract*. And here, I cannot but remark, that there are but very few parts of the body, on which we meet with ſores ſo large as thoſe on the legs, where the whole ſurface is to be covered with entire new ſkin. Surgeons are always careful to preſerve a great deal of ſkin when they take off any of the larger limbs, or a tumor of any conſiderable ſize; by this means, although the ulcer, a few days after the operation, may have been very extenſive, the cicatrice at laſt is often not larger than half a crown-piece, or even a ſhilling: and it is on this account, that large ſurfaces are ſometimes ſo readily healed. But there is frequently great difficulty in thoroughly cloſing a ſore occaſioned by a burn, on any part of the body, when the true ſkin and adipoſe membrane have been deſtroyed to a conſiderable extent. * Such caſes,

* In ſuch inſtances, though a patient be ever ſo healthy, we are

caſes, in this reſpect, approach the neareſt to the ulcers in queſtion, of which the old ſkin can be brought over only a ſmall part of the ſurface, and the reſt is covered entirely by new. In all ſuch caſes, the aſtringent lotion already hinted at will wonderfully aſſiſt the cure, by enabling nature to contract the ſurface, and leſſen the dimenſions of the ſore.

But however, and whenever bracing applications are uſed to the legs, they ſhould not be continued throughout the cure, nor longer than is abſolutely neceſſary; but being gradually weakened, the laſt ſtage ſhould be effected, if poſſible, by ordinary means, and with the cautions laid down in the foregoing pages.

The ſolution may freqently be made uſe of merely to waſh the ſurface of the ſore, or ſometimes may be applied on a piece of double linen, (for lint ſticks too cloſe to the ſurface) its edges, (in very bad caſes) being firſt ſpread with any mild cerate, to prevent them from adhering too tightly to the ſkin, and thereby confining the diſcharge; and ſhould therefore be ſomewhat larger than the ulcer. There are, however, ſome very large ſores that require a more effectual method, and the ſolution is more advantageouſly applied, for a ſhort time, on a thin piece

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are apt to ſay, that the conſtitution long accuſtomed to the diſcharge, is thereby indiſpoſed to ſuffer the ulcer to cloſe. But it is very probable, it may often be better accounted for, on the principle juſt now mentioned.

of

of ſponge; but as the ſore contracts, and becomes dryer, the granulations are apt to ſhoot into it, and the ſurface will bleed on taking it off. A ſlice of new bread may then be ſubſtituted, a little time longer, in its ſtead, which will equally abſorb the acrid diſcharge; but this will be neceſſary only when the ſore is yet very large, and has been much diſpoſed to ſpread, or very unwilling to heal. And ſhould we, now and then, meet with a caſe, wherein the application of the ſolution upon bread, may ſeem neceſſary for many days together, as this may be thought an uncommon, and awkward manner of applying a dreſſing, the vitriol, which forms the baſis of the ſolution, may be mixed up with a proper quantity of oil, and made into a mild cerate, or ointment; with ingredients more or leſs ſuppurative, or otherwiſe, according to the particular circumſtances of the caſe. But above all theſe, bathing the limb for a quarter of an hour before each dreſſing, in a tepid ſolution of the calcined vitriol * ſhould be made trial of; an expedient I was not acquainted with when the former edition appeared. But if none of theſe difficulties appear upon leaving off the dreſſing with ſponge, a piece of linen wetted in the ſolution, may be laid on the ſore; or even waſhing it with the ſolution may now be ſufficient, and a mild digeſtive, or in very obſtinate caſes, the cerate with crocus martis, or *Goulard's* pomatum and bole, be applied

* See page 142.

to

to its ſurface. To this, a little precipitate, or corroſive ſublimate, may ſometimes be added to advantage, if an ulcer has hitherto been in a very irritable ſtate, and it is apprehended may not have been perfectly digeſted.

Some of theſe phagedenic ulcers with a very large ſurface, and of very long ſtanding, are of a naſty greeniſh hue, exceedingly foul and indigeſted, and ſo painful that they cannot endure the tedious proceſs of ordinary deterſives, but as hath been obſerved, are exceedingly aggravated by them: they will ſometimes, indeed, be benefited by the application of the theriaca venet. but are very apt to prove foul again. They may be cleanſed, however, in one or two dreſſings, by ſome ſuch lotion as the aqua phagedænica, for the lotion that paſſes under that name, is too ſtrong to be ſafely applied with freedom to very large ſurfaces. * Or, if ointments containing mercury are thought proper, the unguent. citrinum is one of the moſt powerful, or an ounce of ung. baſil. flav. with a ſcruple of the mercur. corroſ. ſublim. will form an excellent deterſive. But it ſometimes proves a very painful application, and ought never to extend beyond the ſore, as it may bliſter the part all around, and bring on an eryſipelatous inflammation.

The lotion I juſt now hinted at, is, indeed, genenerally preferable; this I have called a deterſive

* It is likewiſe a very inartificial preparation, formed upon erroneous principles, by which the intention is very much fruſtrated.

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lotion, to diſtinguiſh it from that I formerly mentioned, and conſiſts of a mild ſolution of ſal. martis, with a very ſmall portion of merc. corroſ. ſublimatus; a thick piece of crumb of new bread well ſoaked in this ſolution, and bound on the ſore at going to bed, will often cleanſe it in one night, and produce a diſcharge of as laudable pus as the ſurgeon can wiſh for; nor will frequent repetitions be neceſſary. It will then be ſufficient in general, to waſh the ulcer with it before the ordinary dreſſings are applied. But ſhould the ulcer ſpread again after a while, though it has been perfectly digeſted, and looked as well for a time, as a common ſore on the arm, recourſe muſt be had to the firſt mentioned lotion. The looſe flabby ſurface muſt be braced, and contracted, (and this is fitly done by aſtringents, which invigorate and warm without relaxing) which every ſurgeon knows always produces a freſh and pleaſant appearance, lightly granulated, but without a diſpoſition to bleed upon every touch of an armed probe; which by the bye, is ſometimes uſed more freely in wiping the ſurface of ſores than is ſafe, and generally much more than is neceſſary.

This lotion is very ſimple, yet is exceedingly deterſive, and by means of its bracing powers, gently corrugates the ſurface, and by kindly urging nature to action, gives the ſore a florid and ſtrawberry appearance, but without leaving that dryneſs upon it, which common aſtringents, and particularly allum, always induce. And it may be neceſſary here to obſerve, that though applications merely aſtringent or drying,

drying, are in general very improper, for reaſons that have been repeatedly hinted at, experience proves there are ſome things of the aſtringent kind, which are likewiſe deterſive, that may frequently be uſed with advantage and ſafety. It was not, however, without long attention to the ſubject, and numberleſs attempts, that a ſafe and ſuitable preparation has been diſcovered; ſuch an one, as will not only brace, but cleanſe the ſore, and preſerve a pleaſant appearance of its ſurface, whilſt it diſpoſes it to heal; ſuch an one, as according to the ſtrength it is made of, will abate, or preſerve the diſcharge, will ſtimulate the riſing granulations, and urge nature to exert herſelf, or will more powerfully corrugate its extreme veſſels, and diſpoſing them to contract, prepare them to cicatrize at the edges of the ſore.

Such, it is thought, is the ſolution frequently hinted at, and that it will often anſwer all the purpoſes required in many obſtinate ulcers. It may ſafely be uſed to every very large one, and in perfect conſiſtence with the plan of not compelling them to dry up, if it be not uſed too early, or continued too long; and which the prudence, and experience of the ſurgeon will determine. This is made of the vitr. virid. ad albitudinem calcinatum, diſſolved in aq. font. and prepared of ſuch a ſtrength, according to the nature and extent of the ſore, as the practitioner ſhall think fit. But it ſhould be only in the hands of ſurgeons, who will vary its aſtringent quality and ſtrength, to the circumſtances of the caſe, and will not attempt to dry up old ulcers in the mode of empirics: for if made of an improper ſtrength, it becomes a very different

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application, and will alone induce a ſkin on the ſurface of many ulcers that are yet in a very undigeſted ſtate, and unfit to be healed—but fitneſs and ſafety are not always the objects of that claſs of practitioners, and to whom therefore a little knowledge is a very dangerous thing.

THUS far ſome experience may be ſaid to have gone, but how much farther this plan may with ſafety and advantage be extended, it is time only can prove. It has been obſerved, however, that my experience of its advantages over every other method hitherto made public, has been greatly confirmed ſince the former edition of this work; and I have therefore farther ground for hoping that the treatment laid down in theſe pages, may be applied to ulcers attended with caries of the bone. At leaſt, when the ulcer is only of a moderate ſize, and the injury has not penetrated ſo deeply, or the pain and inflammation are ſo great, as to render a very long confinement abſolutely neceſſary, the methods propoſed ſeem to promiſe ſucceſs; though my own experience may not warrant me to promiſe it where the caries is conſiderable. And allowing only a certain time of confinement at a neceſſary period, when the bone is exfoliating, (which may be haſtened by ſlight perforations into the ſound part) exerciſe will have a very conſiderable advantage through the reſt of the cure; for as a degree of inflammation is the proceſs, by which nature throws off ſphacelated portions of bone, it being perfectly ſimilar to that which takes place in the ſofter parts of the body, I may venture to think this pro-

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ceſs may go on better, and if it ſucceed, far more ſafely, with moderate exerciſe than by abſolute reſt, as the cure is likely to be more laſting. We know how much can be done, even in the foul air of an hoſpital, under the hands of experienced practitioners, in ſome very bad caſes; though this is certainly ſometimes prevented by the cloſeneſs of the place, or the patient accidentally taking a fever.* If theſe riſks could be avoided by the patient being, with ſafety, permitted to take as much exerciſe a part of the day, as might maintain him during his cure, perhaps now and then a limb, or a life might be ſaved; or, at leaſt, the attempt, it is hoped, might be juſtified.

But after all that can be ſaid, the neceſſity of amputation, in ſome caſes, cannot be diſputed; but I am daily more perſuaded, there is good reaſon to hope ſuch will not often occur, after this method ſhall have been for ſome time adopted. For patients will then have been informed, that ſore legs are cured without confinement from their families or labor, and that ſo cured, they will not be afterwards liable to return, but from the ſame cauſes that produced them at firſt. Theſe conſiderations will, probably, encourage moſt patients to ſeek advice very

* Beſide theſe diſadvantages, there is another very common in hoſpitals; which is the cuſtom of taking off the dreſſings from ſore legs, ſometimes an hour or more before they are dreſſed up again. The bad effects of this practice muſt be evident to every man, but will be more ſo, by compariſon, upon leaving it off.

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ſoon, and though ſome of the poorer amongſt them ſhould procraſtinate longer, many of theſe may nevertheleſs get effectual help when they apply; which will be likely, at leaſt, to prevent the diſmal effects of a mere temporary cure.

BESIDE the few caſes which, but for amputation, are beyond the reach of art, others have been mentioned, which manifeſting the exiſtence of internal diſeaſe, with morbid affection of ſome of the viſcera, where it has always been preſumed an external drain muſt prove ſerviceable, it may become a matter of doubt, whether their cure may be ſafely attempted,* or the ſubſtitution of iſſues be a ſufficient ſupply in

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* Ulcers attending the leg in old people, ought to be looked upon as critical, and therefore ſhould not be healed. LE DRAN. So HEISTER, and many other eminent writers.—The opinion of AVICENNA is ſo very emphatical, I hope I ſhall be excuſed if I give the quotation. "Sed in ſenioribus non ſanantur eorum ulcera—et quandoque ſanantur, deinde reſcinduntur, quoniam non generatur in eis caro, niſi ante mundificationem; quando ergo retinetur in eis ſuperfluitas non munda, oportet inde ut corrumpatur continuitas proveniens ſecunda." *De Ulcerib. Lib. iv.*—I have ventured, however, to cure ulcers of many years ſtanding in very old people, and one many years ago in a lady upwards of eighty years of age, whom a very eminent ſurgeon had cautioned againſt ſuffering it to be healed; all of whom have ſince enjoyed good health, and the ulcers have ſhewn no diſpoſition to break out again. This practice has alſo the ſupport of *Mr. Bell*, who though ſo great an advocate for iſſues, conſiders ſore legs, except in caſes of ſpecific infection, merely as local affections.

their ſtead. Here the phyſician ought to be conſulted, and, indeed, it were to be wiſhed this were much oftener done in ſurgical caſes, than it is; he would furniſh the ſurgeon with ſome uſeful hints on various occaſions, and whilſt they would proceed pari paſſu together, the patient would not have to repent it in the end.—But in the preſent inſtance, ſhould they be of opinion that the diſcharge from a large iſſue would be inadequate * to the drain from the ulcer, they may perhaps be in the right, and the patient will probably chuſe to err on the ſafe ſide. There are certainly facts which favor either ſide of the argument, and therefore ſome latitude muſt be allowed, and the diſcretion of practitioners muſt determine in particular caſes. *Wiſeman*, for inſtance, gives us a remarkable one *(Book ii. ch. 9.)* of a young woman afflicted with a bad ulcer on her leg, which for a long time reſiſted all the means uſed by himſelf and others, on account of ſuppreſſed catamenia, which periodically occaſioned a foulneſs of the ulcer; till at length the ſore being healed by the aſſiſtance of

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* See BELL, *On Ulcers, Part ii.* § 2. on the nature and quantity of pus diſcharged from a common iſſue—add to this, the very moderate diſcharge many ulcers furniſh when left to themſelves, or dreſſed as they uſually are by paupers, with a little very bad cerat. epulot. But reaſoning from facts, it appears full as probable, that the advantages of natural, or artificial drains, ariſe more from irritation, than the diſcharge from the ſore. *See Introduction, pages* 31, 32.

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a laced-ſtocking,* the woman enjoyed perfect health, and the menſes ſoon afterwards returned in their natural courſe. Suffice it to ſay, that great numbers have been cured where the bad conſequences apprehended have not enſued, and as far as I could learn, very few have ever broken out again.

Some Caution however is neceſſary, but it conſiſts in very few things, viz. *Purging*, *Temperance*, and continuing the *Bandage* for ſome time.

THOUGH purging has been ſo ſtrictly forbidden, with a view to invite the ulcer to heal, during which proceſs, to prevent conſtipation is all that, in general, ſhould be aimed at; yet when the cure is nearly accompliſhed, ſuch a courſe is ſuggeſted with the greateſt propriety. A few briſk purges, at convenient intervals, ſhould at this time be directed, according to the age and ſtrength of the patient. The

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* That this, and many of WISEMAN's beſt cures were effected by a tight bandage, and often by a free uſe of precipitate, is exceedingly apparent.—Speaking of ulcers with great loſs of ſubſtance, which he dreſſed with baſilicon mixed with precipitate, (which he there obſerves he uſually carried in his ſalvatory) he expreſſes himſelf thus.—"I then rolled it up with expulſive ban-"dage, the cure indeed conſiſting mainly in the well-rolling—by "the uſe of it, both the influx was taken off, and the member "ſtrengthened." And again *ch. viii.* on the ulcer with callous lips, he ſays, "the ſpeedy cure of this I imputed to the laced-"ſtocking, it performing all the intentions neceſſary to the curing "of many ſuch like ulcers."

roller, it was ſaid, ſhould be continued for ſome time; the ſize and duration of the ulcer, with ſimilar circumſtances, which every ſurgeon will have reſpect to, will determine the length of this period; for if the ulcer has been very large, and of long ſtanding, it will be neceſſary to continue the roller a conſiderable time. It need, however, be worn only for a few weeks during the night.

This is all that is required; adviſing, however, that caution proper for every convaleſcent, to attend to his general health, and to take a purge now and then, if a conſtipated ſtate of the bowels ſhould require it. To theſe, indeed, was added a caution to the intemperate, ſince, doubtleſs, a certain manner of living, may render this, and the cure of any other complaint, of very uncertain duration. If men will run *quo ducit gula*, they muſt themſelves, and not the phyſician or ſurgeon, who has once or more cured them, abide by the conſequences.

BY way of Concluſion, it may not be amiſs to bring the principal intentions into one view, as well as make ſome apology for ſo bold an attempt to ſet aſide the common remedies and applications for ulcers on the legs, and even to recommend a method, in many reſpects diametrically oppoſite to thoſe in vogue; as Exerciſe inſtead of Reſt and Confinement; free generous Diet * inſtead of a ſtrict ſparing

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* See Dr. KIRKLAND on the *diet* of patients, in his *Thoughts upon Amputation.*

Regi-

Regimen; and ſtrong Digeſtive Ointments rather than mild Poultices and cooling Cerates.

If the ſucceſs of a plan varying in ſuch eſſential reſpects from any hitherto received, ſhould juſtify the hope entertained, the advantages will not be inconſiderable to men of pleaſure or of buſineſs, but eſpecially to the ſuffering poor, who croud the public hoſpitals much more on account of theſe diſorders than any others. If they can be cured without being obliged to leave their families, and that labor by which their families are ſupported, it is thought one grand obſtacle to their applying for relief in proper time will be removed: and the ſurgeon will doubtleſs be glad, on many accounts, to be ſaved the very diſagreeable neceſſity of receiving ſuch objects into the hoſpital, moſt of whom may with more ſafety and propriety, be cured out of the houſe. But important and deſirable as is ſuch a deſign, the author is aware of the obſtacles there may be to the extenſive uſefulneſs he has had in view, in rendering ſuch a plan general amongſt the very pooreſt and heedleſs part of mankind, who are ſeldom faithful to themſelves. Satisfied, however, of many advantages it will have amongſt thoſe of ſuperior rank, and wherever patients can be depended on, he is confident ſome good will be effected upon this plan, that has never been accompliſhed by any other. He only requeſts his brethren will condeſcend to make uſe of the preceding hints, and allow a little time to prove the utility of the mode, and he doubts not they will find ſucceſs enough

to encourage them to perſevere, until farther improvements will be made by them.

He has, however, diſcharged his part; he has delivered his ſentiments as the reſult of long attention to the ſubject, and muſt leave his readers to paſs what ſentence they pleaſe. In the mean time, it is his ſatisfaction to have aimed at things, which it can be no crime to have attempted though his deſign ſhould not perfectly ſucceed; whilſt to have concealed what was judged likely to be of ſuch public utility, would have been criminal in the eye of every benevolent mind.

It may be proper to add, that it has not been his deſign to intimate that other ſurgeons are without their ſucceſs in theſe caſes, ſome of whom he knows have paid particular attention to them; and ſhould any know already as much as he has to ſay, and be able to heal old ulcers without confinement, or probability of their return, it is pity the public has not been made acquainted with it. It would have ſaved the compiler of theſe ſheets ſome trouble; who had no ſuch deſire of appearing in public, as needleſsly to have expoſed himſelf to the hazard of cenſure, for opinions he has ſuppoſed novel among regular practitioners. To ſuch he now ſubmits the foregoing pages, perſuaded they contain ſome improvements. But ſhould they, after a longer trial, be found inadequate to the end, and any other method be pointed out more rational, eaſy, and certain, it will be the

duty

duty of every candid practitioner to adopt it. Till then, the author can only ſay,

Vive : vale. Si quid noviſti rectius iſtis,
Candidus imperti : ſi non, his utere mecum.

HOR. Epiſt. VI. L. i.



BRIEF
PRACTICAL OBSERVATIONS
ON SOME
SCROPHULOUS ULCERS;
OPHTHALMY;
THE
MAMMARY ABSCESS,
AND
GANGRENE.

Ineſt ſua gratia parvis.

PRACTICAL OBSERVATIONS

UPON SOME

SCROPHULOUS ULCERS.

WHEN I began to reflect on the great advantages that had reſulted, in many bad ulcers of the legs, from a bold uſe of the mercur. corroſiv. ruber, and of ſome digeſtive ointments of a warmer compoſition than thoſe in common uſe, as well as from a generous diet and exerciſe, it was natural enough to extend the trial of them in other troubleſome ſores. The reſult of theſe experiments has, indeed, exceeded my expectations, and I can now venture to recommend them to the trial of other practitioners, and particularly, for cold glandular tumors about the neck, ſuppoſed generally to be of the ſcrophulous kind; which, however, frequently appear, and break into very troubleſome ſores, without any other marks of that dreadful complaint.

I was

I was farther encouraged in theſe attempts, by ſome obſervations of the late *Mr. Freke*; who indeed was a man of a lively and warm imagination, and ſometimes a little eccentric, but was, nevertheleſs, a thinking man, and had plauſible reaſons to aſſign for every part of his practice. His ideas of theſe caſes (as well as of diſeaſed bones) ſerved to confirm me in the opinion I had entertained both of the diſeaſe and the remedy.

I have now, for ſome time, uſed the precipitate with great freedom in ſcrophulous affections of the neck, and to very great advantage.—If the ſwellings are at all diſpoſed to come forward, but are not broken, or have only a ſmall orifice, I always haſten the maturation, and the diſſolution of the ſkin as far as it is diſeaſed, by means of epithems made of honey, flour, and yolk of egg, to which alſo may be added a little yeaſt. I am very little concerned to what extent the ſore may run, as I know I ſhall have much diſtempered gland to deſtroy underneath, and that if the latter be not effectually done, the ſore will either not heal entirely, however ſmall it may become, or will ſoon break out again. The ſcars, however, are even ſmaller, than when the ulcers are treated in the ordinary way. For the ſkin, in this part, being thin, frequently looſe, and yielding, the tumor beneath it removed, and the ſores healing up much ſooner than under the lenient method, I have known them, when cured by the above means, leave no more than a ſeam, and a little redneſs to

be

be obſerved afterwards, without any proper ſcar on the part.

The only diſagreeable circumſtance that can attend ſuch a practice, I apprehend, is the poſſibility of a ſalivation, of which I can ſay only, that it has never happened to me; though before I relied ſo much on external means as I now do, I have given mercurial medicines in ſmall doſes, for a conſiderable time, whilſt I have made uſe of precipitate daily with great freedom. Moreover, as it is very common to preſcribe ſea-water, or ſome other laxative, in theſe caſes, the riſk of a ſalivation, I imagine, will in general be very little. But ſhould even ſymptoms of it appear, every practitioner, as he will know the cauſe of it, will immediately take care not to increaſe it.

I am now, however, perſuaded, there will generally be little or no occaſion, for adminiſtering mercurials inwardly, or any other medicine under the idea of an alterative, (at leaſt, I am afraid, we know of none peculiarly adapted to the diſeaſe) much leſs for frequent purges, which ſerve only to reduce the vis vitæ, which, in theſe caſes, is always too languid already. I find likewiſe, the ſores heal up as kindly without, as where mercurials, antimonials, cicuta, neutral ſalts, or ſea-water are made uſe of, all of which I have formerly preſcribed with great freedom; and I doubt not that the plan I mean to recommend, eſpecially when this diſeaſe is confined to the neck, will be very frequently ſucceſsful in

the hands of every other gentleman, who will give a fair trial to it.

If the patient is unhealthy in other reſpects, ſuch medicines ſhould be directed as appear ſuitable to his complaints, when the bark will, I believe, be frequently found as uſeful as any; and I have found evident good effects from a ſtrong decoction of the woods, and crude antimony. But in a general way, I depend upon nothing ſo much as procuring a good and early maturation of the tumors, and ſuppuration of the diſtempered ſkin and glands, by means of the aforementioned epithem; a very bold and continued uſe of the precipitate; a nouriſhing diet, and as much exerciſe as the patient can well bear; eſteeming walking the beſt of all. To this end, the patient ſhould be encouraged to be continually on his feet, and abroad in the air as often as the weather will ſafely admit of it; and of whatever age he be, after beginning this exerciſe in a way that ſhall be quite agreeable, to increaſe it daily, till he ſhall go to bed every night thoroughly fatigued. Of the advantage of this,* I have had ſuch proofs, as leave me no room to doubt of the propriety of venturing to recommend it, as far

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* Nihil eſt, quòd utiliſſimam ſuperflui et nocentis humidi perſpirationem tam egregiè juvet, quam motus corporiſque exercitatio, qua tuendæ ſanitatis vix præſentius datur auxilium.—Peregrinatio ad omnium ſalubritatem pertinet, quia non modo cum continuo motu, ſed frequentiori etiam aeris inſalubris in ſalubriorem mutatione conjuncta eſt, quæ tuendæ ſanitati et corpori a pluribus morbis præſervando egregiè velificatur.

HOFFMAN. *De Motu optimo Sanitatis Præſidio. Cap. ix. et ſeq.*

as ſuch experience may be ſuppoſed capable of doing it. And of this I recollect two remarkable inſtances; the one in a lad who came to *London* exceedingly ſcrophulous, and was hired to go behind the carriage of a gentleman, who was in it many hours every day: The other was the ſon of an exciſeman, who having very long walks, took the child, who was about ſix years old, conſtantly with him. Neither of theſe patients took any other medicine than a dram or two of *Epſom* ſalts, four or five times a week; yet both got perfectly well.

To obtain the advantages that have been hinted from the uſe of the precipitate, ſcrophulous ulcers ſhould be filled with it, and if a ſlough is formed by it, (which will not always be the caſe) the ſuppurative epithem is the beſt dreſſing till the ſlough is thrown off; when the precipitate ſhould be immediately repeated. The firſt, and a very early advantage, from ſuch a uſe of it, will be a change in the diſcharge, both in quantity and quality, which from having been too little, or from an abundance of corroding ſanies, will be changed to a moderate diſcharge of good and laudable pus; and the ſore, except when a ſlough is produced by the application, will always look clean. In a little time there will alſo be a favourable change in the parts contiguous to the ulcer, the ſwelling will ſubſide, and from a red and heated appearance, the ſurrounding ſkin will acquire its natural color, and the patient himſelf, or his friends, will be able to judge of the favorable turn in his caſe.

I have adviſed a daily uſe of the precipitate, which, indeed,

indeed, I intend almoſt literally; for when a good deal of the gland has been deſtroyed, the ſore and ſurrounding ſkin will be found to contract under the uſe of it, as if an aſtringent application were made uſe of; and the parts will actually heal up to the breadth of a ſtraw, whilſt this active mineral, which has already deſtroyed a cluſter of diſtempered glands, is daily applied.

I have elſewhere taken notice,* that electricity has been found very ſerviceable in theſe ſores, and that it becomes ſo by communicating powers to the parts. But it will be farther neceſſary to remark, that it not only forwards maturation in ſuch tumors as are previouſly diſpoſed to ſuppurate, but does it in the moſt advantageous manner, as well as expedites their healing, and often without ſo much as a ſcar. For tumors brought by this means to ſuppuration, frequently break only into very ſmall apertures, from which, however, the matter runs very freely by the daily uſe of electricity; and when they are diſpoſed to heal, the ſkin on the ſurface becomes attached again to the parts below, and only perhaps half a dozen very ſmall ſpecks, in the form of ſo many pin-holes, remain.

Since the former edition, I have had ſome farther experience of the virtues of camphor in cold tumors, and I can now recommend it, in conſequence of ſuch trials, as frequently capable of diſperſing ſuch as have

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* Vide the Introduction to *Treatiſe upon Ulcers*, pages 13, 14. (*Note.*)

long

long been in a quieſcent ſtate, and not diſpoſed to ſuppuration. Such tumors have ſometimes proved exceedingly troubleſome, on this account, remaining indolent after others have ſuppurated plentifully. In this ſtate, oil well ſaturated with camphor,* has become a very uſeful and ſafe application, and by reſolving the ſmaller indolent tumors, ſerves to compleat a cure, that would otherwiſe have remained imperfect, after all thoſe had been healed, which the epithem had brought to ſuppuration. Electricity likewiſe, though it forwards ſome tumors, will aſſiſt the reſolution of ſuch as are not diſpoſed to ſuppurate.

I KNOW it is an opinion with ſome people, that ſcrophulous ſwellings ought not to be invited to ſuppuration; though not from an idea that they will heal leſs kindly in conſequence of early maturation, but ſolely from the difficulty of healing them whenever ſuppuration takes place, and the abſceſs is burſt. But ſince ſcrophulous tumors, and particularly thoſe of the neck, almoſt conſtantly end in ſuppuration, at one time or other, though not at all invited to it by art; and ſince experience has proved the very conſiderable advantage of bringing them to an early and

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* This is likewiſe the beſt remedy, I believe, for the incipient bronchocele, which it diſperſes ſometimes in the ſpace of a few weeks, if very well rubbed into the part at leaſt three times a day, and a piece of flannel well greazed with it, be kept conſtantly to the throat. The patient at the ſame time ought to take a dram or two of the Sal Rupil. every morning.

copious maturation, which both prevents ſo much of the glands being affected, and occaſions a more perfect diſſolution of that which is already diſtempered, I can confidently adviſe the early uſe of the ſuppurative epithem,* in preference to every other remedy, unleſs it be convenient to make trial of ſea-bathing. It will be a means of preventing many of the ſad effects of leaving theſe tumors for months, and even years to themſelves, (as I have ſeen them) in habits of body ſo ill-calculated to get rid of diſeaſe; and wherein medicine is univerſally acknowledged to afford ſo little aſſiſtance.

But ſhould a ſcrophulous tumor in this part be unuſually large, it may be treated in a ſomewhat different manner; it ſhould, however, be ſpeedily brought to ſuppuration, by the epithem already mentioned; or ſhould this be done to our hand, as it will conſequently contain a good deal of pus, the glands will thereby be already conſiderably diſſolved. On this account, there will not only be leſs occaſion for ſo bold a uſe of the precipitate, but the extent of the tumor being conſiderable, it will be of conſequence to preſerve a good deal of the ſkin, if there be no objection to doing it. Therefore, if that is not in a very bad ſtate, (which it frequently indeed is, before large tumors ſuppurate plentifully) it will be found very convenient to open the abſceſs, by making only

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* Hence, probably, it is that the *Malvern-Waters* have ſometimes proved ſo beneficial in theſe caſes. See a note on the *Malvern-Waters*, in the *Treatiſe upon Ulcers*, pages 101, 102.

a punc-

a puncture with a lancet, firſt at the top, and then at the bottom of the tumor, ſufficient to paſs a ſeton through it; or it may be done at once by a ſmall ſeton-needle, armed with a ſlender ſkaign of cotton or ſilk. Beſides every other advantage of this method of diſcharging the matter, which will alſo be gradual, is the excluſion of air; a point ſcarcely enough attended to in the treatment of abſceſſes. The ſeton being introduced, ſhould be drawn up and down at leaſt twice every day, and ſometimes be moiſtened with ſome proper deterſive ointment; and occaſionally ſprinkled with precipitate. The conſtant irritation of the ſeton, will tend to diſſolve the remaining hardneſs of the glands, far more than any common poultice, which frequently ſerves only to deſtroy the ſkin without affording that ſtimulus to the parts underneath, which this ſore always requires. The irritation of the ſeton will alſo diſpoſe the bottom of the abſceſs to throw up healthy granulations, the moment the hardneſs is diſſolved, and the ſore will thereby heal up kindly, more expeditiouſly, and with much leſs ſcar, than could be expected from the extent of the tumor; no more than the marks of the punctures, and a little redneſs of the ſkin, as it was obſerved, remaining afterwards to be ſeen.

Should the punctures made by the ſeton, however, not be diſpoſed to heal in a reaſonable time, after the ſilk is withdrawn (which ſhould be gradual, by removing a few threads at a time,) and yet no freſh hardneſs take place, nor the diſcharge be increaſed;

the little orifices may be eaſily dried up, by dreſſing them twice a day with bits of lint dipped in a mixture, conſiſting of a little new milk, and a drop or two of extract. ſaturni, which by this means will be thickened to the conſiſtence of a liniment, and becomes a very uſeful application to many other very troubleſome ulcers; of which I firſt ſaw the good effects ſome years ago, in a very different caſe, under the direction of *Mr. Watſon*.—If the edges of the punctures become callous, a few touches with the lunar cauſtic will ſoften them, and diſpoſe the punctures to heal.

If I might be permitted to offer any farther hints on theſe troubleſome ſores, and to judge from ſome favorable circumſtances joined to a little experience, I ſhould hope the laſt mentioned method may afford ſome conſiderable aſſiſtance in ſome ſcrophulous abſceſſes about the joints of the upper extremities, if the patient be likewiſe ſent to the ſea; which I have ſeen attended with the happieſt effects. As for thoſe on the lower ones, beſides every other diſadvantage they labour under, that of depriving the patient of good air and exerciſe, forbids me to expect any very material improvement upon the common method of treatment.

Theſe things are all I mean to propoſe for theſe ill-conditioned tumors, which I believe, indeed, will often require no other aſſiſtance. And I am perſuaded, more may be effected by them, and much ſooner, than is frequently done by the various alterative medicines, and other means that are generally preſcribed; unleſs

unleſs in ſome inſtances, it be ſea-bathing, the great advantages of which are extreamly uncertain, and to be known only by the trial of it: every practitioner having found his utmoſt expectations exceeded by it in ſome caſes, whilſt in others, his patients have returned from the ſea much worſe than they went there. At all events, the above plan may with propriety take place in the winter ſeaſon, when ſea-bathing is thought by ſome practitioners to be attended with hazard, to delicate habits: or ſhould even that be determined upon, the ſores may be treated in the above manner at the ſame time.

It is not unlikely, that ſuch a uſe of the precipitate as I have now been recommending, may be already known to other gentlemen of the profeſſion, but it is certainly not the common practice, nor has it, I believe, ever been made public;* and from what I have known myſelf, and been informed of by others, of the ſucceſs of ordinary means, I can venture to ſay, that the cure will often be more expeditious and certain, as well as leſs unpleaſant, if the plan ſhould be generally adopted.—It is ſcarce neceſſary to add, that after the cure, or juſt before it is compleated, it will often be adviſeable to open an iſſue in ſome convenient part of the body, as well as to attend

* Since the firſt edition, I have obſerved in the *Praxis Barbettiana*, that the uſe of eſcharotics is recommended as adapted to theſe ſores; but it is mentioned only in a general way, as being ſerviceable after lenient applications have been made uſe of in vain; which is a maxim equally applicable to moſt other ſores.

carefully to the diet, and continue the exercise for a time.—Should the patient have been subject to ophthalmia, or have other mark of scrophula in the habit, these will be additional inducements for making a trial of sea-bathing, which he should not only continue through the season, but return to it the following summer, if it has been evidently beneficial. Should a disposition to ophthalmy return, or other weakness of the eye take place, other remedies will be requisite, as will be noticed in the following tract.

BRIEF

BRIEF HINTS

ON SOME OF THE

MORE COMMON DISEASES

OF THE

EYE.

DISORDERS

OF THE

EYE.

HAVING in the preceding obſervations had occaſion to mention the ſcrophulous ophthalmy, I ſhall in this edition drop ſome farther hints on that complaint, in a few additional pages on the more common diſorders of the eyes, which may, at leaſt, ſerve to direct the young practitioner.

There is, I believe, no part of the human body whoſe diſeaſes have been more the ſubject of empyriciſm than the eye, though no part can be more important to us, nor intitled to more cautious treatment.

A principal occaſion of theſe complaints lapſing into ſuch hands, is, perhaps, the very great uncertainty in the operation of the beſt remedies, owing to the variety of conſtitutions in the ſubjects of them, as well as to the very different treatment theſe diſorders require at different periods. Hence the

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numerous eye-waters we hear of (and ſo much extolled by ſurgeons as well as by empyrics,) many of which, I doubt not, have been very ſerviceable in their turns, but are all equally improper, as general remedies. This neceſſary diverſity of treatment is, however, very well known to every good practitioner, though the preciſe period for a change in the remedies is not ſo readily aſcertained.

The chief difficulty in the cure of ophthalmy ariſes, I apprehend, from the great irritability of the organs of ſight, and their diſpoſition to exceſſive relaxation; but between theſe alſo, there is a diſtinction frequently to be made, that is of the greateſt importance, but has not, I think, been very generally obſerved. Theſe ſymptoms, indeed, ſometimes exiſt together, and are dependant on one another; but what I deſign to remark is, that in diſorders of the eyes, there is a ſpecific difference between them, to which we are carefully to attend, as to an important guide in our practice. And this will be very evident to the attentive practitioner, from the conſideration of ſedative applications ſo frequently failing of ſucceſs, in apparently irritable ſtates of this organ, whilſt bracing applications will as often prove exceedingly prejudicial in caſes attended with great relaxation.* Hence it muſt happen, that

* It is very probable, it may be on this account, that the thebaic tincture has proved ſo beneficial in a great variety of caſes, related by *Mr. Ware*, wherein neither the wine alone, nor opium diſſolved

that either the particular affection has been miſtaken, where only one of them has exiſted, or it has not been rightly aſcertained which has been the primary affection, and the proper cauſe of the other.

Indeed, ſurgeons are well acquainted with the circumſtance of relaxation, and have well known how liable the eyes are to be ſo affected in conſequence of almoſt every conſiderable inflammation; and have therefore paid great regard to it in their treatment of common ophthalmias. On this account, they have carefully avoided urging any antiphlogiſtic plan beyond a certain time, and particularly as to the uſe of very relaxing, and warmed applications; which often occaſion irreparable miſchief. I have however reaſon to believe, there is yet occaſion for other cautions on this head, and room for improvement. A very different obſervation may therefore be made reſpecting bracing and invigorating applications, which notwithſtanding the irritable diſpoſition of the organs of viſion, and the pain that frequently attends ſuch applications, are ſometimes moſt uſeful when rendered ſharper, and more irritating than thoſe in general uſe—*Dolor dolorem cedat*, is a well known adage, and often as applicable to painful affections of the eyes, as to many other inſtances of ſpaſmodic affections; though the good effects of irritating applications may, perhaps, be otherwiſe accounted

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diſſolved in water have had a like good effect: a circumſtance I am diſpoſed to credit, though I never thought of making the experiment.

for.

for. But the frequent uncertainty of our remedies, for the want of making adequate diſtinctions in regard to the length of time theſe complaints may have continued; their various cauſes; and the habit of body of the patient, has given riſe to a hundred different remedies of the ſame claſs; has puzzled young practitioners; and has promoted the cauſe of empyriciſm.

As the intention of ſuch obſervations as can be contained in the limits I have aſſigned to myſelf, can only be general, I ſhall haſten to attempt ſome improvement of the above remarks, and to point out ſome practical directions for the treatment of theſe very common, and very diſtreſſing complaints.

And firſt, in reſpect to the period of true inflammation, it may be remarked, that whilſt the beſt practitioners have been properly cautious of not continuing too long any antiphlogiſtic plan, they have, perhaps, ſometimes not done enough in the period devoted to it. The fact is, that in very conſiderable and recent inflammations, in athletic habits, the antiphlogiſtic plan ought to be purſued boldly in the beginning, whereby the inflammation will be more certainly overcome, and with leſs riſk of bringing on hurtful relaxation, than by gentler means, and a feebler proceſs, longer continued. To this end, both hands (if I may be allowed the expreſſion) ſhould be laid on the diſeaſe, and whatever may appear requiſite for ſubduing the inflammation, ſhould be done at once. Hence, bleeding in all the different forms, bliſters, cathartics, and nitre, (which latter

ſhould

ſhould be exhibited with great freedom) ſedative collyria, (and ſometimes anodyne fomentations) become the proper remedies; as well as defending the eye from a ſtrong light: and if the pain be very conſiderable, an opiate ſhould be taken at going to reſt. Where the diſcharge is acrid and abundant, a drop or two of ſome ſoft mucilage inſtilled between the lids, is very friendly to this delicate organ; and when the inflammation has begun to give way, two or three drops of laudanum applied in the ſame manner, at going to bed, has ſometimes removed the complaint before the next morning.

When ſuch an antiphlogiſtic plan has been properly purſued for two or three days, it becomes time to think of guarding againſt relaxation, and which a much longer continuance of ſuch a plan would, in many inſtances, infallibly produce. Tonical applications and internal remedies, and among the latter, eſpecially the bark, are to be uſed, which if it be the proper time for them, will immediately produce a good effect; and if they do not, muſt not, for the preſent, be perſevered in. It is not, however, a diſtention of the veſſels of the tunica conjunctiva with red blood, that forbids a recourſe to ſuch means, or to the continuance of them; for this will happen either from relaxation, or from an irritable ſtate of the part, as well as from true inflammation; between each of which, it has been ſaid, the practitioner ought to make a careful diſcrimination, and to adapt his remedies accordingly.

Indeed, the treatment of very recent inflammations

of

of the eyes, is generally plain and obvious, and no one is at a loſs for ſuitable remedies; but in habitual affections of theſe organs, where frequent returns have induced other ſymptoms, and diſpoſed the parts to peculiar relaxation, or irritability of its veſſels and nerves, the greateſt ſkill is required to diſtinguiſh them, in order to form a rational and ſucceſsful method of cure.

This is a matter of the greateſt importance, and it has been hinted, is not always ſo eaſily done; it is a knowledge to be acquired as much from experience and great attention, as from thoſe juſt principles of art, acquired by a regular education. There is a ſomething, however, in the appearance of the eyes, which is not eaſily deſcribed, that will aſſiſt us in making this diſcrimination; and which taken in connexion with the preſent occaſion of the complaint, the frequency of its appearance, and the conſtitution of the patient, will lead the attentive and experienced practitioner to diſcover, whether ſimple relaxation, the mere effect of the antiphlogiſtic plan, and habit of the patient, or whether the great irritability of the organ, and perhaps of the whole ſyſtem, be the ſymptom to be particularly attended to. For in caſes attended with great nervous irritability, or where the relaxation is immediately occaſioned by it, beſides a frequent, but variable relaxation of the iris, there is often to be perceived a fulneſs, and a ſenſe of weight is felt, in the upper eye-lids, which are inclined alſo to drop, accompanied with a yellowiſh tinge of the tunica conjunctiva, that ſeldom

leaves

leaves the patient entirely, and is ſuddenly recurring upon every little cold, or increaſed exertion of the organs of ſight. Beſides the indications to be obtained from an attention to the habit of body, the above ſymptoms will not be uſually met with in caſes of ſimple relaxation, where mere aſtringent applications prove uſeful, which in the former will always ſerve to aggravate the complaint; as will even daſhings with cold water, ſo often very ſerviceable in the other. Whether the complaint be owing to ſimple relaxation, or to mere irritability of the parts, when this is once fully aſcertained, good practitioners are at no loſs for ſuitable remedies, and as I would not appear to multiply them by needleſs preſcriptions, where practitioners are acquainted with varieties enough, I ſhall only ſay, that if it be mere relaxation, the aſtringent ſolution I have ſo often recommended is among the beſt in a fluid form, where a powerful bracing application is called for; and may be made of any ſtrength, as occaſion may require.

But there is in many people an irritability of habit, of which every complaint they are ſeized with, will very powerfully partake, and more eſpecially complaints of the eyes; and when that organ has been often affected, the ſlighteſt occaſion will cauſe a return of them. Here, the practitioner will be at no loſs for a proper diagnoſtic, and I ſhall therefore only obſerve, that applications partaking both of a ſedative and invigorating nature, ſhould be immediately had recourſe to. A very powerful remedy very often in

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theſe caſes, is an aromatic volatile vapor, * conveyed to the eye-lids, through a ſmall inverted funnel, eſpecially at going to bed; and from which I have ſeen aſtoniſhing effects, where the patient has been for years ſubject to diſtreſſing complaints, and in danger of loſing the ſight. Some benefit may likewiſe be obtained by daily touching the upper eye-lids and parts about with the Spir. Volat. Aromat. Theſe little means have alſo been very uſeful where I have ſuſpected a diſpoſition to cataract and gutta ſerena :† in which, as well as the above-mentioned caſes, the cautious and long continued uſe of electricity, it is now well known, has alſo been very frequently ſerviceable.‡

I may here add another obſervation, derived from repeated experience in what I would call a nervous ophthalmy, in regard to the uſe of collyria; which, though *a priori* we ſhould preſume ought ever to be

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* Two drams of the Spir. volat. aromatic. in two ounces of water, kept boiling, will anſwer this purpoſe very well.

† By the ſame means, I likewiſe once removed a very painful nervous affection of the teſtes of long ſtanding, which had rendered the parts ſo exceedingly irritable, that it could ſcarely endure the lighteſt touch, and had rendered a married gentleman very miſerable; having withſtood many ordinary means of cure.

‡ For the firſt hints of the great advantages of a long continued courſe of electricity in the *gutta ſerena*, and even a perfect cure in ſeveral recent caſes, I was indebted to *Mr. Hey*, one of the ſurgeons of the Infirmary at *Leeds*; ſome of which caſes have ſince been publiſhed in the 5th vol. of the *Medical Obſervat. and Inquiries*.

uſed

uſed cold, are nevertheleſs oftentimes inſtantly beneficial upon uſing them actually warm, eſpecially in cold weather. Of the propriety of this change, the ſenſations of the patient upon the uſe of cold collyria will frequently be a guide to us; and I have only to remark, that they ought not to be uſed warm for any length of time, in which reſpect however, the intelligence of the patient may again ſerve to direct us.

Amongſt the means for removing great inflammation, was mentioned the defending the eye from a ſtrong light, which is indeed indiſpenſibly neceſſary. This ſhould, however, be rarely extended to keeping the patient's room perfectly dark, or covering the eye itſelf in ſuch a way as to exclude all contact of light;* as ſuch covering, by heating the eye, will always

* I hope it may not be deemed altogether impertinent in this place, to offer a few obvious cautions, ſcarce ſufficiently attended to by thoſe whoſe eyes are naturally weak, or ſlightly diſtempered. Such people ought to be peculiarly careful not only of not continuing any occaſional exerciſe of the eyes after it becomes painful to them, but as much as poſſible, to be always expoſed to the ſame degree or quantity of light. This attention is particularly neceſſary when engaged in reading, writing, or other employment that is likely to fatigue them: too little, or too much light being equally improper when the eyes are much exerciſed; and is, indeed, at any time injurious. The ſudden tranſition from a dark to a very luminous aſpect, and eſpecially if often repeated through the day, has nearly produced blindneſs in ſeveral inſtances; and patients have been recovered from the danger by little more than attending to this circumſtance. For the like reaſon,

always add to the complaint. But in caſes of conſtitutional ophthalmias, and particularly in ſcrophulous habits, a perfectly erect poſture, throughout the day, with the head raiſed as much as may be, at night, is eſſentially neceſſary, and eminently uſeful; inſomuch that frequently, no means of cure will ſucceed unleſs this be very ſtrictly attended to. In repeated inflammations, in patients of ſuch a habit of body, I have known this alone efficacious, after many means had been preſcribed in vain by men of long experience, and where an obſtinate inflammation had been kept up for ſeveral weeks, and the patient unable to endure the leaſt glimmering of light, or to open the eye-lids without the moſt excruciating pain. And ſuch ophthalmias, indeed, very frequently need nothing more than this caution, except it be to give a laxative occaſionally, and to touch the eye-lids, now and then, with an ointment I ſhall preſently mention; and eſpecially to admit light gradually into the room, as the patient ſhall be able bear it. In regard to medicine, nothing, I believe, does ſo much good as the bark,

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reaſon, reading in the duſk of the evening, and then, ſuddenly, by a ſtrong candle-light, may induce miſchief in weak and diſtempered eyes, that may not be diſcovered till too late to be remedied. I ſhall cloſe this note by obſerving, that when reading a ſmall print, without the help of glaſſes, becomes painful, ſuch reading ſhould be laid aſide; as glaſſes, in this caſe, only ſtrain the eyes, and ſhould never be taken up till a uniform neceſſity ſhall oblige, and then ſhould not afterwards be laid aſide; it being a ſhock to the optic nerves to have the like objects variouſly repreſented, perhaps a hundred times in a day.

and

and ſhould this not prevent frequent relapſes, the patient, it has been ſaid, ſhould make trial of the ſea; which is more frequently uſeful in ſcrophulous ophthalmias than in any other inſtance.

Something has already been ſaid in favour of invigorating applications, which for the chronical ophthalmia, and that tedious one which ſometimes follows the meazles and ſmall-pox, as well as in many ſcrophulous caſes, ought to be made much more active than they uſually are, and of which I have had many happy inſtances. But, indeed, many inflammations of the eyes, that are apt to return frequently and upon ſlight occaſions, are rather owing to an atony of the parts, than a true inflammatory cauſe, and will therefore always be benefited by ſuch applications. And theſe ſhould be applied in an unctuous form rather than in a way of lotion, and will be found to be a very conſiderable improvement. Hence it is, I apprehend, that *Sir Hans Sloane's* liniment formerly gained ſo much reputation, and has ſo often been of ſervice; its only virtues, however, conſiſting in its form and the powder it contains, which affording a ſlight ſtimulus to the parts, is rendered more permanent in the form of a liniment, than any fluid collyria can afford. Ointments againſt inflammatory affections ought not uſually, however, to contain ſuch kind of powders, which often do harm, and can furniſh no powers that cannot be otherwiſe obtained, and eſpecially by ſome preparation of mercury; which indeed will do more in many ophthalmias than any other kind of reme-

dies. The due irritation and diſcharge ſuch remedies occaſion, the firſt two or three times they are made uſe of, throw the atonic parts into healthy action, and liberate the veſſels; from which I have ſeen more good effected in one or two nights, than has been done in weeks and in months by facchur. ſaturni, white vitriol, and all the other ordinary ingredients of fluid collyria.

Such may be made by the addition of the unguentum cærul. fortius to the ceratum album, or if a greater ſtimulus is required, by one or two drachms of the mercur. corroſiv. ruber, very finely levigated, to half an ounce of unguent. alb. and the like quantity of olive oil; or what is frequently more efficacious, a kind of unguentum citrinum, of different ſtrengths, prepared with freſh butter, and to which camphire ſhould be added. The inſide of the eyelids only need to be touched with one of theſe, at going to bed, and though they will ſometimes occaſion very conſiderable pain at the time of their application, and on firſt opening the eyes the next morning, they will render the parts very eaſy and pleaſant through the reſt of the day.—Indeed, had I nothing elſe to offer on diſeaſes of the eyes, than the careful diſtinction between the true inflammatory, and chronic ophthalmy, (which is ſeldom ſufficiently attended to) and the ſubſtitution of theſe liniments for fluid collyria, I conceive I ſhould deſerve well of the public. I am not ignorant, indeed, that ſuch remedies are made conſtant uſe of by ſome gentlemen of the profeſſion, who have been far from taking

pains

pains to make their virtues generally known; which they certainly are not.—Nor ſhould gentlemen of more liberal ſentiments, at the head of the profeſſion, conclude every publication needleſs that may contain nothing new to them; nor ſuppoſe, that becauſe they make no ſecret of their knowledge, that the generality of practitioners are as wiſe as themſelves.*

A common impediment to the cure of ophthalmias, is a bad habit of body, which though an obſtacle common to other complaints, is eſpecially troubleſome in theſe. Amongſt the various remedies in common uſe on theſe occaſions, beſide iſſues, the bark, and warm pediluvia, which are very frequently beneficial, I ſhall venture to ſuggeſt one, that may be given to advantage where no other remedy may be peculiarly indicated; this is, calomel joined with

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* Since this paper was drawn up, I have ſeen *Mr. Bell's* obſervations on *ophthalmia*, the early publication of which does him great credit; but as he ſpeaks more from the practice of *Mr. Pellier* than his own, there ſeemed ſtill to be ſufficient inducement for adding my mite of experience.—It was long after the above note was added to the manuſcript, that I was informed *Mr. Ware* had written ſo fully as he has done, on theſe complaints. And had I ſeen his uſeful publication before I had prepared the preſent tract, I ſhould not have thought of writing on the ſubject. I can, however, declare, that as I have made no addition nor alteration, whatever, (except the notes inſerted at pages 18, and 33,) ſince I heard any thing of *Mr. Ware's* treatiſe, ſo did I not hope there may be hints in the preſent that will have their uſe, I ſhould even now have ſuppreſſed it.

cicuta, a remedy not in very common uſe, but well adaped to many old and obſtinate diſeaſes of the eye.

NO common complaint is oftentimes more difficult of cure than affections of the eye-lids. Theſe are ſometimes attended with a diſtention and redneſs of the veſſels of the eye, and ſometimes not; but viſion is always impaired. In ſome inſtances, likewiſe, the edges of the eye-lids diſcharge a very acrid matter, which excoriates the cheeks; and in others, the lids are red and ulcerated, but almoſt dry.

In theſe caſes, it is well known, that a cautious uſe of the lunar cauſtic will ſometimes effect an almoſt inſtantaneous cure; but I believe, it has not been often enough noticed, that a turning inwards of the eye-laſhes is ſometimes the ſole cauſe of this very obſtinate complaint: the remedy for which is ſufficiently obvious. In other inſtances of the lippitudo, the common mercurial ointment, or that with red precipitate, proves very ſerviceable, but more eſpecially, the unguentum citrinum, prepared as beforementioned, a remedy perhaps ſcarely to be equalled for this, and many other ſmall ulcers. I have alſo ſeen great good effected, in a few days, by a very old remedy made uſe of frequently in *St. Bartholomew's* hoſpital, and for which I am obliged to *Mr. Pott*, and doubt not his permiſſion for giving the preſcription; though my own experience, indeed, goes to a preference of the unguentum citrinum.

R. La-

℞ Lapis Tutiæ ppt.
Calamin. āā ʒiij.
Plumb. uſt.
Gum. Camphor. āā ʒj.
Myrrhæ,
Sarcocoll.
Vitriol. alb. āā ß.
Butyri inſulſi, ℥vj.
Accuratè miſceantur.

THERE is another and often fatal inflammation, eſpecially to infants, of which there is not much notice taken by writers; nor has it, I believe, been accurately diſtinguiſhed till of later years: it is now uſually termed ophthalmia purulenta, on account of the vaſt quantity of thick matter always diſcharged.

This may be eſteemed a diſorder both of the eyes and of the lids; but is in fact a ſevere inflammation of the whole tunica conjunctiva, which goes rapidly into a ſtate of general ſuppuration, and is ſo much thickened where it is reflected over the lids, that it turns out a conſiderable way the moment they are drawn aſunder. Very frequently the inflammation is communicated to the cornea itſelf, which will ſometimes burſt, and the patient is conſequently deprived of ſight, at leaſt for a time. Very ſoon after this, both the inflammation and diſcharge generally ceaſe; and the aqueous humour being in ſome caſes reſtored, and retained by a ſpeedy cicatrice of the cornea, the patient recovers a very tolerable

degree of ſight. At other times, ſome internal part of the eye, and particularly the iris, is ſo greatly injured, or the cornea is ſo much impaired, that it remains collapſed, and all hope of future viſion is cut off. In any caſe, the patient rarely recovers without the ſight being more or leſs impaired for a time, by a greater or leſs number of ſpecks formed on the cornea. Nevertheleſs, we are frequently agreeably diſappointed at the decline of this dreadful inflammation, and have the happineſs of finding the eye much leſs injured than had been ſuſpected, either from the great diſcharge and long continuance of the inflammation, or from the appearance of the eye itſelf when we were firſt able to get a ſight of it. For I have ſometimes known the whole cornea apparently much depreſſed, and at others, ſmaller indentations formed on different parts, and after all, the ſight been perfectly good as ſoon as the inflammation had completely ſubſided, without either cicatrice or ſpecks to be ſeen on the cornea.

This being, perhaps, the moſt violent of all inflammations, requires the ſpeedieſt aſſiſtance. The patient ſhould be let blood freely and repeatedly, (according to the age and habit of body), eſpecially in the neck, or by opening the temporal artery; the turgid veſſels paſſing over the ſclerotica ſhould be frequently divided; leeches ſhould be applied to the temples, and bliſters to the ~~neck~~ back, and behind the ears; the patient ſhould be purged gently; and the thickened tunica conjunctiva ſhould be deeply ſcarified once or twice a day, as long as it falls out ſo

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low as to prevent a clear ſight of the eye. The part ſhould at firſt be conſtantly wetted with cooling collyria, to which afterwards a little brandy and vitriol may be added, and a drop or two of laudanum be inſtilled into the eye, and every thing be attempted that may prevent or diminiſh ſuppuration; which I have known take place in a very few hours.

Should theſe means fail, or what very often happens, aſſiſtance be called in too late, the lids muſt be frequently drawn aſunder to let out the matter, by night as well as by day; and in the caſe of infants, in whom the matter will be more confined, the edges of the eye-lids ſhould be frequently greazed throughout the day, and at night be covered with a little of *Goulard's* Cerate, ſpread upon very thin linen, and over that a light compreſs, hanging looſely over the eyes, dipped in the vegito-mineral-water and brandy, or ſpread with a kind of liniment made by beating up alum in the white of an egg. Should the inflammation and diſcharge ſtill increaſe, a drop of laudanum, or of a ſolution of the green vitriol calcined to whiteneſs, ſhould be inſtilled into the eye, at leaſt once a day; which, whatever pain it may occaſion at the time, will counteract the inflammation more than any of the topical applications at a certain period of the diſeaſe, unleſs it be ſome one of the mercurial liniments before recommended.*

In

* In MR. WARE's Treatiſe on *Ophthalmia*, ſtrong commendation is given to *Bates's aqua vitriolica camphorata*, diluted with about ſixteen times its quantity of water, as a collyrium, to be made

In fine, the grand remedies early in the diſeaſe ſeem to be bliſters and topical bleedings, eſpecially by leeches; but then it is not the application of one or two that will anſwer any good end, though often repeated; but if ſix or eight to a child of four or five years of age, and a dozen to adults, be applied at once, eſpecially at going to bed, a ſtop will frequently be put to the moſt formidable inflammation, and nothing farther be required than the uſe of ſome aſtringent collyrium, and to attend to the ſpecks, ſhould any be formed on the cornea. On the other hand, ſhould the inflammation continue many days, aſtringent applications muſt be had recourſe to, and the cortex be adminiſtered in large doſes.

THERE is an ophthalmia ſtill leſs noticed by writers than the former, which occurs ſeldomer than any other; and is rarely cured if not attended to very ſoon. It might be called *ophthalmia interna*, being a ſuffuſion of blood within the coats of the eye, appearing through the pupil; while the conjunctiva oftentimes preſerves for a while its natural colour,

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made uſe of from the firſt appearance of this inflammation. I have had only three opportunities, indeed, of making trial of it ſince that excellent tract was put into my hands, and in which it ſucceeded very well. But apart from this little experience of its efficacy, MR. WARE's ideas of the complaint appear ſo perfectly to correſpond with my own, that it would ſeem to me an injuſtice to ſuch readers as may not be acquainted with that work, not to mention a remedy apparently ſo well calculated to counteract inflammation, and recommended upon ſuch authority and experience.

though

though at others, I believe it has, from the firſt, the appearance of the common ophthalmia; this, however, uſually comes on in one ſtage or other of the diſeaſe.

It is ſometimes a complaint of long ſtanding, ſtealing on for a while almoſt imperceptibly, till the patient is alarmed at being, ſuddenly, almoſt deprived of ſight; which ſometimes as unexpectedly returns in a ſhort time, and goes away again as ſuddenly. It ſeems to be attended with ſome diſorder of the optic nerve, the pupil being ſomewhat dilated, and the retina rather indiſpoſed to contract, though the eye be expoſed to a ſtrong light.

It attacks people of different ages, and in young women is often attended with ſuppreſſion of the menſes, the return of which ſometimes removes the complaint. I never met with it in robuſt habits, nor have found general bleedings, or other antiphlogiſtic remedies of any uſe. Topical bleeding by leeches, and in the jugular vein, are preferable; and electricity has ſometimes been ſerviceable, though it has in others appeared to increaſe the complaint, which ſeems to depend upon the irritability and relaxation of the organ. Bark, therefore, and a bliſter on the head, touching the lids with ung. citrin. and dropping a little laudanum often into the eye, ſcarifying the under-lids, and in the end, I think ſea-bathing, are the moſt likely means of relief.

It will oftentimes be neceſſary to continue theſe remedies for a great length of time, having ſeen good effects produced by them after I had nearly given up

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all hope of doing any good. It always, I believe, attacks both eyes, and if attention be not paid to the complaint before the conjunctiva is much inflamed, the patient will after all moſt probably be in great meaſure deprived of ſight, the cornea, in that caſe, becoming perfectly opake.

I SHALL only drop another hint or two, and ſhall conclude all I mean at preſent to offer on diſorders of the eyes. It may, perhaps, appear to be a bold one, and by many people be condemned, as likely to injure ſo delicate an organ; but it is given from experience, which at firſt aroſe from accident, and in proper hands may be as ſafely, as advantageouſly uſed. This reſpects the extractum ſaturni, which I have known made uſe of, undiluted, to advantage. I have, indeed, never made trial of it in this ſtate, but have uſed it in the proportion of one drop to three or four of water, and have never ſeen it do harm; or the extract may be mixed up with olive oil into a liniment, which will give leſs pain, and will remain longer on the part.

It has already been ſaid, that the chronical ophthalmy often ariſes from atony, and it as frequently depends upon a morbid, or undue action of the parts, which in numberleſs inſtances is more certainly removed by active applications, than by any other means. I have long been ſatisfied of the juſtneſs of this idea, which I have ſo much inculcated in the former parts of this tract, and am happy to find a gentleman of ſo much reaſoning and judgment as *Mr. Hunter*, ſupporting it by ſo many ſtriking facts,

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in his late treatiſe on the venereal diſeaſe. Indeed, we have often nothing elſe to do in various old ulcers, in certain habits of body, than to create a contrary and due ſtimulus, in order to remove pain, tumour, or ſpurious inflammation, and various other local indiſpoſitions, to which a morbid action of the parts has given riſe.*

By this means it is, I doubt not, that the remedy laſt recommended, as well as the mercurial ones, have been of ſo much ſervice in the moſt obſtinate and long continued ophthalmias, after every uſual remedy had been tried without any laſting good effect.

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* It may be objected, perhaps, that a great deal has been ſaid in the courſe of this little volume in favour of active applications; but the writer hopes, without reaſon for the leaſt ſuſpicion of his ſuppoſing them capable of doing every thing, or that a trial, at leaſt, ought to be made of them on almoſt every occaſion. Nothing, indeed, is farther from his own ideas, who wiſhes only to lead young practitioners to diſtinguiſh caſes with judgment; and having done ſo, he doubts not they will find, that powerful external ſtimuli will have their place, and perhaps more frequently than may have been ſuſpected, and upon the moſt rational principles. And as a general apology, he would here obſerve, that he ſat out with no peculiar theory of his own, but being gradually and naturally led to the various trials he has made, repeated facts have conſtrained him to purſue a practice which has been very ſucceſsful, in his own hands and others; and he has the happineſs of finding it may be ſupported by ſound reaſoning and argument, which it required but ſlender abilities indeed to diſcover, or to arrange into as ſpecious a theory as a practice founded upon facts can ever ſtand in need of.

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A very ſmall portion of the former may be applied, by a camel-hair pencil, when the patient is in bed, and after a few times uſing, be repeated in the morning, if the complaint be not greatly abated, nor the means diſagree. The vaſt diſcharge produced in many chronical caſes by ſuch ſtimulant applications, and the action into which they throw the parts, are often the moſt likely means of removing many obſtinate complaints, not here particularly noticed, which have thickened the cornea, and not only greatly impaired the ſight, but have obliged the patient to keep the eyes in a ſtate of reſt for many weeks, and even months at a time, and occaſionally for ſeveral years.

I ſhall juſt obſerve what every one knows, that ſevere ophthalmias induce ſmall ſpecks, and ſometimes very conſiderable opacity of the cornea: it is, however, perhaps not very generally known, that ſo ſimple a remedy as two or three drops of the aq. ſapphir. inſtilled into the eye for a length of time, infallibly removes all that have not been of very long ſtanding, without the painful and diſagreeable aſſiſtance of cauſtics or other remedy.

I ſhall now cloſe the above obſervations with the following extraordinary caſe, which may ſerve to ſhew what nature is ſometimes capable of doing for herſelf.

Mrs. Hoppey, aged about thirty years, the wife of a grocer formerly of *Great Ruſſel-ſtreet, Bloomſbury*, was attacked with the common ſymptoms of ophthalmy, at a time I was making occaſional viſits to

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one of her children, and was therefore desired to look at her eye. The charge of the complaint was not, however, properly committed to me, but from time to time I gave such directions as appeared to me to be requisite; which were not, indeed, so perfectly complied with, as perhaps, they ought to have been. At one of these visits, thinking it necessary *Mrs. Hoppey* should be blooded again, on account of the severe pain she underwent, it was strongly objected to, and as I afterwards understood, on account of some scruples her apothecary entertained, who had formerly practised as a surgeon in the country. On this account, the late SIR CÆSAR HAWKINS was consulted, who approving of the plan that had been pursued, and intimating the importance of great attention in order to her safety, I afterwards visited *Mrs. Hoppey* daily, and SIR CÆSAR HAWKINS was occasionally consulted.

Soon after this time, and on the abatement of the inflammation, she lost the sight of the eye, which likewise began to be enlarged, and pushed forwards, the vessels of the lids, sides of the nose, and forehead were swelled, and were attended with considerable pulsation. These symptoms increasing for several months, notwithstanding different means made use of, till the eye became greatly enlarged, and seemed nearly forced out of the orbit; it was therefore judged proper to extirpate it, in the apprehension of an aneurism within the orbit, which it was expected might suddenly give way. About this time, *Mr. Watson* was likewise consulted; the operation was deter-

determined upon, and the day for it was to be fixed as I ſhould ſettle with SIR CÆSAR HAWKINS.

In this interval, I met with an accident by a fall, which confined me for three or four weeks to the houſe, and I requeſted SIR CÆSAR HAWKINS to perform the operation for me, if it ſhould be thought that waiting for my getting abroad might be hazardous to the patient. After making *Mrs. Hoppey* a viſit with a view to ſettling this matter, SIR CÆSAR HAWKINS called upon me, and propoſed deferring the operation a few days; adding, that he conceived the eye had rather a better appearance, and though he, perhaps, rather *hoped*, than was *ſatisfied* of this particular, he thought it might be truſted for a few days, with the cautions and directions he had given the patient. In about a week after this he acquainted me, that he wiſhed the operation might be poſtponed a while longer, as the tumour was certainly not increaſed, if it were not diminiſhed, and of which I ſhould be a better judge, as I had not ſeen it for ſome time.

As ſoon as I could get abroad I waited upon *Mrs. Hoppey*, and was ſatisfied the eye was not more enlarged, nor projected, than it had been, and I thought the pulſation was diminiſhed; the pain likewiſe being leſs, and time having encouraged our patient as well as ourſelves, to hope there might be leſs danger of a ſudden rupture than we had once apprehended, all thought of extirpation was ſoon afterwards laid aſide, unleſs ſome new ſymptom ſhould indicate its neceſſity.

During this ſuſpence the pain became very inconſiderable,

ſiderable, and I ſaw my patient only once a week, and a while afterwards the pain leaving her intirely, I viſited her only once in a month, for above a year. At one of theſe viſits I was informed ſhe was well, and though ſhe knew not for certain when the change had firſt taken place, ſhe had a few mornings before obſerved, whilſt ſtanding at her glaſs, that the affected eye looked nearly as well as the other; and that upon cloſing the latter, ſhe found her ſight alſo was perfectly reſtored.

Upon this agreeable news I took a formal leave of her, only when I had occaſion to viſit any of the family, or was at leiſure when I paſſed near her door, I inquired after her, and examined the eye; which for ſeveral years continued very well, having only a certain awkward look, and a kind of ſquinting that never totally left her.

Eleven years after her recovery ſhe went to reſide at *Manchester*, and continued there in very good health; the eye formerly affected becoming, as ſhe thought, ſtronger than the other, but was ſometimes a little painful in froſty weather.

Nine years after retiring into the country the ſquinting was obſerved to increaſe, till the eye was turned quite to one ſide; it was likewiſe puſhed a little forward again, though the ſight remained unimpaired. But ſome weeks after this, ſhe was ſuddenly attacked with excruciating pain, which obliged her to go to bed in the middle of the day, and ſend to her apothecary; who applied a bliſter to the nape of the neck. In a few hours after this attack,

ſhe loſt the ſight of the eye, which inſtead of continuing to puſh forwards, was rather withdrawn within the orbit, and the upper eye-lid dropped; which ſhe never afterwards raiſed.

This violent pain continued for three days, which ſhe compared to that ſhe had ſuffered in *London*, about the commencement of the complaint, and which ſhe obſerved, continued very ſevere the ſame length of time. At the decline of the pain, ſhe became at times comatoſe, and after lying in that ſtate for five days, ſhe expired at the time, as I am informed, ſhe was thought to be recovering. I am ſorry to add, that, though ſhe had very conſiderately given her conſent to the head being opened after death, her hint was neglected; which had ſhe died in *London* I ſhould have been happy to have embraced, and thereby have aſcertained exactly the nature of the complaint.

TREATMENT

OF THE

MAMMARY-ABSCESS

AND

SORE-NIPPLES

OF

LYING-IN WOMEN.

TREATMENT

OF THE

MAMMARY-ABSCESS, &c.

BEFORE I ſpeak of the milk-abſceſs, I ſhall in this place obſerve, what perhaps ſome gentlemen may thank me for, that I can venture to ſay, the aſtringent ſolution I have ſo frequently recommended, is the beſt application hitherto known for that obſtinate and painful ſore on the nipples of ſuckling women, for which almoſt every thing has been tried—and almoſt in vain. The nipples need only to be touched with it ſeveral times in the day, either by the point of the finger, or a camel-hair pencil; the part being afterwards covered with the patient's hand, or other contrivance, to prevent the ſolution being wiped off; the ſtrength of which muſt be determined by the degree of tenderneſs and extent of the ſore. I think I have found ſome advantage in theſe caſes, and certainly, in drawing out a bad nipple, by covering it with a large nutmeg, hollowed

out, and the edges left flat. But whether the warm aromatic quality of the nut has contributed to this, or it has ariſen merely from defending the tender nipple both from the linen, which becomes rough by the milk drying upon it, and from the common air, I am not at all anxious to determine. Such a contrivance is always at hand, and attended with no trouble though worn pretty conſtantly, and I therefore often adviſe the uſe of it as ſoon as the nipples begin to get ſore. This is likewiſe, doubtleſs, the beſt time to have recourſe to the ſolution, which has hitherto anſwered exceedingly well, ever ſince I have been acquainted with it. In ſome very bad caſes, where the chaps are ſo deep that the ſolution cannot be retained on the part, and are exquiſitely tender, eſpecially if of long ſtanding, it will be uſeful to cover the part with an ointment that is not relaxing, but moderately warm and drying, as the common white cerate may be rendered, by ſimmering a little brandy in it. A caſe ſometimes occurs, in which the nipple is not ſo much chapped, as it is enlarged and inflamed, and attended with an oozing of ſharp ſerum. Here, after waſhing the part with the ſolution made very weak, ſprinkling it with a little finely powdered gum tragacanth is of very ſingular ſervice. But in other inſtances, my chief dependence is upon the ſolution, which if properly attended to, will remove the complaint. It has alſo ſtood the teſt of the *Britiſh Lying-in Hoſpital*, where it has been for a long time made uſe of at my deſire, and with the expected ſucceſs; though there are always

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in the hoſpital many women thus affected, and out of ſuch numbers, it is probable, all the various kinds of ſore nipples muſt have taken place.

It may reaſonably be expected, that ſomething ſhould be ſaid of the ſucceſs of this remedy ſince theſe obſervations firſt appeared; and the writer can with truth aſſure the public, that his own experience has not ſerved to leſſen the good opinion he entertained of it, though ſome other practitioners ſeem to have made uſe of it with leſs ſucceſs. It is to be lamented, that if men are generally found partial to their own diſcoveries, others are oftentimes proportionably prejudiced againſt them; ſo that, if the ſucceſs of any means ſhould depend on a more than ordinary attention to its ſtrength and mode of application, its credit is not likely to be increaſed in their hands. All that the writer need to ſay of this remedy is, that his own patients have been greatly benefited by it, and have been glad to recommend it to others; and that if applied with care and due attention to its ſtrength and effects, it will be found, at leaſt, much oftner ſucceſsful than any means hitherto in general uſe.—The tongue will be the beſt ordinary teſt of its due ſtrength, which muſt always be varied according to the degree of pain and other effects; always beginning with it ſufficiently weak. On theſe accounts, it can be no wonder, if it ſhould do leſs good when left in the hands of nurſes, or uſed merely at the diſcretion of patients, ſome of whom do not make uſe of it frequently enough,

whilſt others are inclined, as improperly, to keep it conſtantly on the part. But in the hands of phyſicians or ſurgeons, who know what effects it is deſigned to produce, and will regulate it accordingly, it cannot fail to gain them credit, and give ſatisfaction, provided they will for a few days attend to it themſelves, with a little of that pains men uſually beſtow on inventions of their own.

One great advantage of the ſolution is, that it is perfectly harmleſs, and does not therefore require the caution of being wiped off from the part, when the child is laid to the breaſt. Being alſo lightly aſtringent and deterſive, without creating the pain, or that unpleaſant and harſh dryneſs, which other aſtringents produce, renders it as promiſing, as experience hath proved it to be ſucceſsful in this obſtinate complaint; which beſides the great pain that attends it, has frequently fruſtrated a moſt laudable and pleaſing impulſe of nature, by preventing the fond mother from ſupplying the firſt wants of the tender infant, to which ſhe has given birth.

But the evil does not frequently ſtop here; the pain and inflammation of the nipples often extend to the breaſt itſelf, and ſuppuration takes place.—I proceed therefore to make ſome obſervations on this ſubject, which though important, has not, that I know of, been yet publicly treated of.

It would be needleſs, in this place, to take up the reader's time, by adverting to the various other occaſions which threaten ſuch a complaint, ſince, perhaps, the only one in the patient's power to prevent,

vent, is that of taking cold; as frequent an occaſion, indeed, as any, and againſt which every precaution ought to be taken. With a view to this, it may be obſerved, that the cuſtom of bathing the breaſts of women, who do not ſuckle, frequently proves very injurious, though it has not, perhaps, been generally ſuſpected. The rubbing in a little oil and ſpirit, as ſoon as the patient is delivered, may be harmleſs enough; though if ſomething muſt be done, in compliance with cuſtom, the application of a diachylon plaiſter will anſwer every ordinary intention, without any of the diſadvantages which attend the frequent repetition of uſeleſs embrocations, which expoſe the part to taking cold. And as the above, and any other ſuch lotions as nurſes uſually recommend, and place great confidence in, have no ſuch power as is generally attributed to them, they are certainly much better let alone. And if it ſhould be thought proper to have recourſe to ſuch as actually poſſeſs any conſiderably repelling property, they will, of courſe, be directed by the practitioner himſelf, who will give every neceſſary caution; as the conſequences of cold taken in the application, are generally much more likely to give riſe to ſuppuration, than leaving the buſineſs to nature.*

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* It is perhaps worthy of remark on this occaſion, that the mammary-abſceſs was for a number of years a very common complaint in the *Britiſh Lying-in Hoſpital*; and has always been attributed to cold, as the moſt general cauſe. The juſtneſs of this ſuſpicion

THE firſt ſymptoms of ſuch an unfavourable turn, are uſually a deep lancinating pain, hardneſs and tumor in ſome part of the breaſt, and a conſiderable diminution of the cuſtomary diſcharge of milk by the nipple. This is the moment to prevent the apprehended miſchief, as a very ſhort delay renders the means ineffectual; the ſkin ſoon becoming diſcoloured, and the breaſt greatly enlarged. To remedy this, immediate recourſe ſhould be had to bleeding, and to laxative and anodyne medicines; but above all to ſedative applications, which are uſually found to be the moſt powerful diſcutients. Sometimes, however, ſolutions of crude ſal ammoniac, with the addition of a good quantity of ſpirit, and if the inflammation be very recent, ſome vinegar, will be more adviſeable than ſaturnine remedies. Compreſſes of coarſe linen-cloth, wetted in ſuch a liquor made moderately warm, and renewed as often as they become dry, are abundantly preferable to heating and relaxing fomentations or poultices, to which ſurgeons have uſually had recourſe.

When the above means are made uſe of in proper

ſuſpicion has been confirmed ſince water-cloſets have been conſtructed on every floor. Previous to this, ſeveral women, from motives of delicacy, were inclined to go, too early, acroſs a paved yard, though continually cautioned againſt it: But for full two years, ſince that contrivance has been made, there have been only two inſtances of the mammary abſceſs.—Though this circumſtance may, perhaps, be thought to prove too much, it nevertheleſs being a fact, ought to have its proper weight.

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time, the inflammatory ſymptoms will ſoon diſappear, the pain be entirely removed, and if the milk runs freely again from the nipple, there will be no farther danger of ſuppuration. On the other hand, if there be not a very early and conſiderable abatement of the firſt ſymptoms, however ſlowly the proceſs may go on, the breaſt will ſeldom fail to ſuppurate. In this ſtate, therefore, the plan ought very ſoon to be changed, in order to forward the work of maturation. And this, wherever the pulſe will allow of bleeding, will often be haſtened by taking away a ſmall quantity of blood, once or twice, from the arm; though the patient ſhould already have been let blood with a very different view. This will likewiſe be always a ſafe practice in plethoric habits, or where the inflammation is attended with fever, and the event yet doubtful: ſhould ſuppuration finally take place, the bleeding will likewiſe tend to leſſen the ſize of the abſceſs.

The whole breaſt ſhould now be covered with a mild ſuppurative poultice,* which muſt be continued till

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* A very good poultice of this kind, is that formerly made uſe of by *Plunket*, and is preferable to the linſeed-cake. To half a pint of milk ſhould be put about three table ſpoonsful of finely powdered linſeed: after boiling a few minutes, add a ſmall quantity of crumbs of bread, ſufficient to bring it to the conſiſtence of a poultice, to which is to be added, on taking it off the fire, the yolk of one egg. This will make a very ſmooth poultice, and much lighter than mere bread and milk; an advantage, in the caſe of much inflammation, eſpecially in glandular parts, too obvious to be particularly inſiſted upon.

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the matter can be felt, and may then be changed for one of mere bread and milk; the part ſhould alſo be fomented twice a day, if the abſceſs threatens to be large, and does not incline to ripen faſt, after there are evident tokens of ſuppuration. The circumſtance of early maturation is of the greateſt importance, for in proportion to the length of time taken up in that proceſs, will be the ſize of the abſceſs, and the time afterwards neceſſary for its cure; at leaſt, this is pretty uniformly the caſe.

Of no leſs importance is the manner of treating abſceſſes after the matter is well formed. And here I am conſtrained to oppoſe the antient and common method of ſurgeons, that of making a large opening with the knife; which can ſeldom, or never be neceſſary. This happy idea originated from the late ingenious *Dr. Hunter*, (to whoſe unremitted labors in the improvement of his profeſſion, as well as in many other inſtances, the public is ſo eminently indebted;) and I believe, that gentlemen in the department of midwifery, at leaſt in *London*, are well acquainted with the many advantages of ſparing women this painful operation: but as it has not been noticed by ſurgical writers, nor, I think, ſufficiently approved of by the generality of the profeſſion, there are probably many practitioners who are not duly acquainted with it.

The impropriety of making large openings in the breaſt, ariſes, I apprehend, from its glandular ſtructure, and peculiar uſe, together with the harmleſs nature of the complaint. But I ſhall not enlarge here,

here, on the many unfavorable circumſtances attending ſuch a practice, and the tedioufneſs of the cure as the inevitable conſequence. I mean only to hint at a method every way preferable to ſo painful a proceſs. But not only are the larger inciſions highly improper, which are made with the knife, but ſmaller openings with a lancet are generally better let alone; not only becauſe commonly needleſs, and very diſtreſſing to the patient, but the breaſt will heal ſooner when the abſceſs is left to burſt of itſelf. Hereby, we are ſure the ſuppuration will become as compleat as the caſe will admit of, and the little jagged round aperture nature makes for herſelf, will keep open much better than the ſmooth puncture from a lancet. All that is commonly neceſſary, is to cover the part with a ſoft bread and milk poultice; to keep it well ſupported by an eaſy bandage; and carefully to preſs out the matter, and renew the poultice twice or three times a day.

I cannot avoid taking notice in this place, that whilſt in one *Review* this practice is ſaid to have been long underſtood, and even publiſhed to the world, (though I muſt ſtill confeſs, that I never happened to meet with it,) a critique appeared in the *Engliſh Review* of a very different caſt. To the Editor of this (as well as thoſe of the *Monthly* and *Critical Reviews*) I, indeed, feel myſelf much indebted for a very reſpectful and candid account of the former edition of this work. Objections, however, are made to leaving milky abſceſſes to burſt of themſelves,

ſelves, and perhaps ſome of the firſt ſurgeons may be of the ſame opinion; which renders this point very worthy of farther diſcuſſion. It ſcarce need be obſerved, that I had myſelf in the very next paragraph offered certain exceptions to this rule, which, however, as a general one, I am, from the beſt motives, inclined to defend.

I am aware, that the patient may ſometimes undergo ſome very conſiderable pain for twelve or four and twenty hours, by the matter being left to make its own way through the ſkin, and I have myſelf formerly made this circumſtance an argument for opening ſome ſmall abſceſſes; but, from a fair compariſon of all the effects of each mode, am ſatisfied to which the preference ought to be given. For, beſides that the pain which leaving an abſceſs to burſt of itſelf, may without any diſadvantage be much abated, or intirely removed by a doſe or two of laudanum, I have on the other hand, after having opened theſe abſceſſes in order to obviate that pain, received no thanks from my patients; who partly from the dread ſome people have of any cutting inſtrument, and partly from the actual pain of the little operation, and its conſequences for ſome hours afterwards, have on a ſubſequent occaſion determined to leave the buſineſs to nature, and to endure with patience the effects of her operations, or at moſt, to ſtun the pain by an opiate taken at bed-time. But it has been ſuggeſted, that there are other, and more material advantages reſulting from a well-timed opening made by the lancet, and that for the want

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of it, the little orifice will often be cloſed up, and a freſh abſceſs be formed. In anſwer to this, I muſt ſay, that I am conſtrained to doubt the juſtneſs of this obſervation. I was myſelf bred up to be of this opinion, and was with difficulty led to change it; but a long and pretty extenſive practice, and much obſervation have, as I think, led me to form a more juſt opinion of the matter. The fact, indeed, is, that the little apertures may be very eaſily and certainly kept open, as long as there remains any thing to be diſcharged from parts with which they communicate, and that freſh impoſthumations will not be formed, but in caſes where other parts of the breaſt are in an obſtructed and diſtempered ſtate, and not yet inclined to ſuppuration; in which caſe, let the firſt abſceſs be opened, and treated in whatever manner it may, new impoſthumations will be formed, and, indeed, in this caſe, are to be deſired. Whereas, when other diſeaſed parts have communicated with the firſt abſceſs, I have without difficulty kept an orifice (not larger than a pin's head) for many weeks open, till the various indurated parts having ſuppurated, the matter has found its way to the firſt and only orifice, which has diſcharged very conſiderably, and for a long time together, without any interruption; and when the breaſt has got well, only the ſmalleſt ſcar imaginable has remained. And it might be here noticed again, that the little jagged aperture which nature has made for herſelf, keeps open much better than one from the lancet, though made four or five times as large: every ſurgeon

knowing

knowing how ſoon inciſed wounds are diſpoſed to heal up at the angles, eſpecially if extended into the ſound ſkin, leaving only a kind of fiſtulous orifice in the centre. So that upon the whole, after having beſtowed much attention on this ſubject, it is ſtill my unprejudiced opinion, that it is in general beſt to leave the buſineſs to nature; and that if there may be any merit in being the firſt publiſher of ſuch an opinion, it properly belongs to this little work.

The above method of diſcharging the matter, it was ſaid, is uſually the beſt; there are however inſtances, where I have thought ſmall punctures made with the point of a lancet have their uſe. Such are caſes, wherein the whole breaſt is very hard, and the habit not diſpoſed to form matter ſo plentifully, as the indurated ſtate of the part ſeems to require. Here a great number of very ſmall impoſthumations are formed, come very ſlowly to a head, often thicken and harden the ſkin, are but little diſpoſed to break, and ceaſe to diſcharge as ſoon as they have vent. The little tumors will even ſometimes ſubſide, if an opening is not made ſoon after the matter can be felt; and the induration remains a long time nearly the ſame. Poultices of more potential heat than thoſe of mere bread and milk, are here particularly ſerviceable, as well as light frictions with a weak volatile liniment, and ſometimes a cautious uſe of the unguent. cæruleum; which ſhould not be forcibly rubbed in, but ſpread lightly over the breaſt. At this period, the exhibition of the bark is found uſeful in ſome conſtitutions; in others, ſmall doſes of cor-

roſive

roſive ſublimate; and I have ſometimes found the decoction of ſarſaparilla, and powder of millipedes, or ſweating with pulv. *Doveri* of very conſiderable ſervice; as well as purging now and then with rhubarb and calomel.

The worſt caſes I have met with, have ariſen from cold taken after the end of the month, and are, perhaps, more common in women who have not ſuckled their children, nor been properly attentive to the turn of the milk. Here, one or more very large lumps are often pretty ſuddenly formed, or ſometimes ſmaller ones almoſt inſenſibly run together, and occupy a great part of the breaſt; are always exceedingly hard, but are not uſually painful at firſt. The appearance, in ſome inſtances, is very alarming, but they all nevertheleſs end perfectly well if prudently managed. I have been called to caſes of ſeveral months ſtanding, where the breaſt had entirely loſt its natural appearance, had become hard in every part, flattened, and the nipple been almoſt obliterated. When the diſeaſe extends to ſuch a degree, ſuppuration muſt take place, and, indeed, is a deſirable event, as otherwiſe miſchief would enſue; for I believe, an entire reſolution of the tumor is not to be effected. Hence, ſaturnine applications, which have been much too indiſcriminately made uſe of, are here highly improper. I have ſeen nothing ſo uſeful as mild poultices, and a cautious uſe of the unguent. cærul. fortius, from half a ſcruple to half a drachm, repeated *pro ratione effectûs*, and now and then taking away a ſmall quantity of blood;

while the body has been kept open by the ſal rupellens. polychreſt. or other cooling laxative.

By theſe means, I have ſucceeded in caſes to appearance exceedingly unfavorable, and not at firſt to be diſtinguiſhed from incurable ſchirrhi; which have nevertheleſs got well in a very reaſonable time, and the patients have afterwards ſuckled children without the leaſt inconvenience. In ſuch caſes, more eſpecially, the abſceſs when formed ſhould always be left to burſt of itſelf, the uſe of the knife having a direct tendency to increaſe the induration of the parts, as well as to injure the ſtructure of the breaſt; and at the beſt, it has been ſaid, is perfectly unneceſſary.

Sometimes, where the ſuppuration has gone on very ſlowly, an oozing of ichor or ſanies will remain, and often a diſcharge of milk from the ſore, long after the tumor and hardneſs are removed. And I have been applied to, where a ſmall fiſtulous ſore has remained for ſome months, which I have ſafely dried up in as few days, by dreſſing it with aq. vegitab. mineral. made very ſtrong: but if the ſinus runs deep, the aſtringent ſolution before-mentioned, uſed by way of an injection, may be preferable.

The above hints are thrown together, as the reſult of long experience both in the *Britiſh Lying-in Hoſpital*, and in private practice; not, indeed, as a treatiſe upon abſceſſes of the breaſt, but as the out-lines of a pleaſant and ſafe practice, which every man of experience will know how to apply, and the young practitioner may poſſibly profit from.

But

But in whatever way any ſuch abſceſſes may be treated, and however preferable this lenient method moſt certainly is to the uſe of the knife, and to the large inciſions formerly made, the milk-abſceſs will very often prove exceedingly painful, while the neceſſary long uſe of poultices muſt render this complaint very diſagreeable to the patient. If the number therefore may be in the leaſt diminiſhed, by the ſpeedy cure of ſore nipples, ſuch a remedy muſt be acceptable, in a double reſpect, to gentlemen engaged in the department of *midwifery*.—Perhaps, ſurgeons in general may be glad to hear, that the aſtringent ſolution is very uſeful in other fiſtulous ſores than thoſe juſt mentioned, and is alſo an excellent application to expedite the healing of large burns, as well as ſome troubleſome venereal ulcers. And I am yet in hopes, when it ſhall come into hoſpital uſe, (which I do not know it ever has,) it may be found very ſerviceable from its friendly aſtringency, in many caſes which I ſhall not yet take upon me to ſpeak of. The vitr. cærul. calcined to redneſs is a very different preparation, as well as a ſolution of it in its natural ſtate. The latter has been long in hoſpital uſe, and particularly *St. Thomas's*, but this is not only a very drying, but a cauſtic application, and frequently offends irritable ſores, unleſs it be made extremely weak; by which it will be rendered greatly inferior to the ſolution I have recommended.

STRICTURES

UPON

GANGRENE.

STRICTURES

UPON

GANGRENE.

THOUGH various are the ſources of knowledge in this country, they muſt ſtill be conſidered as imperfect; and, perhaps, nothing is ſo much wanted for the improvement of the *healing art*, as a public inſtitution ſimilar to the *Académie Royal de Chirurgie*, as eſtabliſhed in *Paris*. In *London* there have been of late years, indeed, ſome private Societies ſomewhat of that kind; but the number of their reſpective members is too limited, and familiar admiſſion, as a viſitor, is permitted only to a few. Beſides, the members of theſe ſocieties conſiſt chiefly of ſtudents, who attend rather to learn than to inſtruct; whence ſuch eſtabliſhments are rather calculated to communicate a little ſuperficial knowledge, in a ſhort time, than to perfect any of the

members; many of whom continue only a year or two in *London*. The Inſtitution, in ſome reſpects, more reſembling that of *Paris*, is with the *College* of *Phyſicians*, whoſe *Fellows*, at ſtated times, read papers, drawn up by themſelves and others, on medical ſubjects. But though their judgment and impartiality will not be ſuſpected, and their ſelection of papers may give more ſatisfaction, than any private editors; yet this inſtitution likewiſe falls ſhort of the preſent intention: for beſides that their plan is too limited, their readings and obſervations are not open to the profeſſion in general, and eſpecially to the younger part of it, who have every thing to learn.

For the want of ſuch an Inſtitution, young men, eſpecially ſuch as are to practiſe in the metropolis, are conſtrained to read a great deal, and often at a venture; or if they do not, they will loſe many a uſeful hint that is to be picked up in various works where but little might be expected. On the other hand, many a point of uſeful knowledge is loſt, or confined to a very ſmall circle, not ſo much for its want of importance, as from its being oftentimes a ſingle obſervation, which for want of an eaſy mode of communication, can circulate only in a way of converſation; whereby the young artiſt, conceiving himſelf unlikely to receive the credit of the obſervation, very frequently confines it to himſelf. But Societies with the firſt Phyſicians and Surgeons at their head, and open, under proper regulations, to all the ſtudents in medicine, where public ſpeaking, and reading of ſhort papers were encouraged, the ſubjects

properly

properly diſcuſſed, and the reſult of experience and inquiry duly publiſhed, would quickly ſpread uſeful knowledge through the kingdom, reſcue many a good practical hint from oblivion, and prevent a great number of larger works on the ſame ſubject, (each of which inquiſitive men are obliged to wade through;) and would nearly, if not entirely ſuppreſs many trifling publications.

I have been led into theſe reflections from conſidering different parts of the preſent little work, and eſpecially the ſubject immediately in hand; on which I deſign to ſay ſo very little, that it might well have been ſuppreſſed, but from the perſuaſion it will contain ſome hints not ſufficiently known, eſpecially by ſtudents, and for which the young reader of the former parts of the work may poſſibly find occaſion, before the hints might otherwiſe fall in his way.

It was on this account, that the former edition of my Treatiſe upon Ulcers of the Legs was not publiſhed by itſelf; to which alone, however, I had firſt turned my thoughts. Perſuaded, nevertheleſs, as I was, that the treatment of ſome ſcrophulous tumors might be improved upon, and that the moſt eaſy and ſafe method of managing the milky abſceſs, as well as other matters there treated, were, by no means, generally known; the work was ſuffered to put on that miſcellaneous appearance, and for the like reaſons has received the additions now ſubmitted to the Public; aware of the cenſures to which it may be on this, as well as other accounts, expoſed, I am, nevertheleſs

vertheleſs, ambitious to add my ſmall mite to a treaſury of knowledge ſo uſeful to the world as the *Healing-art*, however the execution may be criticized, or the author misjudged. With the candid, however, it is hoped, the apology may be accepted, (though immethodically introduced in this place) as well for the work at large, as for the preſent digreſſion, by way of introduction to the very few hints to be offered on the ſubject of Gangrene.

GANGRENES may be diſtinguiſhed into four kinds; ſuch as ariſe from irritation, attended with more or leſs of local inflammation; from an inflammatory diatheſis of the ſyſtem; from general debility; and from dyſcracy. To each of theſe ſpecies, external injuries may give riſe, or become the remote cauſe.

From this variety, though not always clearly underſtood, have ariſen the different means of cure extolled in different ages and countries, and by different practitioners in the ſame age and ſituation.

The moſt dangerous and frequently fatal gangrene, is that which attends, and is ſupported by a bad habit of body; in which opiates, cordials, tonics external and internal, have been found equally inefficacious; a permanent cauſe of morbid irritation or atony prevailing, which is ſometimes out of the reach of art, eſpecially in aged ſubjects, and in infants.

More however may be effected even here, or at leaſt, in ſpreading ſphaceli ſuſpected to depend upon a certain habit, as well as in gangrenes from other cauſes,

by

by mere external applications, than may have uſually been imagined, and has been one inducement to me to intrude theſe hints on the Public.

It is not my intention to enlarge on this diſorder in general, or to review all that has at different times been advanced; this diſeaſe having been largely diſcuſſed, and various ſucceſsful modes of treatment been recommended. It is certain, however, that neither cordials, volatile ſalts, opiates, nor even the bark, are efficacious alike, or by any means proper, in every ſpecies of gangrene; though the latter, ſince the time of *Douglas*, has been ſo much depended upon, that even *Mr. Pott*, when he firſt recommended the uſe of opium in gangrenes of the toes, for which the public is ſo much indebted to him, ſeems cautious of being ſuſpected of ſpeaking diſreſpectfully of a medicine, which in every other ſpecies of gangrene, he himſelf appears to eſteem almoſt a ſpecific.

Every art is confeſſedly imperfect, but there would certainly be leſs of imperfection in the practice of phyſic, were ſtudents better directed in their firſt reſearches; which muſt, however, greatly depend upon their teachers, who ought to lead them between the extremes of implicit confidence, and what may be called ſcientific ſcepticiſm. There is a degree of empyriciſm pervading every branch of medicine, and too many aware of this, are found running into the maze of theory, and therefore give credit to nothing that they cannot explain, though their arguments are frequently convincing to none but themſelves.

Every

Every practitioner, however, ſhould have ſome direct view in every thing he preſcribes, and ought to know what he is to expect from every medicine or topical application, however at a loſs about its preciſe mode of operation. For the want of this, means of cure for various diſeaſes have been handed down to us, which numbers implicitly adopt without any diſcrimination of cauſes; and therefore fail of effecting a cure, whilſt they are employing excellent remedies for one ſpecies of a diſeaſe that has various modifications. Hence it is, that the bark and cordials have been ſo univerſally extolled for their wonderful ſucceſs in gangrenes, for different ſpecies of which they are almoſt ſpecifics, whilſt they as conſtantly fail in others, to the ſurprize only of thoſe, who are preſcribing to the *name* of a diſeaſe, without attending to concomitant ſymptoms, and different conſtitutions.

The bark failing in ſo many inſtances, opium, it has been ſaid, has of late years become a faſhionable medicine in gangrenes, eſpecially of the extremities; and though it has been ſerviceable in other caſes than thoſe for which it was ſo happily adviſed by *Mr. Pott*, has alſo been productive of miſchief when preſcribed without that due diſcrimination, (more attended to, perhaps, by *Mr. Hunter*, than any other writer on this ſubject, that I know of,) which I ſhall now in a few inſtances endeavour to point out to younger practitioners.*

Gangrenes

* As it is a long time ſince theſe obſervations were drawn up, (which have been delayed for want of time to review the tract upon

Gangrenes are frequently attended with much true inflammation, and ſometimes are preceded and cauſed by it; and in this caſe, however rapid the progreſs of the gangrene may be, both the bark and other tonics, with every kind of cordial, ought entirely to be refrained from; and bleeding, laxatives, and cooling medicines be exhibited in their ſtead, with emollient fomentations and cataplaſms, (not applied too hot) to abate the ſenſibility of the part, and promote ſuppuration. After theſe evacuations, an opiate ſhould generally be adminiſtered at night, (and is proper in every gangrene where the pain is conſiderable); and theſe means ſhould be continued as long (though rarely many days) as the inflammatory diatheſis ſhall evidently prevail. For ſo long as this ſhall continue, the blood remain ſizy, and perhaps the bowels coſtive, loading them with bark, which the ſtomach cannot digeſt, is only adding fuel to fire, by augmenting the load, or increaſing the action of the ſyſtem, and rendering the partially obſtructed veſſels totally impervious.

But there is often local inflammation and great

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upon ulcers) I had not then ſeen the laſt edition of *Mr. Bell's* Surgery, in which are many valuable practical obſervations, and excellent diſtinctions of gangrenes. Had he more completely accompliſhed this deſign, and he himſelf had experience of the great advantages ariſing from a due recourſe to opium, in very many caſes, I had thought the expediency of theſe hints entirely ſuperſeded. But *Mr. Bell* does no more than barely mention that remedy, in a note, as having been recommended upon the authority of *Mr. Pott.*

pain,

pain, attended with a quick and even tenſe pulſe, that depends more upon ſpaſm, than a true inflammatory cauſe, eſpecially in old people. Here, much caution and general knowledge is required; but uſually opium is the beſt remedy, and may be ſafely adminiſtered every four or ſix hours, as the pain may require, after two or three ſtools have been procured by a gentle laxative or a glyſter. Should opium be the proper remedy, it will almoſt immediately prove uſeful; after which, the bark and wine, or other cordial ſhould be directed; but more eſpecially the bark, as in old people the ſyſtem is debilitated. For bark is evidently a tonic, and as ſuch has a tendency to ſtrengthen the general ſyſtem; whereas cordials are only temporary ſtimuli, and where the habit continues debilitated, only act as an increaſe of power in mechanics, and ſerve to haſten the deſtruction of the machine.

But ſhould this, or any other plan fail of producing ſome amendment, it ought not to be long perſevered in, as it is poſſible we may have miſtaken both the cauſe of the diſeaſe and the conſtitution of the patient; for if our remedies be properly adapted, however rapid the progreſs of the gangrene may have been, it will uſually be very ſoon checked. Whereas, when a gangrene has continued to ſpread for days, and even weeks, under the ſame treatment, (as I have ſeen under eminent practitioners in regard to the bark;) if it has at length ſtopped, and the patient recovered, the recovery may ſafely be attributed to the ſtrength of the conſtitution, of which the inflam-

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matory diſpoſition has been brought down by the length of the diſeaſe, rather than to the propriety of the means that have been made uſe of.

On the other hand, I have ſeen a rapidly ſpreading gangrene, even in advanced years, where bark has been adminiſtered freely without any good effect, immediately checked, upon taking away twelve or fourteen ounces of highly inflamed and ſizy blood, unloading the bowels, and inſtead of cordials and wine, refreſhing the heated patient with ſaline draughts, and afterwards quieting with opium. So alſo in the ſpurious inflammation dependent on irritation, I have known opium keep off a diſpoſition to gangrene in the toes, even for years, where the diſcolouration and pain have conſtantly returned ſoon after the opium has been laid aſide; although the patient has died at laſt of a gangrene of the extremities, at an advanced age of life.

By whatever means, however, the gangrene may be ſtopped, there are but few caſes, I believe, where the bark, cordial medicines and wine, will not be found proper at ſome period of the diſeaſe. Should the gangrene take place from atony, general or local, the one or all of theſe will be proper from the beginning, and the patient muſt be ſupported by a generous diet throughout the cure. Should they fail in caſes evidently of this claſs, the vitriol. cærul. ſhould be given inſtead of the bark, beginning with very ſmall doſes, ſuch as an eighth of a grain, or leſs, four or ſix times a day, diſſolved in a ſpoonful of ſpirituous cinnamon water: a medicine excellently adapted to

gangrenes

gangrenes attending that atony of habit induced by an impaired digeſtion from hard drinking; and as far as my experience has gone, is more efficacious than the bark, whenever the ſtomach will bear it. I once ſaw a remarkable inſtance of this in a large ſpreading ſphacelus, which was immediately checked by it, after the largeſt doſes of the bark had failed; and repeated re-appearances of the gangrene upon returning to the bark, as often ſtopped by returning to the vitriol.

To conclude this head, let the general habit of the patient, and the ſtate of the part diſeaſed be properly aſcertained; let us ceaſe preſcribing to the Name of a diſeaſe, and caſt off the ſhackles of prejudice; let us only make uſe of our underſtanding, and give attention to the ſymptoms peculiar to the ſeveral caſes we are treating; and we ſhall find many gangrenes of the moſt unpromiſing appearances, and in a very ſpreading and ſphacelated ſtate, frequently checked by very ſimple and obvious means, and ſoon converted into well-conditioned ulcers, diſpoſed to heal up in a reaſonable time.

The habit is either in a ſtate of inflammation, and the patient more or leſs athletic, and then there will always be much true local inflammation; or the habit is atonic, with more or leſs of ſpurious inflammation of the parts, the conſtant concomitant of a debilitated ſyſtem. To check the inflammation in the one caſe, and to ſupport the vis vitæ and allay the local morbid action in the other, as well by external as internal means, is equally agreeable

to

to ſound theory, as it is ſupported by ſucceſs and experience.

Before I quit the ſubject of internal remedies, I cannot avoid taking notice of an inflammation too frequently terminating in dangerous ſuppuration, or gangrene, that has not, I believe, had that attention paid to it which it deſerves; I mean, the caſe of puncture by an invenomed inſtrument. This misfortune uſually falls to the lot of medical people, when employed in opening dead bodies, and on other occaſions ſomewhat ſimilar; and has too often proved fatal. Such accidents appear to me to be frequently very ill treated from the beginning, by purging, bleeding, and other antiphlogiſtic remedies, to the excluſion of the only proper, and very oppoſite means, that of invigorating the ſyſtem. I have known ſeveral ſuch caſes treated in the firſt-mentioned way, and all of them followed by great local miſchiefs, and ſome have even ended fatally. Whereas, in others, where there have been evident marks of infection, and abſorption of the poiſon, along the courſe of the lymphatic, the evil has been ſtopped, and the perſon been perfectly well the next day, by the oppoſite treatment. The beſt remedy of this kind, I believe, is wine, which ſhould be partaken of freely, according to the conſtitution and habits of the patient, and if had recourſe to on the day of the accident, or any time before rigor, lowneſs, thirſt, or other ſymptom of affection of the ſyſtem have taken place, will generally prevent farther infection, by ſtirring up the vires medicatrices naturæ to expel the poiſon. This

may be farther promoted by proper doſes of the bark, taken on the next day. The punctured part ſhould alſo be touched with the lunar cauſtic, or if the injury be conſiderable, with the cauſtic alkali, which will penetrate deeper.

HAVING given theſe brief hints, I ſhall now cloſe with ſome ſimilar reflections on topical applications.

When the probable cauſe of the gangrene has been diſcovered, together with the general habit, and preſent circumſtances of the patient, the ſurgeon will be at no loſs how to adapt his applications and dreſſings; and this ſhould be invariably done. To ſtimulate and irritate an inflamed part, already too much in action, by balſams and ſpirits, when the general habit needs to be cooled and unloaded, were as contrary to good principles, as it muſt be unſucceſsful in practice. Here, emollient and relaxing fomentations, poultices, and ointments, are the moſt likely to abate the inflammation, to liberate the veſſels of the part, and aſſiſt nature to ſeparate the eſchar. On the other hand, poultices of ſtale beer and oatmeal, ſo frequently and indiſcriminately applied to ſphacelated parts, are not only always improper where there is much true inflammation, but even in the atonic ſtate, often do harm from their weight: in the former caſe, a poultice of fine linſeed-meal with a little ointment of Elder-flowers, will be found preferable; for the latter, a ſoft bread and milk poultice with a good deal of theriaca. For gangrenes in old people, and often for thoſe of infants, eſpecially if the gangrene is ſmall, the theriaca alone is

a very

a very convenient application. It is light, potentially warm, and yet ſomewhat ſedative; it does not very ſoon get dry, and is more conveniently renewed than poultices and fomentations; and is ſeldom improper in ſuch ſubjects, unleſs the local action be conſiderably greater than the powers of the ſyſtem. But even then, the attempt may often be made with ſucceſs, as a contrary ſtimulus will ſometimes change the undue and morbid action of the parts, and occaſion a favorable turn to the diſeaſe.

But the parts contiguous to the ſeat of gangrene, are almoſt always very painful, as long as the ſphacelus continues to ſpread, and are in this painful ſtate often improperly irritated by heating applications. The propriety of topicals ſhould ever be determined by their effects, and are generally hurtful, in theſe caſes, if they occaſion much pain; and ſhould this effect of ſtimulating applications, or even of fomentations and warmed poultices, continue for ſome hours after the gangrene has been dreſſed, they ſhould be changed for thoſe of a different quality, unleſs there be an evident atony of the parts. There may be, it has been ſaid, a ſtate of general debility, though from irritation there may be too great local action, which if not ſoon removed by a contrary ſtimulus from active applications, the continuing of them will increaſe the complaint. Here, ſedatives, and ſometimes poultices of bark, applied cold, may be made uſe of for a while, and will often do wonders, by allaying the morbid action of the parts,

and mitigating the pain; after which, tonics external and internal, ſhould be employed.

By this means it is, I apprehend, that the fermenting poultice * has been found of late years ſo very ſerviceable, and is a grand acquiſition in ſurgery; but is too little known, by appearing only in a work not generally read by young ſurgeons. Its effects have been aſtoniſhing, and perhaps are aſſiſted by wrapping up the parts above the gangrene in compreſſes wrung out of ſpirits, and renewed as they become dry. It may not operate, however, altogether in the way *Mr. Power* has conceived, nor yet by creating heat, as others have ſuppoſed, but as much from its being a ſedative, and applied in a cold ſtate, as from any ſpecific quality of its contents; and therefore derives not its chief virtues from its abſorbing, or correcting the acrimonious juices contained in ſphacelated parts, if it ſhould be allowed to have any tendency that way. However this may be, I believe it has effected cures, where ſeemingly from a bad habit of body, gangrenes have been in a ſpreading ſtate for a long time together.

In regard to ſcarifications, I believe it may be ſaid, that if we only cut through the eſchar, and do not penetrate the ſound parts, they will ſometimes

---

* This may be made of flour, honey, and water, mixed up with yeaſt, and ſpread into a thin paſte, and ſet near the fire till it ſhall begin to ferment; and in that ſtate ſhould be laid on the part, once or twice a day, if the pain be very great. See *Appendix to Medical Tranſactions of the College of Phyſicians. Vol.* ii.

be

be uſeful, both by taking off from the load and preſſure, and letting out an offenſive ichor: likewiſe in ſome inſtances, ſcarifications above the gangrened part where the limb is greatly enlarged, and the parts loaded with extravaſated ſerum, appear to prevent the ſpreading of the gangrene upwards, and are eventually beneficial.

I have only farther to obſerve, that as not a few patients ſink in conſequence of the diſcharge, even long after a ſeparation of parts has taken place, in caſes where amputation is impracticable; nothing can be more evidently indicated at this period, than good air, a nouriſhing and generous diet, a moderate quantity of wine, and other cordials, with ſuch tonic medicines as may beſt agree with the ſtomach.

FINIS.

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OBSERVATIONS

ON THE

DIFFERENT MODES

OF

PUNCTURING THE BLADDER,

IN CASES OF

RETENTION OF URINE;

POINTING OUT THE ADVANTAGES AND DISADVANTAGES OF EACH MODE OF OPERATING, UNDER DIFFERENT CIRCUMSTANCES AND DISEASES,

CONTAINING

An ANSWER to the following Queſtion:

"In caſes of retention of urine requiring a puncture of "the bladder; what are the advantages, and diſadvantages, "of the different modes which have been propoſed; both "as reſpecting the anatomy of the parts concerned in the "operations, and as regarding their more remote conſe- "quences?"

TO WHICH IS ADDED,

AN APPENDIX,

CONTAINING SEVERAL

PRACTICAL OBSERVATIONS

On ſome of the Cauſes of RETENTION of URINE,

And on the USE of CATHETERS.

By WALTER WELDON, Surgeon.

SOUTHAMPTON:

PRINTED BY T. BAKER.

FOR W. DAWSON, PATERNOSTER-ROW, LONDON.

MDCCXCIII.

TO

THOMPSON FORSTER, Eſq.

SURGEON TO GUY'S HOSPITAL.

DEAR SIR,

AS a ſmall teſtimony of the eſteem and friendſhip, I entertain for you; I have the honor of inſcribing to you my firſt attempt of adding a mite to the fund of ſurgical knowledge;

And, I have the honor to be,

DEAR SIR,

Your moſt obedient,

And moſt humble ſervant,

W. WELDON.

ADVERTISEMENT.

THE obſervations in the following pages are collected, principally, from notes which the author has taken at different times from caſes which preſented themſelves to him, or came to his knowledge in the courſe of his ſtudies and practice; and which notes were intended merely for his private uſe. When they were put into their preſent form, not a thought was entertained of laying them before the public.

A ſociety, of which the author was a member, inſtituted in *Southwark*, for the improvement of medicine and ſurgery, propoſed as the ſubject of their prize diſſertations for the year 1791, the queſtion ſtated in the title page; in anſwer to which, theſe obſervations were thrown together and preſented.

Since that time, ſeveral of his medical friends requeſted the peruſal of them, and have intimated their wiſhes that they, as well as ſome other obſervations written on a ſimilar occaſion, might be put into print.

This,

This, together with a deſire of turning the attention of practitioners, in general, more towards the mode of relieving a ſet of diſeaſes which, the author is ſorry to ſay that he has ſeen, more than once, prove fatal, from a want of proper attention; and a deſire of removing that prejudice which too generally prevails in the medical world againſt the operation of puncturing the bladder, has induced him to publiſh them.

If they ſhall be found to ſuggeſt uſeful hints to thoſe practitioners, who have not an extenſive practice in ſurgery, but yet are liable, occaſionally, to have the management of theſe diſeaſes, without having an opportunity of calling in a more experienced ſurgeon to their aſſiſtance, the intention of the author will, in great meaſure, be fulfilled: although, at the ſame time, he hopes, ſome of the hints contained therein, will not be undeſerving of attention from the more experienced ſurgeon.

Having had frequent opportunities of obſerving that much miſchief is often done by the too frequent and improper uſe of catheters, in certain diſeaſes of the urethra, the author has added, in an appendix, ſome obſervations on the uſe of thoſe inſtruments. Theſe, he hopes, will likewiſe be found uſeful to ſuch practitioners as are not much in the habit of uſing catheters; as well as to thoſe who are proſecuting their ſtudies in this branch of ſurgery.

SOUTHAMPTON,
JUNE 4, 1793.

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ERRATA.

Page.	Line.	
20,	18,	for 40° read 80°.
57,	11,	*longer* read *larger*.
112,	4,	*paſs* read *preſs*.
144,	14,	*ureters* read *urethras*.

OBSERVATIONS, &c.

INTRODUCTION.

IN caſes of retention of urine, where, to evacuate the water by its natural paſſage, every method with which we are acquainted has been tried in vain, it is neceſſary, in order to ſave or prolong life, to make an artificial opening into the bladder. But practitioners are much divided in opinion reſpecting the part in which this opening may, with moſt propriety, be made.

Diſeaſes of the bladder, and of its excretory duct, are very frequent; but caſes

of retention of urine, demanding the bladder to be punctured, are ſo rare, that in all probability it never has occurred, nor ever will occur, to any one practitioner, to meet with it in all the varieties of theſe diſeaſes, and have an opportunity of judging from experience of the advantages, and diſadvantages, of each mode of operating, in every peculiar diſeaſe. This leads me to think that the generality of authors who have treated on this ſubject have written from theory, or copied each other. Even thoſe who have written from practical knowledge, ſeem moſt of them to have taken too partial a view of the ſubject. Having ſeen one mode of operating ſucceed, or fail, in one or two caſes, they have ſuppoſed it preferable, or improper, in every caſe that can poſſibly occur.

Forming concluſions too general, from particular caſes, is one grand ſource of the diver-

diverſities of opinion which ſo generally prevail upon many ſubjects in the different branches of medicine. No where is it more obvious than in this operation. Let us only take a view of the different diſeaſes which render it neceſſary, of the changes in ſtructure which the Bladder and its ſurrounding parts are capable of undergoing, in conſequence both of healthy and diſeaſed operations, and we ſhall be convinced that each mode of operating occaſionally has its advantages, and that caſes alſo occur in which one or other of the modes of operating is not diſadvantageous only, but abſolutely impracticable.

It is evident then, that in any caſes where the propriety of puncturing the bladder is aſcertained, before we can determine where the operation may be performed to moſt advantage, ſeveral things muſt be conſidered.

We ought to be very well acquainted with the natural ſtructure and ſituation of the parts to be wounded, or in danger of being wounded, in each operation.

We ought to attend to the difference in the ſituation of theſe parts, depending on the peculiar conformation of different people.

Another thing to be conſidered, is the facility of the operation, both to the ſurgeon and to the patient. For an operation which may be ſafe, and even preferable, when performed by a ſurgeon who is a good anatomiſt, may be fatal when performed by an unſkilful operator.

It is not ſufficient that we preſerve a patient's life merely by the operation, we muſt preſerve alſo his future comfort and happineſs; the conſequences therefore of each

each mode of operating, deſerve our moſt ſerious conſideration.

In a retention of urine there is always a diſeaſed alteration in the ſtructure and functions of the urethra, or of ſome part connected with it. It is of the utmoſt importance to aſcertain this alteration, and the part in which it has taken place; as it will generally aſſiſt us in determining where to perform the operation, and oftentimes is alone ſufficient to regulate our conduct.

In this eſſay I do not propoſe entering into long, and probably unneceſſary details of the opinions of others; theſe may be gathered by reading their works. But I ſhall lay down what occurs to me upon the ſubject from my own obſervations, and from analogy. In doing this I ſhall in ſome meaſure purſue the following order.

In

In the firſt place, I ſhall give a ſhort deſcription of the anatomy of the parts, ſo far as the knowledge of it appears to be neceſſary in performing this operation.

Afterwards I ſhall ſpeak of the ſymptoms attending on a retention of urine.

Then I ſhall deſcribe the different modes of operating.

After this I ſhall take notice of the advantages, and diſadvantages attending them, when the operation is performed on healthy parts.

Laſtly, I ſhall point out thoſe diſeaſes, which occur to me as likely to have any conſiderable influence on the ſucceſs attending the operation, or which may render one mode of operating preferable to another.

SECTION

SECTION I.

A SHORT ANATOMICAL DESCRIPTION OF THE PARTS NECESSARY TO BE KNOWN IN THE OPERATION OF PUNCTURING THE BLADDER.

THE bladder is an organiſed bag, compoſed principally of a compact vaſcular membrane, which is covered with muſcular fibres. The muſcular fibres may be divided into two layers. The external layer extends from the fundus towards the cervix; the internal extends round it in a circular direction. Its internal ſurface is ſmooth, and covered with a mucus; the external ſurface is rough, being covered with

with reticular membrane by means of which it is attached to the ſurrounding parts.

The human bladder is of an irregular figure, and different from that of almoſt every quadruped, being ſmaller at its ſuperior part or fundus than it is towards its cervix, which extends backwards, reſting upon the rectum.

The bladder is ſituated within the cavity of the pelvis, immediately behind the ſymphyſis of the pubes, on the anterior part of the rectum, with which it is in contact. Inferiorly it is confined by its connection with the proſtrate gland, and urethra; ſuperiorly it is looſe, and with reſpect to the ſurrounding parts, is differently ſituated at different times. Having a muſcular power, it always adapts its capacity to its contents. When in an empty con-

contracted ſtate, the fundus is very near to the cervix; and the whole of the bladder is ſituated, two inches or more, below the brim of the pelvis. As it becomes filled, its fundus gradually riſes, and in a moderately-diſtended ſtate, is nearly equal with the ſuperior part of the ſymphyſis pubes. In caſes of preternatural diſtention it riſes much higher, and may be felt in the hypogaſtric region; and in ſome caſes it has been known to riſe above the umbilicus.

Superiorly, and poſteriorly, the bladder is connected to the peritonæum. On examining theſe parts when the bladder is in a contracted ſtate, we find this membrane lining the abdominal muſcles, as low as the oſſa pubes. During this courſe it is connected to them by reticular membrane, which towards the inferior part be-

comes very looſe; ſo looſe that, at about one inch and an half, or two inches above the pubes, it will admit of the peritonæum being ſeparated from the muſcles to a conſiderable diſtance. From the ſuperior part of the oſſa pubes, the peritonæum paſſes obliquely downwards, and backwards, to the fundus of the bladder; from thence it extends down its poſterior part, and about oppoſite to the extremity of the os coccygis, it is reflected on to the rectum; over which it aſcends, forming the meſo rectum.

When the bladder is diſtended with urine, it is evident that this peculiar ſituation of the peritonæum muſt in ſome meaſure vary. We find accordingly that, as the fundus of the bladder riſes, carrying up that portion of the peritonæum by which it is covered, it ſeparates, and raiſes

the

the peritonæum from the inferior part of the rectus muſcle. This ſeparation muſt take place in a greater degree, in proportion as the bladder riſes higher in the abdomen.

It may be ſuſpected that the proceſs of peritonæum, which extends between the bladder and rectum, is raiſed at the ſame time; but the peritonæum is at this part more cloſely connected. The bladder alſo, here, is more fixed; and the ſituation of it is little changed in conſequence of its being diſtended. As, however, it is capable of contraction, and relaxation, in every part, the diſtance between the reflection of peritonæum, and the proſtrate gland, muſt be greater when it is in a diſtended, than when it is in an empty ſtate.

The bladder, at its inferior part, is connected to the ureters, vaſa deferentia,

veſſiculæ ſeminales, proſtrate gland, and urethra.

The ureters paſs down behind the peritonæum, and enter the bladder obliquely at its inferior part, about two inches from the orifice of the urethra, and about the ſame diſtance from each other. There is, therefore, little danger of wounding them, in the operation of puncturing the bladder.

The vaſa deferentia paſs into the pelvis under the peritonæum, and arriving at the poſterior part of the bladder, they gradually approach each other, and come in contact between the bladder and rectum, about a quarter of an inch behind the proſtrate gland, forming an angle of about 40°; then paſſing parallel about one-third of an inch, each of them terminates

nates in the excretory duct of the corre-ſponding veſſicula ſeminalis.

The veſſiculæ ſeminales are ſituated cloſe to the outer ſide of the vaſa deferentia: ſo that their poſterior extremities are at a conſiderable diſtance from each other, and their anterior extremities are nearly in contact. Each of them ſends off a ſmall excretory duct, which receives the vas deferens of the ſame ſide. Theſe ducts paſs nearly parallel along a groove in the ſubſtance of the proſtrate gland, and terminate in the urethra, on each ſide of the caput galinaginis.

That portion of the bladder which is ſituated in the ſpace bounded by the vaſa deferentia, and the lower extremity of the meſo-rectum, is in contact with the rectum. This portion is but ſmall; for the

the part where the peritonæum is reflected, is not quite two inches from the proſtrate gland. If we ſuppoſe a triangle, the ſides of which are, each of them, one inch and an half long, and the baſe one inch and a quarter, its area, when inverted, will nearly correſpond with the area of this portion of the bladder.

The proſtrate gland is connected to the cervix of the bladder. It is of a ſomewhat flattened conical figure, and rather more than an inch in length. Its baſis is towards the bladder; its apex towards the membranous part of the urethra. It lies upon the inferior part of the rectum, a little above the ſphincter ani, as that inteſtine extends backwards towards the os coccygis. The proſtrate gland may be felt by paſſing a finger into the rectum; and the vaſa deferentia may, without much difficulty, be felt above it.

The

The beginning of the urethra is ſituated at the baſe of the proſtrate; it extends obliquely downwards and forwards, thro' the ſuperior part of this gland, from its baſe to its apex. So that the proſtrate gland is ſituated principally at the ſides of the urethra, but a ſmall portion on its poſterior part, and a ſtill ſmaller on its anterior-ſuperior part.

From the proſtrate gland, the urethra is extended a ſhort diſtance, ſurrounded by reticular membrane, and a few muſcular fibres: this is called its membranous portion. It is ſituated under the arch of the pubes, where it paſſes through a ligamentous ſubſtance. The urethra then enters the corpus ſpongioſum, at the ſuperior part of the bulb. It is at a conſiderable depth from the perinæum; being covered by the integuments, a conſiderable quantity

tity of adipoſe membrane, and ſome muſcles connected with the ſurrounding parts; and, as it forms a conſiderable curve, the poſterior extremity, is deeper ſeated than the anterior.

SECTION

SECTION II.

OF THE SYMPTOMS PRODUCED BY A RETENTION OF URINE.

A Retention of urine is, ſtrictly ſpeaking, a ſymptomatic diſeaſe. It is a ſymptom ariſing from any diſeaſe which prevents the urine paſſing through the urethra; and the ſymptoms produced by it are ſecondary ſymptoms. But as the ſymptoms ariſing from the interruption of ſo important a function are always very formidable, and frequently fatal; although the diſeaſe giving riſe to it is often, in other reſpects, free from danger; it has become uſual to ſpeak of a retention of urine as a primary diſeaſe, calling the diſeaſe which

produces it the cauſe. Thus if a ſpaſm of the urethra, or a diſeaſe of the proſtrate gland, produces a retention of urine; the ſpaſm or the diſeaſed proſtrate is ſaid to be the cauſe; the retention of urine, the diſeaſe; and the effects produced by it are, by conſequence, conſidered as primary ſymptoms.

This diſtinction being merely verbal, deſerves little attention; but as it is convenient to our preſent purpoſe, I ſhall take the liberty of following it.

It is of the utmoſt conſequence, however, always to recollect, that the cauſes of retention of urine are various, and give riſe to various other ſymptoms; ſome of which at times are very formidable, and occaſionally are ſo complicated with thoſe ſymptoms ariſing from this diſeaſe, as to cauſe a conſiderable variety in them, and

ſome-

ſometimes to increaſe their violence. As this will frequently occaſion a conſiderable diverſity in the treatment proper to be followed, the ſurgeon ought, in every caſe, to pay a ſtrict attention to the diſcovery of the cauſe.

The ſymptoms attending on this diſeaſe are generally as follow. The patient feels an inclination to make water, but, on attempting it, finds himſelf incapable. The urine, not yielding to the action of the muſcular power of the bladder, proves a ſtimulus to it; a ſtronger and more violent action is excited, and the patient feels conſiderable pain. This makes him afraid of ſtraining: on the contrary, he endeavors to prevent the action of the bladder, and takes off, as much as poſſible, all preſſure from it, by bending his body forwards. But there remains a very unpleaſant, painful ſenſation, and a continual deſire to void

the urine, ariſing from the diſtended ſtate of the bladder, and which gradually increaſes as the diſeaſe advances. The bladder becoming more diſtended, its action, at laſt, becomes involuntary; and generally comes on in repeated fits. The muſcular power of the bladder contracts violently for a ſhort time, and then ceaſes, as if exhauſted; the diaphragm, and abdominal muſcles, and indeed all the muſcles of the body, ſympathiſing with it, contract at the ſame time; and the patient feels a moſt excruciating pain.

During the fit, the patient, if ſtanding, has his legs a little ſeparated; his knee and hip joints half bent; his body bending forwards, his hands having faſt hold of the bed-poſt, or any thing near him; and he ſeems exceſſively agitated: ſometimes he ſqueezes the glans penis, fancying he can preſs ſome urine out of it. Now and then

a drop

a drop or two of urine comes away, occaſionally tinged with blood.

The fits return, at different periods, in different caſes; but, in all, the time of their recurrence is irregular, and uncertain: frequently there is ſcarcely any interval between them; frequently the interval is conſiderable. I have ſeen caſes where the retention of urine was complete, and the intermiſſions between the fits were ſometimes three or four hours; at other times not five minutes.

Exactly ſuch ſymptoms as theſe I have ſeen, where the bladder was in an inflamed ſtate, and contained no urine. But, in the early ſtage of the diſeaſe, the continued local pain was greater; and there was a conſiderable degree of fever; which, in a ſimple retention of urine, is not the caſe. The patient is much hurried by the pain, and the

pulſe

pulſe ſometimes is rather quickened, but not to that degree which I have obſerved when the bladder is inflamed: nor is there that proſtration of ſtrength and ſpirits which generally occurs in the latter diſeaſe. As the diſeaſe advances, however, the bladder becomes more irritable, and, at laſt, inflamed; the pulſe quickens, and a conſiderable ſymptomatic fever comes on. All the ſymptoms increaſe, with frequent cold-ſweats, and, ſometimes, fainting, from the exceſſive pain. If the bladder was, previouſly, in an healthy ſtate, it will admit a conſiderable quantity of urine before the ſymptoms become violent; and then, early in the diſeaſe, a tumor may be felt in the lower part of the hypogaſtric region. When this is the caſe, the nature of the diſeaſe is out of doubt. But ſometimes, when the bladder is in an irritable ſtate, three or four ounces of urine being retained in it, will produce all the

ſymp-

ſymptoms above-mentioned; and then, eſpecially if the patient is rather corpulent, no tumor is perceptible. In this caſe, if the diſeaſe is not produced by an enlarged proſtrate gland, the fluctuation may be felt on paſſing a finger into the rectum. If we do not ſucceed by this method, all the milder means for procuring the evacuation of the urine may be tried: but it is better not to think of puncturing the bladder. For, although there may be a retention of a ſmall quantity of urine, the bladder muſt be ſo diſeaſed, that, in all probability, the patient will not ſurvive the operation.

If the patient is not relieved, as the diſeaſe advances, the hypogaſtric region becomes tender and painful, on being preſſed; this gradually increaſes, till the patient cannot bear the leaſt preſſure, without great pain: his pulſe becomes quicker,

and

and weaker, and, at laſt, irregular. The continued pain, from the diſtention of the bladder, increaſes, and ſometimes extends along the courſe of the ureters: the fits, and the increaſed pain produced by the temporary actions of the muſcular power of the bladder, become weaker, and leſs frequent, till they ceaſe entirely. The ſtrength gradually ſinks; delirium, and convulſions, come on; and, in a few hours, death cloſes the ſcene.

The ſymptoms now laid down were collected from caſes which have fallen under my own obſervation. I have ſeparated from them, as carefully as poſſible, thoſe ſymptoms produced by the diſeaſe, cauſing the retention of urine; and thoſe ſymptoms, alſo, which were produced by the means employed to remove it. I have ſeen two caſes, where, from obſtinacy, fear, prejudice, and other cauſes, little was done

done to relieve the patients, and they died. In both, the ſymptoms were very much the ſame; except that in one caſe, the progreſs was more ſlow. A very ſmall quantity of urine, now and then, came away, which ſeemed to prolong the patient's life; and he lived about thirty-ſix hours after the delirium, and convulſions came on.

We are told, by authors, that the bladder has ſometimes been ruptured in this diſeaſe; but as I have never yet met with a regular detail of the ſymptoms attending it, I cannot ſay at what time this accident happened; whether the internal tunic gave way, during the violent action of the muſcular fibres; or whether it did not occur till the life and texture of the bladder was deſtroyed, by the violence of the inflammation. The latter is, in fact, a mortification; and what ſeemed to take

place, in the above caſes. But I was not able, in either caſe, to aſcertain the appearances, after death; as I could not obtain leave to open the body. I am inclined to think, however, that a rupture of the bladder is rather an improbable circumſtance; unleſs in ſome peculiar caſes of diſeaſe.

SECTION III.

OF THE DIFFERENT MODES OF PUNCTURING THE BLADDER.

THE bladder being deeply ſeated, and almoſt ſurrounded with bone, there are only three parts where we can, with any propriety, perform the operation of puncturing it. Theſe parts are, the rectum, the perinæum, and above the oſſa pubes. Hence the different modes of operating are commonly denominated, the operation *per anum*; the operation *in perinæo*, and the operation *ſupra pubes*.

Each of theſe operations has its inconveniences; is attended, frequently, with

conſiderable difficulty, and ſometimes with no ſmall degree of danger. In general, however, the danger attending caſes where either of theſe operations is performed, is much more from the diſeaſe, than from the operation.

In ſpeaking of theſe operations, I ſhall ſuppoſe that all the milder methods of relief have been previouſly tried, in vain; and that to puncture the bladder is the only means, which gives us a chance of ſaving, or prolonging, the life of the patient.

In order to obtain the greateſt chance of ſucceſs, in either of theſe operations, there is a certain period, or ſtate of the diſeaſe, at which the operation ought to be performed. If we perform it before we have given all the milder methods of

cure

cure as fair a chance as poſſible, we ſhall often have recourſe, unneceſſarily, to an operation which, poſſibly, may terminate fatally, or end in an incurable fiſtula. On the other hand, it may be delayed too long; the bladder may become mortified, or ruptured, when it can afford no relief. Performing it then, will put the patient to unneceſſary pain; his hopes, and the hopes of his friends, will be fruſtrated, and the operation will be undeſervedly condemned.

To aſcertain the preciſe period when it is unſafe to perſiſt any longer in the uſe of milder remedies; and when, at the ſame time, theſe remedies have had as fair a trial as the nature of the caſe will admit of, requires our moſt ſerious attention. No invariable rule can be laid down.

When

When the ſymptoms of retention of urine are not complicated with dangerous ſymptoms from any other diſeaſe, the danger, as far as I have been able to obſerve, ariſes from inflammation, and mortification, taking place, rather than from the burſting of the bladder. If ſo, the proper period for the performance of the operation is, as ſoon as the inflammation is obſerved to be coming on, before it has time to increaſe to any alarming degree.

It is impoſſible to ſay, at what time, after the commencement of the diſeaſe, inflammation may take place; there are ſo many cauſes to occaſion a diverſity. The retention of urine is more complete on its attack, in ſome caſes, than in others; the quantity of urine ſecreted in a given time; the capacity of the bladder; its irritability; and the general ſtrength of the patient;

are all of them circumſtances which will vary, in different caſes: inſomuch, that two caſes, agreeing exactly in the violence, and rapidity of their ſymptoms, will ſcarcely ever be met with.

The ſurgeon muſt attend, therefore, to the peculiar conſtitution of his patient; the cauſe of the diſeaſe; the rapidity, the violence, and the order of the ſymptoms. He ſhould attend, alſo, to the means which have been attempted for his relief, and the effects which thoſe means have produced.

As long as the patient is free from fever, and the pulſe continues ſlow, or but little hurried, and there is no remarkable tenderneſs in the region of the bladder, or kidneys; and as long as he has tolerable eaſy intervals, although the occaſional action of the bladder may at times

be

be rather violent, and the pain attending it conſiderable; there does not appear to be much danger in waiting for the trial of other means. If, during the exertions, the patient ſhall void a little urine now and then, this alſo will give us time. Sometimes, after the action of the bladder, and the conſequent pain have been very great for ſome time, they will nearly ceaſe, even for ſeveral hours, and then return again. Here, great care ſhould be taken not to be deceived into the notion that a rupture, or mortification, has taken place. The bladder continues diſtended, and, on being preſſed to a certain degree, is ſenſible of pain. But the pulſe and fever muſt form our principal guides: if the former is of moderate ſtrength, ſlow, and regular; and the latter attended with no alarming ſymptoms, there is no immediate danger. It is better, however, to perform the operation too ſoon, than too late. Therefore, whenever

ever ſufficient time has been obtained, to give all the milder methods of cure a fair trial, and they have failed, it is better not to wait till ſymptoms of danger come on, but to perform the operation immediately. Particular attention ſhould be paid, that the means made uſe of for the relief of the diſeaſe, do not increaſe it. A great deal of miſchief is often done to the urethra, by catheters being improperly uſed. So much inflammation ſometimes is brought on, as to take away that chance which the patient would otherwiſe obtain from the operation.

When theſe things are attended to, the operation of puncturing the bladder, is leſs dangerous than is commonly imagined.

I. *Of the* OPERATION *per* ANUM.

THIS operation is ſimple and very eaſy. It conſiſts in making an opening through

the rectum into the bladder, at that part where they are in contact with each other. It requires a knowledge of the ſituation of ſome few parts, in order to avoid wounding them unneceſſarily; and this knowledge, with a little attention, is not difficult to attain.

The parts in danger of being wounded, unneceſſarily, in this operation, are, the vaſa deferentia; the veſſiculæ ſeminales; and the proceſs of peritonæum, which extends between the bladder and rectum. I have already noticed the ſituation of theſe parts. I obſerved that the vaſa deferentia approach each other, obliquely, and come in contact, about a quarter of an inch behind the baſe of the proſtrate gland. I obſerved, alſo, that the proceſs of peritonæum terminates oppoſite to the extremity of the os coccygis; which is about one inch and a half above the baſe

of

of the proſtrate. The triangular portion of the bladder, which is bounded by theſe parts, is connected to the rectum, by reticular membrane only, and may be punctured with the greateſt ſafety.

Seeing the ſpace, in which this operation may be performed, is ſmall; it is abſolutely neceſſary that it be accurately diſtinguiſhed by the operator: therefore, the following obſervations may, probably, be worthy of notice.

The patient ſhould be placed as in the operation of lithotomy. A finger ſhould then be paſſed into the rectum, with its anterior part towards the bladder; and the operator ſhould diſtinguiſh the proſtrate gland from the bladder. This is more difficult, on account of the bladder being diſtended with urine; and ſometimes from the coats

of it being conſiderably thickened: but ſtill it may be done, by moderate attention.

It will be found a little above the ſphincter ani; and will be preſſed againſt the rectum, ſo as ſometimes to impede the paſſage of the finger. Above the baſe of the proſtrate gland, may be felt, the vaſa deferentia, paſſing between the bladder and rectum. They are not quite ſo hard as they are nearer to the teſtes; but they are harder than the ſurrounding parts, and larger than in any other part of their courſe, and feel ſomething like two cords. They lie very cloſe to the edges of the veſſiculæ ſeminales. The veſſiculæ ſeminales may be diſtinguiſhed by their being ſituated on the outſide of the vaſa deferentia; by the irregularity they produce; and by the fluctuation of the urine being leſs diſtinct through

through them.* Feeling for the part where the vaſa deferentia come in contact, the finger ſhould be paſſed directly upwards, about one inch. Here we ſhall feel the bladder very diſtinctly, preſſing againſt the rectum. A trocar ſhould then be paſſed along the fore-part of the finger, and puſhed into it.

The trocar which is uſed, ought to be of a ſufficient length, and curvature. I do not

* It ſhould be recollected, that the author is ſpeaking, here, of thoſe caſes only, in which the bladder has undergone no change in its ſtructure; therefore, it will frequently happen, in caſes where the operation is neceſſary, that the ſurgeon is not able to feel the vaſa deferentia, and the veſſiculæ ſeminales, ſo diſtinctly as is here deſcribed; nay, that, ſometimes, he is not able to feel them at all: but if the other rules here laid down are attended to, there is little danger of wounding them.

It is remarkable, that, when an obſtruction to the paſſage of the urine forms, and increaſes gradually, the bladder gradually becomes thickened in its ſubſtance; ſometimes to an amazing degree. The increaſed reſiſtance in the paſſage, not allowing the urine

to

not approve of the trocars, in common uſe; they are made circular in their diameter, and with a triangular point. I think an oval trocar is preferable; as it admits of a lancet-point. In moſt caſes where a trocar is uſed, we wiſh the wound to be made in ſuch a manner as will, as much as poſſible, favour its healing by adheſive inflammation. A ſmall wound is more favorable to heal, than a large one; and a wound, the ſides of which have a tendency to

to paſs away ſo rapidly as before, the bladder is prevented expelling it ſo quickly with the ordinary force: this proves an additional ſtimulus to its muſcular fibres, and they act with greater force. As the reſiſtance increaſes, the ſtimulus, and the conſequent action of the bladder, increaſes; and, as the action increaſes, the ſize and ſtrength of the muſcular fibres increaſe alſo. Common obſervation will ſhew, that, where a muſcle, or a ſet of muſcles, are exerted in an increaſed degree, for a length of time, they become gradually larger and ſtronger. Theſe exertions prove an additional ſtimulus to the circulation in them; more blood paſſes thro' them, in a given time; and the actions, for their growth and nouriſhment, are carried on more rapidly.

to fall in contact, than one where they tend to recede from each other.

A triangular-pointed trocar appears, to me, to have two material objections.

The ſurface of a wound made by it, is greater than the ſurface of a wound made by a flat-pointed trocar of nearly the ſame ſize: the latter forms a longitudinal inciſion, having but two ſides; whereas the former makes a triangular inciſion, conſequently having three angles and ſix ſides. Beſides, it is an inſtrument badly adapted for cutting; and makes, in ſome meaſure, a lacerated wound.

The other objection to the triangular-pointed trocar, ariſes from the ſhape of the wound formed by it. The ſides of a wound having three looſe flaps, are, certainly, leſs favorable for falling in contact,

tact, than the ſides of a longitudinal inciſion.

The conſequences of theſe objections are; that a greater degree of inflammation than is neceſſary, is brought on; and there is danger of a ſuppuration taking place, when we wiſh to avoid it.

In every caſe of puncturing the bladder, I think, a lancet-pointed trocar is preferable. It can never be attended with inconvenience. Leſs ſurface of wound, in proportion to its ſize, is produced; and, if it is proper to heal it before ulceration takes place, we are leſs liable to be diſappointed.

Having withdrawn the trocar, and ſuffered the water to run out through the canula, the next conſideration is, whether the wound is to be kept open, or to be

healed.

healed. In this we muſt be governed by the cauſe of the diſeaſe. If that is of ſuch a nature that it can be removed immediately, we muſt withdraw the canula. The ſides of the wound, then falling in contact, will generally heal without further trouble. It will be proper, however, to take care, and prevent the part being irritated, by the fæces collecting in the rectum. For this purpoſe, emollient clyſters may be uſed: but here, again, caution is neceſſary, that it be not irritated by the pipe; by their too frequent repetition; or by their being thrown in too forcibly.

Generally, however, the obſtruction in the natural paſſage is of a more permanent nature; and it is found adviſeable to keep the new-formed paſſage open. For this purpoſe, we are, in general, adviſed to leave the canula, or a catheter, in the blad-

der, through the rectum. This, I think, is not, altogether, a ſafe practice. The preſence of an hard, unyielding body, in the rectum, is very diſagreeable, and inconvenient, to the patient. It is continually irritating the parts, and exciting teneſmus; and there is great danger of it producing ulceration, on the oppoſite furface of the bladder. If, in order to avoid the latter inconvenience, the extremity of the tube is introduced but juſt within the aperture in the bladder, it is liable to be forced out by the action of the rectum and levatores ani.

The difficulty of keeping a canula in the bladder, through the rectum, has been conſidered as a very principal objection to this operation; which, otherwiſe, has ſeveral advantages. This objection may, in ſome meaſure, be obviated, by uſing, inſtead of a ſilver tube, a ſmall catheter,

or

or tube, made of elaſtic gum. It may be introduced, by paſſing it through the canula; which may then be withdrawn over it. This elaſtic tube, being ſoft, will adapt itſelf to the ſhape of the parts in which it is ſituated, and will yield readily to their action. An inconvenience attending the elaſtic gum canulas is, that, on being long immerſed in a fluid, they become very ſoft; and then their elaſticity is very eaſily overcome, by the preſſure of the parts ſurrounding them. If they are made of linen, or ſilk, covered with elaſtic gum, this inconvenience is leſs liable to happen. Or a ſmall male catheter may, occaſionally, be introduced, through the tube.

After all, however, I am of opinion, that a tube is wholly unneceſſary; and that, as long as the urine cannot paſs by its natural paſſage, the artificial paſſage is incapable of healing.

If the operation is performed as I have adviſed, the muſcular power of the bladder will leſſen the extent of the wound very conſiderably; and, alſo, will bring its ſides in contact. In conſequence of this, we know that the coagulable lymph which is thrown out under the ſucceeding inflammation, will form a ſlight union between the parts, and ſerve as a medium, into which, if the parts are left a ſufficient time at reſt, the wounded veſſels will, by degrees, extend; the union, by this means, gradually becoming firmer, until it is completed.

This proceſs takes up ſome time. For the firſt ten or twelve hours, the union is very ſlight, and eaſily overcome by any force tending to ſeparate the ſides of the wound. When the bladder is empty, the ſtimulus from the urine being removed, its action will entirely ceaſe; and the gra-

vity

vity of the urine will not be ſufficient to force it through the wound. But as it again gradually fills, the ſtimulus gradually returns; and, at laſt, is ſufficient to excite the contraction of the bladder. The urine will then be preſſed upon, in every direction, by the ſides of the bladder; and, the natural paſſage being ſtill impervious, it will be forced through the artificial opening. The ſides of the wound will again fall in contact, and the urine will collect as before, until the bladder is again excited to contraction. This will continue to be repeated, probably, till the urine can paſs freely by its natural paſſage.

The tendency to union, immediately after the operation, is great; and leſſens after each time the wound is opened, until ſuppuration takes place on its edges; then

there

there is no danger of its uniting till the urine can paſs through the urethra.

When the paſſage of the urethra is opened, the bladder, meeting with leſs reſiſtance from the urine, will preſs it with leſs force againſt the ſides of the wound. Theſe not being ſeparated, as uſual, granulations will gradually unite them.

It will be proper for the patient, at firſt, to attempt the evacuation of his urine, frequently—perhaps, every two or three hours; in order to prevent the union becoming too firm. Or the ſurgeon, if he chuſes, may introduce an extraneous body, for a few hours, if it can be retained there; merely to keep the ſides of the wound from falling in contact, during the firſt part of the adheſive inflammation. For this

this purpoſe, a bit of bougie, or an elaſtic gum canula, is preferable to any metallic inſtrument; as a ſoft ſubſtance will irritate leſs, and, by conſequence, excite leſs inflammation, than an hard one. But, if the operation is delayed ſo long, that inflammation takes place in the bladder, the urine will not be retained by it, at leaſt, for any conſiderable time. For a very ſmall quantity of urine, even a ſingle drop, ſometimes, ſo irritates an inflamed bladder, as to excite the moſt violent contractions.

Theſe obſervations receive great confirmation from a caſe related by Dr. HAMILTON, in the philoſophical tranſactions, and mentioned, alſo, by Mr. JOHN HUNTER, in his treatiſe on the lues venerea. In this caſe, the catheter was withdrawn, immediately on evacuating the urine, and the bladder was found capable of retaining

ing what was afterwards ſecreted, until it was excited to contraction; when the urine paſſed freely through the wound. This continued till the natural paſſage was opened; which was in about two days; and then the wound healed readily.

Probably, it will be objected, that this is the only caſe upon record, in which the power of retaining the urine has taken place; and that a ſingle caſe is not ſufficient to eſtabliſh a general concluſion. But, it muſt be obſerved, that, in moſt caſes where this operation has been performed, a canula was left in the wound. No concluſions, therefore, can be drawn from thoſe caſes, againſt this opinion. It ſeems to me, to depend on the concurrence of ſeveral of the immutable laws of the animal economy, when in a ſtate of health. If ſo, it will always take place

where

where the parts are previouſly in an healthy ſtate, and the operation is properly performed. *

Beſides avoiding extreme inconvenience, pain, and trouble, the laying aſide of the canula is attended with another advantage. The conſtant preſſure of an hard body againſt the edges of the wound, proves a continual ſource of irritation; ulceration is excited, and the wound is thus made longer than is neceſſary. A continual adhefive inflammation, alſo, is kept up; and the coagulable lymph which is thrown out in conſe-

 quence

* My friend, Mr. FORSTER, of Broad-ſtreet-Buildings, ſurgeon to Guy's hoſpital, in a letter I received from him, a few days ſince, obſerves, that he has performed the operation per ano twice. In one caſe, not being called in till it was too late, the man died ſoon after the operation. The other caſe was in a man about twenty-four years of age, a ſoldier of the 22d regiment: he labored under a total retention of urine, from

quence of it, gives riſe to a conſiderable thickening, and hardneſs, of the ſurrounding parts; leſſening their vaſcularity, and living powers. Thus, forming a fiſtulous opening, that is difficult to heal, and, frequently, incurable; through which the urine will, perpetually, be paſſing, and excoriating the rectum.

II. *Of the* OPERATION IN PERINÆO.

THIS operation is uſually deſcribed as being very ſimple and eaſy. To perform it properly, however, more dexterity in diſ-

from a ſpaſm of the urethra. After the operation, a canula was left in the wound, till the ſpaſm abated; which was in about ſix hours. In about eight days, the artificial opening healed. During this time, the patient was capable of retaining his urine completely, and ſuffered no inconvenience; except that, when he attempted to make water, it came away in part through the urethra, and in part thro' the wound. April, 1793.

diſſection, and a more accurate anatomical knowledge, is neceſſary, than falls to the lot of the generality of practitioners. Even where the operator has been a very good anatomiſt, I have ſeen this operation prove very difficult, and embarraſſing.

The patient ought to be placed as in the former operation. An inciſion ſhould be made on one ſide of the perinæum, through the integuments and cellular membrane; the diſſection ſhould be continued between the erector penis, and the accelerator urinæ muſcles, through the tranſverus perinæi, and a portion of the levator ani, when the proſtrate gland may be felt. A trocar ſhould then be paſſed into the bladder, on the outer-ſide of this gland, and rather anteriorly, that the veſſicula ſeminalis may be avoided. It is eaſier to deſcribe than to perform this operation. There is a great thickneſs of ſubſtance to paſs thro',

which makes the diſſection difficult, and dangerous, if the operator is not a good anatomiſt; as parts are in danger, the wounding of which may be very diſtreſſing, if not fatal to the patient.

Formerly, it was a practice to thruſt a trocar from the perinæum, at once, into the bladder; and I have heard ſome, even at the preſent day, ſpeak rather favorably of this practice. This random manner of operating, ought to be ſeverely reprobated. The urethra is in great danger of being perforated; and that, probably, in two or more places. The proſtrate gland is almoſt certain of being wounded, which is unneceſſary; and there is great danger of wounding the excretory ducts of the veſſiculæ ſeminales, which are ſituated within it, by which the functions, both of the teſtes and the veſſiculæ ſeminales will be completely deſtroyed. If, in order

to

to avoid theſe, the trocar is paſſed too much outwards, the ureters may be wounded; if too far backwards, the veſſiculæ ſeminales, the vaſa deferentia, or even the rectum, may be wounded. For the bladder is ſituated at ſuch a depth from the perinæum, that is impoſſible with preciſion to direct the point of a trocar to any particular part of it.

After the operation, a canula ought to be left in the wound, otherwiſe the ſucceeding inflammation, and tenſion, will cloſe it up; and we may, poſſibly, be under the neceſſity of repeating the operation. This, during the inflamed ſtate which the part muſt be in, will be attended with extreme danger to the patient, and with great difficulty and embarraſſment to the operator. The inconvenience attending the uſe of a canula, in this caſe, is inconſiderable. Care ſhould be taken, that its extremity does not preſs againſt the

bladder,

bladder, with ſuch force as to excite ulceration. As a ſharp edge is more liable to cauſe ulceration, than a rounded ſurface, a female catheter ſeems to be a ſafer inſtrument, than a canula, to leave in the wound. The trocar to be uſed in this operation, ought to be of ſuch a length that its canula may be about ſix inches long. The depth of the bladder, from the ſurface of the perinæum, is, in every caſe, very conſiderable; and, in corpulent ſubjects, it will frequently be found that a ſhorter canula will not anſwer the purpoſe. No harm can happen from the trocar being too long; as it need be introduced ſo far only as is neceſſary to draw off the urine; but, if it ſhould be too ſhort, this will prove very embarraſſing to the ſurgeon, and, ſometimes, fatal to the patient, from the intention of the operation being fruſtrated. The trocar had better be of an oval form, for the reaſons

given

given in the operation per ano. Alſo, it will paſs with more eaſe; with leſs pain to the patient; and leſs violence to the parts, which is another advantage very worthy of attention, as the parts through which it is to be paſſed are of conſiderable thickneſs.

III. *Of the* OPERATION *above the* PUBES.

WHEN the bladder admits of ſuch a degree of diſtention, that the fundus of it riſes above the oſſa pubes; and when, at the ſame time, the patient is not ſo corpulent as to prevent the bladder being diſtinctly felt; this operation may be performed, with eaſe and ſafety.

A puncture about half an inch in length may be made, with a large-ſized lancet, a little

little on one ſide of the linea alba, between it and the uſual ſituation of the pyramidalis muſcle. The inferior edge of this puncture may be half an inch, or leſs, above the os pubis. A trocar, ſimilar to that deſcribed in the laſt operation, but ſhorter, may then be paſſed obliquely downwards, and thruſt into the bladder; when the water may be drawn off.

As the urine will continue to paſs thro' this paſſage, until the natural paſſage is opened, a canula ought to be kept conſtantly in the bladder. If this is not attended to, the urine, on paſſing out of the bladder, will get into the looſe reticular membrane ſurrounding it, and cauſe inflammation and ſuppuration.

Whether the bladder is capable of retaining the urine, until it is excited to contraction by the bulk of it, I cannot ſay.

It

It is probable it is, in ſome degree, though not ſo perfectly as in the operation per ano: for the bladder is rather thinner at its anterior-ſuperior part, than it is, poſteriorly, towards its cervix; and, as it is ſurrounded by a very looſe reticular membrane, the edges of a wound in it, cannot fall ſo firmly together, as thoſe of a correſponding wound in the latter part. Beſides, the thickneſs of the bladder being leſs than the thickneſs of the parts wounded through the rectum; the reſiſtance to the paſſage of the urine, from the adheſive inflammation, cannot be ſo great.

Suppoſing the bladder to be capable of retaining the urine, and of expelling it, at intervals; ſtill the objection is not removed. The ſpace through which the urine muſt paſs to the external orifice, when the bladder is in a nearly contracted ſtate, is very conſiderable; and the reticular mem-

brane filling this ſpace is ſo very looſe, that the greater part, if not the whole of the urine, would, even then, be retained and diffuſed through it.

The canula belonging to the trocar is, by no means, a proper inſtrument to be left in the bladder; for its ſharp edge is liable to excite ulceration. A ſmall, male catheter, as recommended by Mr. HUNTER, ſeems to be as good an inſtrument as any. If made of elaſtic gum, it will, I think, be preferable; as it will ſtimulate leſs, and adapt itſelf better to the forms and actions of the parts in which it is ſituated. It may be introduced on a piece of curved wire; and, to prevent its ſlipping out of the bladder, the end of it may be paſſed juſt within the urethra, and retained there, when the irritation it produces is not too great. The wire ſhould be withdrawn a little way, or it had better be withdrawn

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entirely, if the catheter is firm enough to remain in its ſituation without it. The upper end of the catheter ſhould then be faſtened to a bandage going round the abdomen.

SECTION IV.

OF THE ADVANTAGES AND DISADVANTAGES ATTENDING THE DIFFERENT MODES OF PUNCTURING THE BLADDER.

HAVING given a general deſcription of that practice which appears to me the beſt to be followed, in performing each of the operations; I proceed now to conſider the advantages, and diſadvantages, attending them; ſtill ſuppoſing the ſurrounding parts to be free from diſeaſe.

When a retention of urine takes place, and the bladder is diſtended to ſuch a degree, that there is reaſon to fear mortification,

cation, or a rupture, (the conſequence of which is the death of the patient,) we, in order to prevent theſe accidents, evacuate the urine by puncturing the bladder. But, in performing the operation, the evacuation of the urine is not the only conſideration to be had in view. It ſhould be conſidered, alſo, how the operation may be performed, with leaſt danger to the patient, and moſt to his future advantage.

To render the operation as ſucceſsful as poſſible, in both theſe reſpects, beſides the attention neceſſary to prevent it being deferred too long, the following appear to be among the principal difficulties which the attention of the ſurgeon is required to obviate.

I. The danger of wounding parts, the wounding of which may deſtroy any important

portant functions of the animal economy, or life itſelf.

II. The danger to the ſyſtem, from the operation; and its conſequent ſymptoms.

III. The danger of the urine getting into the ſurrounding parts.

IV. The difficulty of managing the wound in ſuch a manner, as to keep it open as long as may be neceſſary; and to heal it, when the natural paſſage ſhall be reſtored.

V. The facility of the operation to the ſurgeon.

Theſe I ſhall conſider under ſeparate heads.

I. *Of*

I. *Of the* PARTS *in* DANGER *of being* WOUNDED, *in each* OPERATION; *and the* CONSEQUENCES *of wounding them.*

WHEN the operation is performed above the pubes, the only part, of any importance, that is in danger of being wounded, is the peritonæum. When the bladder will ſuffer diſtention, ſo much as to contain a conſiderable quantity of urine, and be eaſily felt above the pubes, there is no danger of wounding this membrane: but, frequently, in caſes requiring the operation, the bladder is ſo extremely irritable, that the moſt violent ſymptoms are produced, by the retention of a very inconſiderable quantity of urine. In theſe inſtances, the bladder can be felt but indiſtinctly; and ſometimes not at all, through the abdominal muſcles; more eſpecially in corpulent ſubjects; and

then

then there is great danger of wounding the peritonæum.

The conſequences of wounding this membrane, are very ſerious. There is great danger of inflammation taking place, over the whole cavity; which moſt commonly terminates in the death of the patient. If the peritonæum is wounded, in this operation, danger of inflammation taking place ariſes, from two cauſes.

If the edges of the wound do not unite by adheſion, the inflammation gradually extends, by a ſort of ſympathy, over the whole cavity of the peritonæum; or, till adheſion takes place, between ſome part of its ſides, forming a leſſer cavity, as now and then is found to happen. This leſſer cavity will then circumſcribe the inflammation.

The urine getting into the cavity of the peritonæum, acts as a ſecond cauſe; either to excite inflammation, or to increaſe it when already excited.

On account of this inconvenience, it ought to be a rule, not to attempt the operation above the pubes, unleſs the bladder can be diſtinctly felt. In thin, emaciated ſubjects, the bladder can be felt above the pubes, when it is but moderately diſtended: but, as the ſubject is more corpulent, the difficulty, in diſtinguiſhing it, is greater; and, in ſome very corpulent ſubjects, it is not to be felt, even when diſtended to a conſiderable degree. In theſe caſes, if we are ſatisfied that the bladder is ſo diſtended as to riſe a conſiderable way above the pubes, the thickneſs of the parietes of the abdomen is ſo conſiderable, as to render the operation very difficult, and the ſituation of the peritonæum very uncertain.

For theſe reaſons, I think, the operation ought not to be performed in this part, in corpulent ſubjects, when it can poſſibly be avoided.

When the operation is performed per ano, the parts which it requires moſt attention to avoid, are the peritonæum, the vaſa deferentia, the veſſiculæ ſeminales, and the proſtrate gland. I have already obſerved how theſe parts may be avoided; and ſhall now ſpeak of the conſequences of wounding them.

The conſequence of wounding the peritonæum, at this part, may be the ſame as of wounding it above the pubes. But as the part which is liable to be wounded is more depending, there is leſs danger of the urine getting into its cavity: and if the patient lays with his back ſomewhat raiſed, the gravity of the urine gives it a tendency to

paſs

paſs into the rectum. Another, and a ſtill more important circumſtance in favor of wounds in this part of the peritonæum, is that, the ſides of it being in contact, adheſive inflammation, under proper attention, will generally take place; and when it does, neither the urine, nor the inflammation, can extend further. But I do not, from this obſervation, wiſh it to be underſtood as conſidering a wound of the peritonæum, at this part, a matter of ſlight conſequence. We do not know that adheſive inflammation will always take place; and, if it fails once in an hundred times, this is a ſufficient reaſon to make us always carefully avoid wounding it.

If either of the vaſa deferentia is wounded, it is moſt probable the cavity of it will be obliterated. It is poſſible, however, that the wound may penetrate into ſome of the cells only; when the wound may

heal, without deſtroying the functions of the duct.

Obliterating the duct produces the ſame effect as removing one of the teſtes. The danger of doing it, therefore, deſerves conſideration; and it may, I think, be avoided, by moderate attention. But, even if it ſhould accidentally be wounded, the conſequence is nothing, compared with the additional danger which may, ſometimes, attend the life of the patient, from the operation being performed in another place.

I do not know that wounds of the veſiculæ ſeminales, are attended with any ſerious conſequence. They generally, as far as I can learn, from caſes where they have been ſuppoſed to be wounded, heal as readily as moſt other parts; and, if one of them ſhould be obliterated, from what we

at

at preſent know of their functions, we have no reaſon to believe that it will be attended with any material inconvenience to the patient.

The proſtrate gland ought to be attentively avoided; which, when it is in a ſound ſtate, may be done with great eaſe. For, beſides wounding a part which is ſometimes difficult to heal, both the ducts of the veſiculæ ſeminales are almoſt certain of being wounded. If this happens, the functions of both teſtes, and both veſiculæ ſeminales, are cut off.

When the operation is performed in perinæo, the parts which ought to be avoided, are the urethra, the proſtrate gland, the veſiculæ ſeminales, and the rectum.

I before obſerved, that the only way to avoid theſe parts with certainty, is carefully

to

to diſſect down to one ſide of the proſtrate gland, before the trocar is introduced. In doing this, a great deal of care is neceſſary, to avoid wounding the urethra. If the urethra will admit an inſtrument to paſs into the membranous part of it, a catheter had better be introduced. As far as it extends, it will point out its ſituation; and, if an inſtrument cannot be paſſed into the membranous part, it will ſeldom be neceſſary to puncture the bladder: as the water may, generally, be evacuated, by puncturing the urethra above the part which reſiſts the inſtrument.

The conſequence of wounding the urethra is, in general, extremely diſagreeable. If the wound be no more than a puncture, or be a ſtrait inciſion through one ſide only, it may, poſſibly, heal without any trouble; but, frequently, the wound is ſuch, that union cannot take place, and an incurable

curable fiſtula is produced. It has frequently been wounded in two, or more, places; and I recollect hearing of a caſe, not long ſince, in which it was completely divided.

The proſtrate gland is a ſubſtance, in which the powers of reſtoration are leſs than in ſome other ſoft parts: and altho' when in an healthy ſtate, recent wounds of it are found to heal, without difficulty; yet, when diſeaſed, or when it is neceſſary to keep the wound open for ſome days (as is frequently the caſe in this operation), it ought to be avoided, as there is great danger of the wound becoming fiſtulous. There is alſo the ſame danger of wounding the ducts of the veſſiculæ ſeminales, as in the former operation.

The other parts which I have obſerved ought to be avoided, are ſo far out of the way,

way, that they are in little danger of being wounded, except through ignorance, or inattention; and, therefore, the riſque of wounding them affords no objection to this operation.

II. *Of the* DANGER *to the* SYSTEM *from each of the* OPERATIONS, *and the* CONSEQUENT SYMPTOMS.

WHEN an operation is performed, in parts where the ſimply wounding of them does not endanger life, and where the living powers are nearly equal, the danger from the operation is in proportion to the quantity of inflammation which is produced; and this again is, in great meaſure, in proportion to the quantity of ſurface wounded. Therefore, as there is leſs ſurface wounded, in puncturing the bladder, where it is moſt ſuperficial, this part ought

to be preferred; unleſs ſomething of greater importance occurs to prevent it.

In the operation per ano, the ſurface of the wound is very ſmall; too ſmall to produce inflammation ſufficient to affect the conſtitution generally.

In the operation above the pubes, when the patient is moderately thin, the ſurface of the wound is much greater, than in the operation laſt-mentioned. But, ſtill, the inflammation produced, is not ſo great as to affect the conſtitution.

When the operation is performed, in perinæo, the ſurface wounded is very conſiderable; the violence done to the parts, is, ſometimes, not much leſs than in ſome caſes of lithotomy. There generally is a conſiderable ſymptomatic fever; and the

conſtitution is ſometimes ſo much affected, as to endanger the life of the patient. This danger will become more ſerious, if the patient ſuffers much by the retention of urine, previous to the operation.

It can hardly be neceſſary to obſerve, that, after either of theſe operations, the patient ſhould be kept perfectly quiet; and that the antiphlogiſtic plan ſhould be attentively followed.

III. *Of the* ADVANTAGES *of each* OPERATION, *in* EVACUATING *the* URINE.

THE part where the operation is performed, ought to be as favorable as poſſible for the evacuation of the urine; that it may not collect in the ſurrounding parts.

This

This is a very important conſideration. If the urine cannot be freely evacuated, and that, too, as long as may be neceſſary, the end of the operation is not anſwered: the life of the patient may not be ſaved; or another diſeaſe may be introduced, under which the patient will drag out a miſerable exiſtence.

If the opinion I have delivered, in ſpeaking of the operation per ano, be juſt, I think that operation muſt be allowed to poſſeſs this advantage, in the greateſt degree. The thickneſs of the parts through which the urine paſſes, is inconſiderable; the reticular membrane connecting them, is too firm to allow the urine to collect in it; and the retentive power of the bladder ſtill continues. So that the patient ſuffers very little inconvenience, except when he wills to expel his

urine, or fæces. In the former of theſe caſes, the urine may ſometimes rather irritate the rectum, and cauſe a ſlight teneſmus; in the latter, the increaſed ſenſibility of the wounded part may be productive of pain, during the action of the muſcles: though the action of the muſcles may, in great meaſure, be prevented, if we remove the cauſe of it, by the frequent uſe of emollient clyſters.

If the urine ſhould paſs continually into the rectum, as muſt now and then be the caſe when the wound has been a long time open, it will be rather diſagreeable; as it will irritate, and excoriate this part. In this caſe, the parts ſhould be defended, as much as poſſible, from the acrimony of the urine, by means of ſome oily matter.

In the operation in perinæo, a canula ought to be kept conſtantly in the wound.

If

If this is not done, the ſides of it will be preſſed together, when the urine will not paſs freely; and, if much inflammation takes place, a complete retention will often be re-produced. If, at this time, we are able to introduce an inſtrument, it will be with great difficulty, and will put the patient to extreme pain. I think a metallic canula, preferable to one of any ſofter materials; for the latter, in a ſhort time, will become ſo ſoft that, being incapable of reſiſting the tumefaction which takes place in the wound, its ſides will be preſſed together.

When the operation is performed above the pubes, on the bladder contracting, the opening in it recedes, a conſiderable way, from the external opening; and, if a tube is not kept in the wound, to convey the urine externally, it diffuſes itſelf into the ſurrounding reticular membrane; which

it irritates, producing inflammation, and its conſequences—adheſions, abſceſſes, fiſtulas, &c. Theſe, from their ſituation, are out of the reach of art, or nearly ſo. Conſiderable ſymptomatic fever, and hectic ſymptoms, are produced; which generally terminate in death.

The danger of theſe unhappy conſequences, is a great objection to this mode of operating; and, when it is put in practice, renders the greateſt attention neceſſary, in order to prevent them. A good deal of art is neceſſary in managing the canula, in this caſe. If it is not ſufficiently large to fill up the orifice in the bladder, the urine will eſcape by the ſide of it. This is leſs liable to happen while the wound is recent; for then the wounded edges of the bladder are capable of contracting round a tube which is ſmaller than the trocar;

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more eſpecially, if the wound is a longitudinal one: but, when the wound has been long open, the coagulable lymph which is thrown out, will render the edges of it hard, and incapable of contracting. It is very difficult to keep a canula which is ſtrait, or nearly ſo, in the bladder, without doing miſchief. If it is introduced too far, it will preſs againſt the oppoſite ſide of the bladder, and cauſe ulceration; if, on the other hand, it is very little too ſhort, it will perpetually be ſlipping out of the orifice; which is very unpleaſant, as the introducing of it again is attended with conſiderable difficulty. I have, therefore, recommended a male catheter to be uſed; as directed by Mr. HUNTER. But, in the uſe of it, great attention is neceſſary; or it will irritate the neck of the bladder, to ſuch a degree, that it will be neceſſary to remove it.

IV. *Of*

IV. *Of the* DIFFERENCE *in the* FACILITY *with which the* WOUND *may be* KEPT OPEN, *or* HEALED, *after each* OPERATION.

WHEN we conſider that the eaſe, or difficulty, of healing the external opening, depends, in moſt caſes, on the facility with which the opening in the bladder heals; and that the ſtructure of the bladder, being nearly the ſame in all the parts where it is punctured, its power of healing cannot differ much; we are naturally led to ſuppoſe, there can be no great difference in favor of either operation, in this reſpect. When the urine can paſs by its natural paſſage, and the wound can be permitted to heal ſoon after the operation, I do not think there is any material difference; either of them, in healthy ſubjects, will heal without much difficulty: but, when

it

it becomes neceſſary to keep the paſſage open, for a length of time, the wounded parts undergo ſuch changes, as render them more difficult to heal. In conſequence of ſituation, and in conſequence of other circumſtances, theſe changes will ſomewhat differ in the different parts.

In the operation above the pubes, it is neceſſary, as I before obſerved, that the canula ſhould be kept conſtantly in the wound. This extraneous body proves a ſource of irritation, by which a continual inflammation is kept up: this inflammation is partly ſuppurative, and partly adheſive. A coagulable lymph is conſtantly being thrown out of the inflamed veſſels, into the ſurrounding parts, producing a conſiderable thickening and hardneſs of them; at the ſame time, there is great danger of ſinuſes forming. If the patient ſhould ſurvive till this change has taken

 place,

place, and the natural paſſage ſhould then be opened, on the inſtrument being withdrawn, the edges of the wound in the bladder will have become ſo firm and hard, as to be incapable of contracting; and the urine will, for ſome time, eſcape into the reticular membrane, producing the ſame unhappy conſequences, as when it eſcapes immediately after the bladder is punctured. For, in order that the wound may heal, it is neceſſary that granulations form, and fill up its ſpace; and that the greater part of the coagulable lymph be removed by abſorption. This, from the weakneſs of the living powers in the part, muſt be a work of ſome time; and, frequently, the wound will not heal at all.

In the operation in perinæo, we are, in ſome meaſure, liable to the ſame inconvenience as in the former operation; that is, the wound being unfavorable for healing; al-

although, from the difference in the ſtructure of the ſurrounding parts, the urine is leſs liable to get into them: but, now and then, the external wound will cloſe; the wound in the bladder continuing open. When this is the caſe, very troubleſome abſceſſes, and deep-ſeated, complicated fiſtulas, are liable to be produced.

When the operation is performed per ano, very different opinions have been entertained; ſome ſaying that the wound produced here is more favorable for healing, and others, that it is more unfavorable, than in either of the other operations: and both parties ſometimes call in experience to ſupport their opinions. Caſes, no doubt, have occurred, where the wound has not healed after the natural paſſage was reſtored, but has continued fiſtulous; and the urine, by conſtantly paſſing through it into the rec-

tum, has proved very troubleſome. But, in theſe caſes, I am of opinion that either ſufficient attention was not paid, in performing the operation, the opening being made too large, or not in the proper place; or the parts were, previouſly, in a diſeaſed ſtate. For there are ſeveral caſes upon record, where this operation was performed, with ſucceſs; and, in ſome of them, a canula was kept in the wound conſtantly for four or five weeks; when, the urine paſſing through the urethra, it was removed, and the wound healed in a very ſhort time. I can ſee no reaſon why this ſhould not always be the caſe, when the operation is performed with attention. If care is taken to prevent the bladder being too much diſtended with urine, the urine will not prevent the healing of the part; and experience proves, alſo, that the fæces can do no harm, even ſhould they get into the wound; which, if the wound is made as

ſmall

ſmall as it ought to be, will ſeldom be the caſe. If the canula is laid aſide, and is had recourſe to, only when neceſſity requires it, a material advantage will thus be obtained over the other operations: for this cauſe of irritation not being preſent, the ſides of the wound will not become ſo thick and hard; by conſequence, the powers of reſtoration will be greater, and the wound will heal in a ſhorter time.

V. *Of the* FACILITY *of each* OPERATION *to the* SURGEON.

THE laſt conſideration which now occurs to me, when the operation is performed on ſound parts, and in an healthy ſubject, is the facility of the operation to the ſurgeon.

To

To a ſurgeon who is acquainted with the anatomy of the parts, and accuſtomed to diſſection, this conſideration ought to have but little weight; as he knows how to avoid wounding thoſe parts which ought not to be wounded, and is able to perform each operation with as much eaſe and ſafety as, from its nature, it will admit of: but as this operation, when indicated, admits of no delay, it often happens that a practitioner muſt perform it who has not theſe advantages. In this inſtance, it will generally be proper for the ſurgeon, on his own account as well as on the account of his patient, to perform the operation in that manner which is eaſieſt and attended with the leaſt danger of wounding any important part; although ſome objections may occur, which would, otherwiſe, forbid it.

If the patient is not very corpulent, and the bladder admits of a moderate degree of diſtention, the operation above the pubes is the moſt ſafe and eaſy; but when the bladder cannot be felt above the pubes, either from its not admitting of ſufficient diſtention, or from the corpulency of the patient, this mode of operating is embarraſſing, and even dangerous.

The operation per ano is, by no means, difficult: the rules for performing it are few, and eaſy to be obſerved; and, by attending to them, the operation may be performed by a perſon who is ignorant of practical anatomy, without danger, at leaſt to the life of the patient.

The operation in perinæo, I before obſerved, is very difficult; and, ſometimes, embarraſſing. If it can poſſibly be avoided, it ought not to be attempted by a perſon

ſon who is not well acquainted with the ſtructure, and ſituation, of the parts concerned.

Having now conſidered what has occurred to me as worthy of notice, both againſt and in favor of each mode of puncturing the bladder, when the operation is performed on a ſubject in whom the parts have not undergone any conſiderable diſeaſed change; I proceed to make ſome obſervations on thoſe diſeaſes which ought to influence our conduct in determining which mode of operating is preferable in particular caſes.

SECTION

SECTION V.

OF THE DISEASES WHICH, BEING PRESENT WITH THE RETENTION OF URINE, OUGHT TO INFLUENCE THE SURGEON, IN DETERMINING WHICH OPERATION IS PREFERABLE.

WERE each of theſe diſeaſes to be fully conſidered, this would open an extenſive field for enquiry; but to give a complete hiſtory of them, is foreign to the intention of this eſſay. I ſhall attempt to conſider them, ſo far only as they are connected with theſe operations.

In this point of view, they may be divided under two heads.

I. Thoſe which give riſe to the retention of urine; and, II. Thoſe which are accidentally preſent in the ſurrounding parts.

I. *Of thoſe* DISEASES *which* GIVE RISE *to the* RETENTION *of* URINE.

UNDER this head come to be conſidered ſome of the diſeaſes of the urethra, of the proſtrate gland, and of the bladder itſelf.

The diſeaſes of the urethra, which I think it neceſſary to notice, are ſtricture, ſpaſm, inflammation, calculi, and excreſcences in the urethra.

I do not think that either of theſe diſeaſes, ſingly, except ſpaſm, can produce a retention of urine, ſo permanent as to render the operation neceſſary. Strictures form gradually;

dually; and, before they completely cloſe the urethra, a new paſſage is always formed. If a ſmall calculus gets into the urethra, and produces a retention of urine, when it is near the neck of the bladder, it may be puſhed back into it; and when it can be come at, externally, it may ſometimes be brought forwards, by a gentle preſſure being made with a finger behind it: if this does not ſucceed, it may be cut upon, and thus removed.

A calculus, too ſmall to fill the diameter of the urethra, may get into it, and be retained behind a ſtricture, when it will gradually become increaſed in ſize; but then a groove will be formed in it, thro' which the urine will paſs. The ſame will happen where there is no ſtricture, if a calculus ſhould be retained in the urethra any conſiderable length of time. If a ſpaſm affects an urethra that was previouſly

in a ſound ſtate, it generally yields to proper treatment; nor, in any inſtance with which I am acquainted, has inflammation of the urethra cauſed a permanent retention of urine, indicating an operation.

But a retention of urine is, ſometimes, produced by a conjunction of two, or more, of theſe diſeaſes. Perſons who labor under a ſtricture, are very ſubject to ſpaſm at the ſtrictured part, producing a very obſtinate retention of urine, that will ſometimes fruſtrate every milder method of treatment. In theſe caſes, the action which, after a certain time, takes place in the bladder, for the expulſion of the urine; and frequently, alſo, the inflammation produced by the repeated attempts to draw it off; increaſes the violence of the ſpaſm, or continues it after it would otherwiſe have ceaſed. When we judge this to be the caſe, we expect that, on removing the

water,

water, the inflammation, and ſpaſm, will ceaſe, and that we ſhall then have the ſtricture only to remove.

To evacuate the water, in this caſe, it is not neceſſary, always, to puncture the bladder; for, if the ſtricture be even in the membranous part of the urethra, (as, indeed, it moſt frequently is,) and is not very cloſe to the proſtrate, an inciſion may ſometimes be made into the urethra, beyond it. For where a ſtricture has continued for a conſiderable time, that portion of the urethra above the ſtricture, often becomes conſiderably enlarged. When this is the caſe, and the patient is rather thin, if a catheter is paſſed gently up, cloſe to the ſtricture, in order to point out its preciſe ſituation, and, a finger being placed immediately above it, the patient is deſired to attempt the expulſion of his urine, an obſcure fluctuation may, frequently,

quently, be felt.* Into this, a puncture ſhould be made. We may then wait till the inflammation, and ſpaſm, have ceaſed; when we ſhall be able to turn our attention to the removal of the ſtricture.

If the ſtricture is ſo ſituated that we cannot cut into the urethra beyond it, or if, being ſituated in or near the membranous part, we cannot trace it by the mark I before laid down, the bladder muſt be punctured; and the only object of conſideration is, where this can be done to moſt advantage.

I ſhould, if poſſible, avoid performing it in perinæo; as, independent of the preceding

* I met with a caſe of this kind, about four years ſince, where I could plainly feel a fluctuation: but the family-ſurgeon expreſſing very great doubts to the patient about the ſucceſs of an operation which prejudice had taught him to look upon as always fatal, the patient obſtinately refuſed to ſubmit to it, and died.

ceding obſervations, from its vicinity to the diſeaſed part, the inflammation may increaſe more, and ſpread further, than it otherwiſe would.

If I thought that, after the ſpaſm was abated, I could paſs a bougie beyond the ſtricture, I would perform the operation per ano: but if there is reaſon to apprehend that this cannot be done, I think the operation above the pubes is preferable, as then we are able to attempt the removal of the ſtricture; according to a plan recommended by Mr. HUNTER. This is, to paſs a curved canula through the bladder, as far as the ſtricture, and a ſtrait canula thro' the external portion of the urethra; when, getting the ſtrictured part between the two canulas, it may ſafely be perforated with a piercer.

I ſaw

I ſaw a caſe, not long ſince, where a calculus was lodged in the membranous portion of the urethra, it had increaſed gradually to a conſiderable ſize; and, inflammation accidentally coming on in the part, a retention of urine took place, under which the man died. The ſurrounding parts were ſo much inflamed, and ſo tumid, that it appeared improper, if not almoſt impracticable, to extract the ſtone, at that time. But had the bladder been punctured, either per ano, or above the pubes, the urine would have been evacuated, and the inflammation, which was much increaſed by its retention, would, it is moſt probable, have ſubſided; then the ſtone might have been extracted, and the life of the patient, probably, have been ſaved; at leaſt, a chance would have been obtained, which, from nothing being done, was inevitably loſt.

An-

Another ſet of cauſes, producing a retention of urine, are, ſome diſeaſes of the proſtrate gland.

We are not ſo well acquainted with the diſeaſes, to which this part is ſubject, as could be wiſhed. There is, however, a diſeaſe of this part which is, frequently, the cauſe of a retention of urine. At what time of life this diſeaſe, generally, firſt commences, I cannot ſay; but that ſtate of it which gives riſe to a retention of urine, is, by much, the moſt frequent in old people, though not peculiar to them: I have ſeen it in a perſon below the age of forty. In this ſtate, the proſtrate gland is ſix or eight times its natural ſize. Inſtead of leſſening, it increaſes the ſize of that portion of the urethra which is ſituated within it, rendering it both wider and longer; but, at the ſame time, increaſing

its incurvation. In conſequence of its increaſed ſize, and of the change it undergoes in form, the ſides of it, and its poſterior portion, extend into the cavity of the bladder, giving the appearance of two or three tumors; ſometimes of equal, ſometimes of different ſizes. Theſe, falling together, act as valves to the urethra, preventing the free evacuation of the urine. They are ſo ſituated as to fall together, ſpontaneouſly; the conſequence of which is, that they are preſſed together with greater force, in proportion as the bladder becomes diſtended with urine. A perſon will, ſometimes, bear this diſeaſe for ſeveral years, without any very great inconvenience, provided he is careful to void his urine frequently; but, if he neglects it for ſome time beyond the uſual period, he will not be able to void it at all.

The operation is not always neceſſary, in theſe caſes; for, frequently, by proper attention, and a little dexterity, a catheter may be paſſed into the bladder. Occaſionally, however, the ſurgeon is not ſo fortunate; and the patient has no chance for his life, but from the bladder being punctured.

As retentions of urine are met with at different periods of the diſeaſe we are now ſpeaking of, I ſhall, with reſpect to the operation, divide it into two ſtates; which will give riſe to ſome diverſity in our practice.

1. The proſtrate gland may be enlarged to a conſiderable ſize, without giving the patient much trouble, provided he is attentive not to ſuffer the urine to collect in too large a quantity. In this ſtate, inflammation may come on, and produce a reten-

tion of urine. The ſame effect may be produced by allowing the urine to collect in too large a quantity. Or both theſe cauſes may act together, the one increaſing the other.

2. The proſtrate gland may be ſo enlarged, and in ſuch a diſeaſed ſtate, that the patient is harraſſed by frequent returns of the retention of urine.

In the firſt ſtate of the diſeaſe, there are two or three cauſes co-operating, in producing the retention of urine; and we have reaſon to believe, that, if we can remove thoſe cauſes, which are temporary, the patient, at leaſt for a time, may be tolerable comfortable. The enlargement of the proſtrate gland, it is moſt probable we ſhall find difficult to remove: but the inflammation, or the urine, may generally be removed by art.

A caſe occurred to me, about two years ſince, in which the proſtrate gland was diſeaſed; but the patient could void his urine with tolerable eaſe, till one day, after walking the diſtance of ſeveral miles (during a conſiderable part of which he reſiſted a great deſire to make water, for want of a convenient opportunity), he found himſelf unable to void his urine at all, altho' he made repeated and violent atempts. He was bled, medicines were given internally; and ſeveral attempts were made to introduce a catheter, but with no good effect. The next morning I ſaw him, when he labored under a conſiderable ſymptomatic fever, with great tenſion and tenderneſs of the lower part of the abdomen. The bladder was, evidently, very much diſtended, and the patient was amaſingly diſtreſſed by its frequent and violent contractions; during which, a ſingle drop, or two drops, of urine, now and then,

came

came away, tinged with blood; and, upon enquiry, I found that a conſiderable quantity of blood had come away, after the different attempts to introduce a catheter. Suſpecting the cauſe of the diſeaſe, I paſſed my finger into the rectum: in doing this, I found conſiderable difficulty; partly from the very irritable ſtate of the rectum and ſphincter ani, and partly from the extreme pain I gave the patient by preſſing againſt the urethra and proſtrate gland. I found the proſtrate very much enlarged; but was able to get the end of my finger beyond it. As the parts were in ſuch an inflamed and irritable ſtate, and as I thought the introducing of a trocar ſo far up the rectum, under the difficulties which I found I muſt encounter, would prove very embarraſſing, and, in ſome degree, dangerous; and as the patient, at the ſame time, was rather thin; I had reſolved, if the operation became neceſſary, to perform

form it above the pubes; where I could plainly feel the bladder diſtended with urine: but I thought it proper, firſt, to attempt the introduction of a catheter. After perſevering in this attempt, for near one hour and a half, with very little interruption, I was ſo fortunate as to ſucceed in ſlipping the point of the catheter, before the projecting portion of the proſtrate gland, into the bladder. The patient, as may be expected, was inſtantly relieved; and, by means of phlebotomy, perfect reſt, low diet, cool air, fomentations, and repeated clyſters, the inflammation was gradually reduced: but it was full a month before the patient was able to evacuate his urine, with tolerable freedom; during the greater part of which time, I was under the neceſſity of drawing it off, every twelve hours. In doing this, for the firſt five or ſix days, I, in general, found great difficulty,

culty, and was ſometimes half an hour, or more, before I ſucceeded; but, at laſt, I found that, on bringing the extremity of the inſtrument to paſs againſt a certain point of the urethra, with very moderate force, it ſuddenly ſlipped into the bladder.

As the acute inflammation abated, the proſtrate gland became ſomewhat ſmaller; but, when I ceaſed to attend the patient, it was three, or four times its natural ſize; and, even then, probably, was very little larger than it was before this attack. For afterwards, upon enquiring the hiſtory of this man, I found that he frequently experienced ſome little difficulty in making water, and, that now and then, in conſequence of violent exerciſe, or of retaining his urine too long, he had ſuffered a temporary retention, but never in ſo violent a degree as when I ſaw him.

About

About eight months after this, I met with another caſe, in every reſpect ſimilar to that above deſcribed; except that the ſymptoms were ſomewhat leſs violent. It was near three-quarters of an hour before I ſucceeded in getting a catheter into the bladder, in this caſe; and it was nearly three weeks afterwards, before the urine could be evacuated without the aſſiſtance of a catheter.

But, as I before obſerved, we are not always ſo fortunate as to ſucceed in introducing a catheter; and the bladder muſt be punctured, or death enſue.

If, in this ſtate of the diſeaſe, the proſtrate gland is not ſo enlarged as to prevent the finger being paſſed beyond it, with tolerable eaſe, the operation can be performed per ano; but, if the finger cannot

be paſſed beyond the proſtrate, it ought not to be attempted in this part, if it can poſſibly be performed above the pubes. It is dangerous to attempt puncturing the bladder through the rectum, above the reach of the finger; and every one muſt ſee the impropriety of wounding the proſtrate, when in this diſeaſed ſtate. The diſeaſe will be hurried on more rapidly; and the wound, in all probability, will never heal. Indeed, the operation per ano is not the beſt (ſpeaking generally), in any caſe of this diſeaſe. In each of the caſes before related, I was able to feel the bladder, beyond the proſtrate gland; but the anus, ſympathiſing with the diſeaſe of the contiguous parts, was extremely irritable, and its muſcles contracted ſo forcibly, that I found conſiderable difficulty in introducing a finger, and gave the patient a great deal of pain. There was greater irritability

ritability in the anuſes in theſe caſes, than in thoſe caſes I have met with where the diſeaſe was further advanced.

If the operation per ano is ſometimes objectionable, on account of the danger of increaſing the diſeaſe of the proſtrate gland, the operation in perinæo muſt be always ſo: this gland being ſo enlarged, it is impoſſible to puncture the bladder, from the perinæum, without paſſing through it; and in a part, alſo, much thicker than the part which would be wounded, by paſſing a trocar thro' it, in the operation per ano. The diſeaſe of the proſtrate will, alſo, be increaſed, by the inflammation ariſing from the extenſive wound which muſt be made in the integuments.

The operation above the pubes, ſeems to have the preference in this ſtate of the diſeaſe; as we can evacuate the urine by

that operation, without danger of increaſing the cauſe of its retention; and, as ſoon as we are able to paſs a catheter into the bladder, through the urethra, it ought to be done, and kept, if the urethra will bear it, almoſt conſtantly there, until the artificial opening is healed.

In the ſecond ſtate of this diſeaſe, the patient is in the moſt melancholy ſituation it is poſſible to conceive. The diſorder which the ſyſtem ſuffers from the interruption of ſo important a function, gradually reduces it to a moſt emaciated and debilitated ſtate: frequent returns of the moſt excruciating pain, deſtroy both his happineſs and reſt. From the continuance, and progreſſive increaſe, of the diſeaſe, every hope of relief, in this world, vaniſhes; the ſpirits are agitated and exhauſted, and death is implored to terminate his ſufferings.

In this ſtate, a retention of urine, ſometimes, comes on; under which the patient ſinks; or, when the fit has been violent, he dies exhauſted, after the water has been drawn off.

Now and then, before a retention of urine takes place, rendering the operation neceſſary, ſuppuration takes place in the proſtrate gland; which, becoming more general, gradually extends to the ſurrounding parts.

If, during this ſtage of the diſeaſe, a total retention of urine takes place, all that we can hope for is, to give a momentary relief from the pain; and, perhaps, to prolong life a few days, or hours. The prognoſtic is ſo unfavorable, and the dread of cutting ſo great, that the patient himſelf will ſeldom ſubmit to the operation; nor will his friends, often, permit it. Indeed, I

do

do not think it ſhould be recommended, unleſs there is a proſpect of the urine again paſſing by its natural paſſage; for it can be performed, with any degree of propriety, above the pubes only, and even this mode of operating has a very ſtrong objection. For, although the operation may prove ſo far ſucceſsful, that the patient ſhall ſurvive this fit, the urine muſt paſs through the artificial opening, during the remainder of his life: by conſequence, it will be continually eſcaping into the reticular membrane ſurrounding the bladder, and exciting inflammation there; which muſt, neceſſarily, add to the miſery of the patient, and increaſe the original diſeaſe.

In theſe deplorable inſtances, I think, it is not a bad practice to paſs a catheter, the diameter of which is ſmall, as far along the urethra as is poſſible, and then thruſt it,

it, through the projecting portion of the proſtrate gland, into the bladder, leaving it there, if poſſible, till the inflammation induced by it ſubſided; when the opening, if the patient lives, will, probably, become fiſtulous. If this mode is not preferred to the operation above the pubes, it may be had recourſe to when that cannot: as, for inſtance, when the patient is very corpulent; or when the bladder is not ſufficiently diſtended, to be felt above the pubes.

The third ſet of diſeaſes which I obſerved may cauſe a retention of urine, are thoſe of the bladder itſelf.

The bladder is ſubject to a great variety of diſeaſes. But caſes of retention of urine, requiring the operation, in conſequence of a diſeaſe of the bladder, are very rare.

Polypi, ſometimes, form, on the internal ſurface of the bladder, and prove extremely troubleſome; giving riſe to ſymptoms very ſimilar to thoſe depending on the ſtone, or a diſeaſed proſtrate. But a retention of urine cauſed by them is, generally, removed with great eaſe, by a catheter. It is poſſible that a ſmall polypus, ſituated cloſe to the neck of the urethra, may ſlip into it, and, a degree of inflammation, or ſpaſm, coming on, may be retained ſo firmly, as to reſiſt every attempt to paſs a catheter.

When the neck of the bladder is become ulcerated, a fungus may form, from the diſeaſed ſurface, and cauſe a retention of urine. But if this ſhould not give way to the catheter, the ſubſtance is ſo ſoft that, it is more than probable, the inſtrument will paſs through it.

Hydatids

Hydatids have been known to form about the neck of the urethra, and cauſe a retention of urine; but they alſo will, generally, yield to the force of the catheter.

In any of theſe caſes ſhould it become neceſſary to puncture the bladder, if the proſtrate gland and the parts ſurrounding the anus are free from diſeaſe, I prefer the operation per ano.

There are ſome other diſeaſes which are ſaid, occaſionally, to produce a retention of urine; but as they will give riſe to no new obſervations reſpecting the operations for relieving it, it is not neceſſary to ſpeak of them here.

Therefore, I proceed now to the ſecond claſs of thoſe diſeaſes which ought to influence our conduct in determining where to puncture the bladder.

Of the DISEASES *which may* ACCIDENTALLY *be* PRESENT *in the* SURROUNDING PARTS.

Of theſe, I ſhall ſay but little; it being ſufficient for our purpoſe, merely to mention them, and point out the inconveniencies attending the operation, when performed in a part where they are preſent.

When a patient is troubled with hæmorrhoides, caution is neceſſary in puncturing the bladder through the rectum; for, in ſome caſes, the veſſels are conſiderably enlarged, and may give riſe to a troubleſome hæmorrhage. From the increaſed thickneſs of the cellular ſubſtance about the rectum, the parts are more difficult to diſtinguiſh; eſpecially, the vaſa deferentia, and veſſiculæ ſeminales. A ſtill greater in-

inconvenience may ariſe, from the unhealthy ſtate of the parts diminiſhing their powers of reſtoration; in conſequence of which, the wound is more liable to become fiſtulous.

It is not every caſe of piles that can render this operation improper. If they are not very large, nor ſituated high up the rectum, they need not, I think, be much regarded. But no general rule can be given which will, invariably, diſtinguiſh when this, or either of the other modes of operating, ought to be avoided: it muſt be left to the judgment of the ſurgeon; and that judgment muſt be regulated by conſidering all the objections to the different modes of operating, and this amongſt the reſt.

In caſes of ſcirrhous rectum, the operation ought, by no means, to be per-

formed per ano; it is hurrying the patient on to deſtruction: violent pain, and inflammation, will be produced; and life will, inevitably, be ſhortened.

Abſceſſes, and fiſtulas about the anus, ought to prevent our performing the operation per ano, if it can poſſibly be done in another part.

Abſceſſes, and fiſtulas, in perinæo, are an objection to the operation in that part; unleſs we have reaſon to believe that we can perform an operation to relieve them, at the ſame time. Even then, I think it a dangerous practice.

CONCLUSIONS.

FROM the obſervations laid down, in the foregoing pages, the following concluſions are drawn.

I.

A retention of urine is, ſtrictly ſpeaking, a ſymptomatic diſeaſe. It is a ſymptom ariſing from any diſeaſe which obſtructs the paſſage thro' the urethra; and when that diſeaſe can be removed, this ſymptom immediately ceaſes.

II.

The parts concerned in the different modes of puncturing the bladder, are liable

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to conſiderable changes in their ſtructure; ſome of which changes are conſiſtent with health, many the conſequence of diſeaſe; but any of them will, in moſt caſes, conſiderably influence the ſucceſs of the operation. Therefore, in every caſe, before the advantages, and diſadvantages, of each mode of operating, with reſpect either to their immediate, or to their remote conſequences, can be determined, it is neceſſary to be acquainted with the exact ſtate of the parts concerned.

III.

A retention of urine ariſing, ſometimes from a change in the ſtructure of the urethra, or of ſome part connected with it; ſometimes from a diſeaſed action of theſe parts; it is neceſſary to be acquainted with the cauſe of it, alſo, before it can be aſcertained which mode of operating is preferable.

IV.

IV.

Suppoſing all the parts concerned in the operations to be in a ſtate of health; when the patient is moderately thin; the operation above the pubes is moſt eaſy to perform; and moſt ſimple, with reſpect to the anatomy of the parts. The operation per ano is ſimple, and by no means difficult. The parts concerned in the operation in perinæo, are more numerous than in either of the above operations; and the preciſe ſituation of ſome of them being rather uncertain, the operation is more complex and difficult.

V.

If the natural paſſage can be reſtored immediately, the eaſieſt mode of operating is preferable; as the urine may be evacuated as freely, and the wound will heal as readily, as in that mode of operating which is more difficult.

VI.

VI.

If the natural paſſage cannot be reſtored immediately; or, if the caſe is doubtful; the operation per ano ought to be preferred. The patient can, generally, retain his urine; he is freed from the danger and trouble of a canula; and, what is of ſtill more conſequence, he can expel the urine freely, whenever he pleaſes, without danger of its collecting in the ſurrounding parts.

VII.

If any of the parts to be wounded, in either mode of operating, have undergone ſuch a diſeaſed change in their ſtructure as may leſſen their powers of reſtoration, or ſuch a change as may render the preciſe ſituation of any important part uncertain, that mode of operating ought, if poſſible, to be avoided. Therefore, when the proſtrate gland is enlarged; and

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in many diſeaſes of the perinæum; it is improper to perform the operation in perinæo. When the rectum is affected with a ſcirrhus; in ſome caſes of hæmorrhoides; when the proſtrate gland is ſo enlarged, that the operation cannot be performed above it; and in any caſe where the fluctuation of the urine cannot be diſtinctly felt, by a finger, in the rectum; the operation per ano is improper. When the patient is very corpulent, or is dropſical; or when the bladder cannot be felt diſtinctly, as the ſituation of the peritonæum is uncercertain, the operation ought not to be performed above the pubes.

APPENDIX.

PRACTICAL OBSERVATIONS ON SOME OF THE CAUSES OF RETENTION OF URINE, AND ON THE USE OF CATHETERS.

IN the preceding obſervations on retention of urine, the principal object I had in view was, the operation of puncturing the bladder. As the performing of this operation is highly improper, before every milder method, from which there is a chance of obtaining relief, has been tried; any ob-

ſervations in that place, on the introduction of catheters, would have been foreign to the ſubject. But as the introduction of a catheter, though apparently a very ſimple, is often an extremely delicate and difficult operation; and, at the ſame time, an operation on the facility of performing, and on the proper management and ſucceſs of which, the life of a patient, ſometimes, depends; I hope I ſhall not be thought tedious, if I venture, here, to make ſome obſervations upon it.

SECTION

SECTION I.

OF CATHETERS, AS ADAPTED TO THE URETHRA IN ITS HEALTHY STATE.

A Catheter ought to correſpond, in length, diameter, and curvature, with the urethra into which it is introduced. It ought to be of a ſufficient length to enter the bladder; of ſuch a diameter as to paſs freely, and yet, in ſome degree, to fill the urethra, that its extremity may not catch in the ſides of it, or get into ſome of the larger lacunæ; and, in curvature, it ought to correſpond with the curvature of the urethra. All this, I have no doubt, will, generally ſpeaking, be univerſally allowed.

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As the general form of the urethra, the dimenſions of thoſe catheters which are in moſt frequent uſe, and the mode of introducing them through an healthy urethra, are all laid down in numerous works which are in the hands of every body, it is not neceſſary for me to take up much time on that part of the ſubject. But I think it neceſſary to obſerve, that the catheters in general uſe do, moſt of them, vary, very conſiderably, from the urethra, in the degree of curvature; and, indeed, they vary very conſiderably from each other; although they almoſt all agree in this, that they form a ſegment of a much larger circle, than that formed by the urethra; and their curvature is leſſened towards the point.

As that part of the urethra, on the outer ſide of the pubes, freely admits of flexion, in any direction; and as the membranous part, where the principal curvature is formed,

ed, admits of conſiderable variation from its natural ſtate, little inconvenience is, in general, obſerved, from this difference. When the catheter is ſuffered to paſs gently along, and to take its own direction, it follows that courſe where there is leaſt reſiſtance; and, by that means, although it does not preſs immediately in a proper direction, it generally enters the bladder. But for a catheter to enter the bladder with the greateſt eaſe, the curvature ought to be greater than it commonly is, and ought to be continued equally to the extremity. This renders a little more attention neceſſary, in paſſing it as far as the bulb. That, however, is of little conſequence; as the catheter we are now ſpeaking of, ought never to be uſed for the removal of any obſtruction in that part of the paſſage of the urethra, ſituated between the bulb and the external orifice. But when the point arrives at the curva-

ture of the urethra, it paſſes, with much greater eaſe; is leſs liable to catch in any irregularities, or in the lacunæ; and there is a much greater chance of its overcoming any reſiſtance that may be in the paſſage: for, on its entering this part, the centre of the canal becomes the centre of its motion; and, the curve of the catheter following the curve of the urethra, the force propelling it forwards, acts, equally, on all ſides of the canal, and not on its poſterior ſide only, as is the caſe with the generality of catheters. Thus the catheter paſſes on, ſcarcely altering the relative ſituation of the parts. When this circumſtance is attended to, the ſurgeon has a much better command, alſo, of the inſtrument, and is able to vary the direction of its point with much greater eaſe.

Many practitioners direct us to begin paſſing a catheter, with the concave part of

towards the abdomen; while others direct us to keep the concave part downwards, until the point be paſſed under the arch of the pubes. More ſtreſs is often laid on this part of the operation, than it appears to deſerve. It ſeems, to me, very immaterial which mode is preferred; though, perhaps, the former, being the ſimpleſt, is generally the beſt. If the inſtrument is paſſed ſlowly along, and the handle of it is kept ſufficiently elevated, the point paſſes with the greateſt eaſe under the arch of the pubes, even when it is much more curved than catheters commonly are. In ſome caſes, where the urethra was very irritable, I have ſeen the patient expreſs conſiderable pain, during the time of turning the catheter; although it was done with the greateſt care, and the point kept as ſteady as poſſible.

SECTION II.

OF THE DISEASES CAUSING RETENTION OF URINE, AND OF THE USE OF CATHETERS IN THEM.

BEFORE an inſtrument is paſſed into the bladder, to draw off the urine, the cauſe of its retention ſhould, if poſſible, be aſcertained. Caſes of retention of urine often occur, where the immediate introduction of an inſtrument is improper, or impracticable; and where other means may firſt be tried, with greater propriety, and a much greater chance of ſucceſs.

When artificial means are employed to procure an evacuation of the urine, it is be-

becauſe the bladder is not capable of overcoming the reſiſtance which the urine meets with, in its paſſage thro' the urethra. This may ariſe from different cauſes.

It may ariſe from a diminution, or loſs, of the contractile power of the bladder; rendering it incapable of overcoming the uſual reſiſtance; as is the caſe in paralyſis of the bladder; or when it has contracted firm adheſions with the ſurrounding parts, in conſequence of violent inflammation, as now and then happens. In theſe inſtances, no difficulty is found in paſſing a catheter.

Or it may ariſe from an increaſed reſiſtance in the paſſage of the urethra. This reſiſtance may be produced by a variety of cauſes: by a ſubſtance preſſing on the orifice of the urethra, as a calculus, a polypus, hydatids, &c.; or by tumors preſſing the ſides of the urethra

together. Or it may be cauſed by a diſeaſe of the urethra, or of the proſtrate gland.

When a retention of urine ariſes from a calculus, or any ſubſtance, falling on the orifice of the urethra, there is, generally, no difficulty in introducing a catheter; ſometimes it gives the patient a degree of pain, from the irritable ſtate of the neck of the bladder.

When the reſiſtance to the paſſage of the urine is cauſed by a tumor preſſing on the ſides of the urethra, before an attempt is made to paſs a catheter, the ſurgeon ſhould endeavor to aſcertain the nature of the tumor, and its preciſe ſituation, with reſpect to the urethra. The knowledge of this, is often of great conſequence in introducing an inſtrument; and, ſometimes, will prevent the neceſſity of it, by ena-

enabling him to remove a part of the preſſure; as, for inſtance, when an abſceſs forms in perinæo, and, by its preſſure, cauſes a retention, means ſhould be employed to abate the inflammation; when ſuppuration has taken place, an opening ſhould be made into it, as early as poſſible, and the pus evacuated; when the urine will, frequently, flow ſpontaneouſly.

The moſt frequent, and the moſt ſerious caſes of retention of urine, ariſe from diſeaſes of the urethra, and of the proſtrate gland. It is in theſe caſes, that a catheter, which, in general, is a ſafe inſtrument, and is managed with great eaſe, becomes frequently a formidable and dangerous inſtrument, requiring the greateſt judgment, delicacy, and attention, in the management of it.

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There is a variety of diſeaſes of the urethra, which occaſion a retention of urine; but a catheter ought not to be uſed, indiſcriminately, in them all. Very few are the caſes in which a ſurgeon, if he is called in in time, ought not firſt to employ ſuch other means as the nature of the ſymptom ſhall dictate.

Diſeaſes of the urethra may be divided into, ſuch as ariſe from a diſeaſed action; ſuch as ariſe from an alteration in the ſtructure; and ſuch as are complicated.

I. *Of* Inflammation.

Inflammation of the urethra, either from venereal or other cauſes, ſometimes becomes ſo violent, as to produce a total retention of urine; and the attention of the patient is, frequently, ſo engaged by the

the latter ſymptom, that he ſuppoſes it to be the cauſe of all his ſufferings. On the contrary, it is the effect of the diſeaſe. For, when the retention of urine is complete, it is becauſe there is no urine in the bladder; the inflammation having extended up to the kidneys, and prevented the ſecretion of it. Where there is violent inflammation of the urethra, and neck of the bladder, extreme ſtrangury is often the conſequence; the urine coming away, with great pain and difficulty, by drops: but I never heard of inflammation, alone, cauſing a total retention of urine, if there was any in the bladder.

The introduction of a catheter in theſe caſes is highly improper; it puts the patient to a vaſt deal of pain, unneceſſarily, and infallibly increaſes the diſeaſe it is intended to remedy. On the other hand, bleeding largely, and repeating it with freedom;

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the warm bath; emollient clyſters, given frequently; fomentations; antimonials, and opium, by the mouth, in ſmall doſes; and the antiphlogiſtic plan followed to its greateſt extent, is generally found to reduce the inflammation, and produce a ſpeedy flow of the urine.

II. *Of* Spasm.

The urethra is ſubject to another diſeaſed action, alſo; which is a violent morbid contraction, without inflammation. This is generally called, a ſpaſm of the urethra. Thoſe caſes of this diſeaſe which I have ſeen, were in people whoſe ureters were very irritable; and this irritability appeared to be brought on, either by a preceding inflammation from gonorrhea, or ſome other cauſe, or from the preſence of a ſtricture. A perſon who has once been

been troubled with it, is very liable to a return; and, in many people, it ſeems to become habitual, returning at frequent and uncertain periods. The degree of its violence is uncertain; and the time of its continuance is equally ſo. Sometimes it is productive only of a ſlight pain, and difficulty in voiding the urine, and diſappears in a ſhort time. Occaſionally, it is more violent and continued; cauſing a complete retention of urine. When this is the caſe, the violent action of the bladder, and abdominal muſcles, preſſes the urine againſt the diſeaſed part, and thus keeps up a conſtant irritation, which renders the diſeaſe more obſtinate.

It is not always, however, that the introduction of an inſtrument is found neceſſary to draw off the water, in a ſpaſm of the urethra, unconnected with any diſeaſed alteration in its ſtructure. It ſhould not

be attempted, except in caſes where there is a complete retention, and the bladder is ſo diſtended, that we have reaſon to fear an inflammation, before any other means have time to produce their effect; and, even then, an attempt ſhould firſt be made to introduce a bougie.

A ſpaſm of the urethra, complicated with a ſtricture, I ſhall ſpeak of preſently; and the treatment, both of ſimple and complicated ſpaſm, is very ſimilar: ſo that, as far as relates to the acute ſymptoms, they may often be looked upon as the ſame diſeaſe, only differing in degree; eſpecially as the ſurgeon is frequently at a loſs to aſcertain whether there be a permanent ſtricture or not. The manner, therefore, of treating ſimple ſpaſm, may, with eaſe, be collected from the obſervations that will preſently occur, reſpecting the treatment of the complicated diſeaſe.

III. *Of*

III. *Of* STRICTURE, *complicated with the foregoing* DISEASES.

THE urethra, as I before obſerved, is ſubject to diſeaſed changes, not only in its actions, but alſo in its ſtructure.

Diſeaſes ariſing from this cauſe, are more tedious, and leſs acute, than thoſe depending on the former; and are extremely liable to be complicated with them.

The moſt frequent diſeaſe of this kind taking place, primarily, in the urethra, and the only one which I ſhall mention here, is ſtricture.

As a ſtricture is a conſiderable time in forming, and increaſes by ſlow degrees, it never, alone, cauſes a complete retention of urine; for, before a ſtricture cloſes the

paſſage of the urethra, a new paſſage is always formed in the parts beyond it. There would, therefore, be no occaſion for noticing this diſeaſe, in this place, were it not that perſons laboring under ſtrictures, are liable to inflammation, to ſpaſm, or to calculi, being retained by them: thus giving riſe to ſome of the moſt diſtreſſing caſes of retention of urine; which, oftentimes, can be relieved by an operation only.

When inflammation comes on a ſtricture, the plan of treatment proper in a ſimple inflammation of the part, ought to be purſued, and carried to its utmoſt extent, before any attempt is made to introduce an inſtrument.

Urethras laboring under a ſtricture, ſeem to be peculiarly liable to a ſpaſm; and this complicated diſeaſe is, as far as my obſervations have extended, a more frequent

quent cauſe of obſtinate retentions of urine, than any that occurs.

In theſe caſes, it ſhould be recollected, that there are two cauſes, operating together in the production of the diſeaſe: the one, a permanent change in the ſtructure of the part; which can be removed by local applications only: the other, a temporary change in the actions of the part; which, if time will permit us to wait, may, often, be removed, by the application of remedies, both general and local; or which will, frequently, ceaſe ſpontaneouſly. It ſhould be recollected, alſo, that the means which are neceſſary to remove the ſtricture, have, often, a manifeſt tendency to increaſe the ſpaſm.

As the ſtricture, alone, did not produce a complete retention of urine, we have reaſon to think that, if the diſeaſed action

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can firſt be removed, the urine may be evacuated by its natural paſſage; and then time will be obtained to employ proper means for the removal of the former diſeaſe.

Unleſs the attendance of a ſurgeon is neglected ſo long, that the ſymptoms from retention become alarming, and there is danger from inflammation and mortification, no attempt ought to be made to paſs a catheter into the bladder, until other means have been uſed to leſſen, or, if poſſible, to remove the ſpaſm: for we ſhall, almoſt certainly, be foiled in the attempt; and, if we are, the irritation offered to the parts will render the diſeaſe more violent. If an attempt is made, at this time, to introduce a bougie, it ſhould be with a view only of aſcertaining the nature of the diſeaſe; it ought to be introduced with extreme caution; and, on its meeting with a

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permanent reſiſtance, it ought to be withdrawn.

The other means that may be uſed to leſſen, or remove the ſpaſm, are ſuch as are known to leſſen the ſpaſmodic action of the muſcles, in other parts; and ſuch as are known, from experience, to have before produced good effects in this diſeaſe. Theſe remedies are either local or general.

When the diſeaſe is not very violent, the former, alone, are frequently capable of removing it; as, emollient, and anodyne clyſters; fomentations, and poultices; to the perinæum. Stimulating applications, rubbed on the perinæum, have, often, produced a good effect; as volatile liniment, and many of the rubefacientia. I have ſeen relief obtained by rubbing the perinæum, gently, for ſome time, with a mix-

mixture of camphorated ſpirits, and tincture of opium. Bliſters to the perinæum, above the pubes, or to the ſacrum, have been recommended. Dipping the glans penis in cold water, is ſaid, ſometimes to have removed the ſpaſm. Daſhing cold water on the abdomen, has been recommended; and I have ſeen it tried, but without the leaſt good effect. Electricity has been recommended. In ſome caſes, where the patient has been coſtive, a purgative has procured a relaxation of the ſpaſm.

But if local remedies do not give relief, in a ſhort time, they ſhould be joined with thoſe that act upon the ſyſtem in general. Of theſe, one of the moſt powerful is, opium, given in large doſes, and repeated as often as the ſyſtem can bear it. Thoſe means which leſſen the force of the circulation, and of the muſcular action in general,

neral, are very powerful remedies; and have, frequently, brought on a flow of the urine, after almoſt every other remedy has failed; and after attempts, to paſs a bougie, or a catheter, have been made in vain. The means, for this purpoſe, are various. Bleeding from a large orifice, till the patient begins to faint, will ſometimes cauſe a relaxation of the ſpaſm, and the urine will come away on preſſing the lower part of the abdomen; or a bougie will be found to paſs, although it was reſiſted a few minutes before. When this method has failed, I have ſeen a ſtrong infuſion of tobacco, given, a few drops every half hour, till it excites nauſea, prove effectual. It leſſens the force, and frequency, of the pulſe, and induces an univerſal debility over the whole ſyſtem, ſometimes to an amazing degree. Under this ſtate I have ſeen the ſpaſm abate, and the urine come away merely upon preſſing the abdomen. But

great attention is neceſſary in the uſe of this remedy; for it is very powerful in its operation, and, at the ſame time, very variable in its ſtrength: alſo it operates more readily upon ſome perſons, than upon others; and, if given in too large doſes, is liable to induce very alarming ſymptoms. The nauſea, and affection of the head, ſometimes, becomes exceſſively diſtreſſing; the pulſe weak, and ſlow; the countenance pallid; the body covered with cold ſweats; and the patient perpetually fainting: therefore, when it is neceſſary to have recourſe to this remedy, it ought to be given in very ſmall doſes, increaſed in the moſt gradual manner, and not repeated oftener than the time above-mentioned.

About five years ſince, I had a patient laboring under this diſeaſe; on whom all the common methods of treatment were tried, without ſucceſs. I wiſhed to try the

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infuſion of tobacco; but having, not long before, ſeen an inſtance in which the above ſymptoms were brought on by its uſe, and became alarming; I was willing, in the firſt place, to try the effects of another remedy. At that time, I was attending Mr. Cline's lectures on anatomy, and recollected that he had mentioned a caſe, where the tinctura ferri muriati was given, with good effect. The particulars of that caſe, I do not, at this time, exactly recollect; but it induced me, to recommend the remedy. The patient was ordered to take ten drops, for the firſt doſe; and afterwards ſix drops, every fifteen minutes. After the third, or fourth doſe, a degree of naufea came on; the pulſe became ſlower, and a general relaxation, and temporary debility, took place. During this time, I attempted to paſs a bougie; and ſucceeded, with tolerable eaſe. It was ſuffered to remain in the bladder, till an effort was made to expel

the urine; when, being withdrawn, the urine followed it pretty freely. I have not had ſufficient experience of this medicine, to ſay that it will prove generally ſucceſsful; but it appears to me a valuable remedy. It is more manageable than the infuſion of tobacco; and the ſymptoms it produces. are leſs diſtreſſing: therefore, I think it very worthy of trial, when the ſymptoms are not ſo urgent, as to render the delay, attending its exhibition, dangerous.

Theſe means, if they do not produce the effect deſired, will, at leaſt, be of ſervice in rendering the urethra leſs irritable; and, conſequently, will increaſe the chance of ſucceſs, in the introduction of an inſtrument.

When it is found neceſſary to introduce an inſtrument, a bougie ought to be tried firſt; it is much ſafer than a catheter; will irri-

irritate the parts leſs; and, oftentimes, can be introduced when a catheter cannot. *

If a bougie cannot be paſſed by the uſual means, attempts may be made to paſs it, while the patient is in the warm bath. I have been able to paſs it, during a fainting fit. This, ſometimes, comes on ſpontaneouſly; or from the action of the medicines the patient has been taking; or it may be brought on, by taking away a ſufficient quantity of blood from a large orifice.

If the ſurgeon has time to purſue the means above laid down, with proper attention, he will ſucceed in evacuating the urine, in moſt caſes of ſimple ſpaſm; and, generally, in caſes alſo where it is complicated

* Moſt of the circumſtances requiring attention, in the uſe of bougies, being laid down by various authors; particularly by Mr. HUNTER, in his treatiſe on the venereal

plicated with ſtricture. Sometimes, however, notwithſtanding all his attention, he will fail of ſucceeding: but more frequently it will happen, that his attendance is not deſired till the retention of urine produces alarming ſymptoms, and the patient's life is in danger; or, at leaſt, till the diſeaſe is ſo far advanced, that there is not ſufficient time to purſue, with ſafety, all the means above laid down. Sometimes, alſo, to add to his difficulties, a violent inflammation is added to the original diſeaſe; or the urethra is lacerated, by the improper uſe of a catheter.

Catheters are, in general, too much uſed in theſe diſeaſes: it is a common practice with many practitioners, the moment they hear

venereal diſeaſe; and by Mr. BELL, in his treatiſe on gonorrhœa and lues venerea; it is thought unneceſſary to take up any time on that ſubject.

hear of a retention of urine, to think of introducing this inſtrument. But let thoſe practitioners recollect, that a catheter, in the diſeaſe we are now ſpeaking of, unleſs uſed with great ability, is a very formidable inſtrument; that it requires the greateſt dexterity, and the moſt extreme caution, not only to uſe it to advantage, but to uſe it without doing irreparable miſchief. I have, frequently, ſeen inſtances, where much miſchief has been done, by its uſe; and have heard of many more. At the ſame time, it muſt be obſerved, that in the hands of a ſkilful operator, there are few caſes in which it is not a ſafe inſtrument; and many in which it may be uſed to great advantage, after bougies have failed of ſucceſs. This is more eſpecially the caſe, when the diſeaſe is ſituated in the membranous part of the urethra, and is a ſimple ſpaſm, or a ſpaſm complicated with a ſlight ſtricture; for, in theſe caſes, a bougie, in

con-

conſequence of its bending or ſoftening, is leſs manageable than a catheter is.

We will now ſuppoſe that all the means above-mentioned, and all that art can preſcribe, have been tried; as far as time will permit, for the removal of the ſpaſm, but in vain; and that a catheter is had recourſe to, as the laſt reſort before an artificial paſſage is made for the urine.

By this I do not mean to inſinuate, that a catheter ſhould, in no caſe, be tried, till this ſtate of the diſeaſe. In the hands of a ſkilful ſurgeon, as I have juſt obſerved, there are few caſes where its introduction may not be attempted, with ſafety. To him a greater latitude is allowable. His judgement will direct him, in what caſes it may be uſed with a probable chance of ſucceſs, and how far it may be perſiſted in, conſiſtently with the advantage of the patient;

ent; it will point out the degree of force that may be uſed with ſafety, and the direction in which that force ſhould be applied; and, in caſe he is foiled, when, and how long, he may deſiſt from its uſe, and continue the application of other means. But where the ſurgeon is little accuſtomed to the uſe of this inſtrument, and is in any doubt reſpecting the preciſe nature of the caſe, I have little heſitation in ſaying, that it ought not to be meddled with till the period I am now ſuppoſing. At what period ſoever a catheter may be uſed, many of the obſervations I ſhall make are generally ſpeaking, equally applicable; only, the leſs urgent the ſymptoms are, the more cautious, if poſſible, ſhould we be in the uſe of it.

When the diſeaſe is a ſimple ſpaſm, a catheter of a moderate diameter, is generally found to anſwer better, than one of

a very ſmall diameter; but when the ſpaſm is complicated with a ſtricture, the diameter of the catheter ſhould be ſmall enough to paſs the ſtricture, if poſſible, without doing it violence. For the immediate objects are, to draw off the urine, and remove the ſpaſm, leaving the ſtricture to be removed by proper treatment at a future period; but the leaſt violence done to the part, tends to increaſe the ſpaſm.

If the diſeaſe is ſeated in that part of the urethra which is between the glans and the bulb, it is ſeldom neceſſary to paſs a catheter into the bladder; therefore, one that is nearly ſtrait, is the beſt. Or, if a ſtrait catheter, that is of a ſufficient length, cannot be obtained, ſuch a common one, as is leaſt curved, towards the point, ſhould be ſubſtituted. But if the diſeaſe is in the membranous part, the curvature of the catheter ought to equal, if poſſible, the cur-

curvature of the urethra: for as the catheter muſt paſs through the urethra, by forcing the ſides of it aſunder, it ought to paſs exactly along the courſe of it, and preſs, equally, in every direction; but theſe advantages can be obtained, with any degree of certainty, in no other manner, than by making the curvature of the former to correſpond exactly with that of the latter. If this is not attended to, the point of the inſtrument, when it comes to the diſeaſed part, inſtead of preſſing againſt its centre, preſſes principally againſt its poſterior part. In common catheters, this defect may be remedied, in ſome meaſure, though by no means completely, by depreſſing the handle; which throws the point of the inſtrument forwards. But, ſtill, the point does not deſcribe the courſe of the urethra; and, without extreme attention, there is great danger of forcing it through its ſides.

A catheter ſhould be introduced with the greateſt caution; ſhould be preſſed forwards, ſlowly, and gradually, with very moderate force; and ſhould be permitted, in ſome meaſure, to take its own direction, particular care being taken that its point does not get into any of the lacunæ. The ſurgeon cannot, occaſionally, leave a catheter, with its point, in the urethra, as he may a bougie; for if the hand is removed, the inſtrument immediatlely ſlips from its place. Therefore, he muſt keep the extremity of the inſtrument in his hand; and, when the point arrives at the diſeaſed part, he muſt endeavor to get it on by very ſlow degrees, and increaſe the force in a very gradual manner, continuing it for a conſiderable time. To this means, the ſpaſm will ſometimes gradually yield; and the catheter will paſs. Great attention ſhould be paid, to increaſe the force in the moſt gradual manner, and, at

the

the ſame time, not to apply it, in ſuch a degree, as to endanger the forcing of it through the ſides of the urethra.

After having perſevered in this plan, for a ſufficient time to give it a fair chance, if we do not ſucceed, it is better, in my opinion, to puncture the bladder at once, than, by perſiſting in an attempt, which, moſt probably will prove fruitleſs, uſeleſsly inflame, and tear the urethra; render the diſeaſe more violent; and, perhaps, deſtroy the patient.

Frequently, the ſtricture has ſo leſſened the diameter of the canal, that a catheter of the ſmalleſt diameter would not paſs, before the ſpaſm came on. This, though it cannot always be known to a certainty, ſometimes may; and may generally be ſuſpected, by the degree of difficulty the patient has experienced in expelling his urine, and by the ſmallneſs of the ſtream.

In

In theſe caſes, it is in vain to think of paſſing a catheter, without forcing it through the ſtricture; and this would be a very dangerous practice, it being uncertain what courſe the catheter might take.

Therefore, when the caſe is clear, if a bougie fails, it is better not to attempt the introduction of a catheter, but to puncture the bladder.

IV. *Of an* ENLARGEMENT *of the* PROSTRATE GLAND.

THE laſt diſeaſe I ſhall mention, as cauſing a retention of urine, and rendering the uſe of a catheter neceſſary, is an enlargement of the proſtrate gland. But, as I have ſpoken of this diſeaſe in the preceeding pages, I ſhall confine myſelf, now, to the uſe of the catheter in it.

I have

I have already obſerved, that, in this diſeaſe, that portion of the urethra which is ſituated within the proſtrate gland, becomes much longer, more curved, and at the time wider, than it is in its natural ſtate. I have obſerved, alſo, that when a retention of urine takes place in this diſeaſe, it is in conſequence of the ſides of the proſtrate gland being preſſed firmly together, and the poſterior part projecting forward; thus acting as a valve to the urethra. It is neceſſary, therefore, that the catheter, which is uſed in theſe caſes, be one inch and an half, or two inches, longer than in other caſes: at the ſame time, its curvature ought to be increaſed in proportion to the increaſed curvature of the urethra; eſpecially towards the point. Where we are foiled in paſſing a catheter; it is ſtopped, by the poſterior portion of the proſtrate projecting forwards ſo much, that the point of a

common

common catheter cannot be ſlipped before it, but is detained in one of the depreſſions, on the ſides of the caput galinaginis; or, entangled in ſome of the larger lacunæ; or in the excretory ducts of the veſſiculæ ſeminales, which are generally much enlarged; or, if the inſtrument is puſhed forwards too forcibly, the point is buried in the ſubſtance of the proſtrate gland.

A catheter, of a proper length, and curvature, and of ſuch a diameter, as to paſs with eaſe through the ſound part of the urethra, being provided, and introduced as far as the diſeaſed part, an attempt ſhould then be made to ſlip it before the projecting portion of the diſeaſed proſtrate, by depreſſing the handle, and puſhing it gently forward. If this does not ſucceed, a finger ſhould be paſſed into the rectum. By means of this, we ſhall have a more perfect command of the point of the

the inſtrument; which, as the paſſage is pretty wide, may be moved about, with tolerable eaſe. Endeavors may then be made to paſs it forwards, by moving it about in various directions; for, ſometimes, the enlargement is confined principally to one ſide of the gland, and then the urethra is forced to the oppoſite ſide. But this ſhould conſtantly be kept in remembrance; that no force ought to be uſed; unleſs the ſurgeon has previouſly determined, to thruſt the catheter through the ſubſtance of the proſtrate gland: it cannot poſſibly do any good; on the contrary, there is a certainty of its doing miſchief, by lacerating, and inflaming the parts. The urethra is not impervious; nor is it too narrow for the inſtrument to paſs; for it is wider than natural. The reaſon why the urine cannot paſs out of the bladder is, as I before obſerved, that the ſides of the gland, and the poſterior part of it, which

are much enlarged, fall together, and acting as valves, prevent it. And the reaſon why the catheter does not paſs into it, is, that the paſſage is become more curved; and the inſtrument, inſtead of following the direction of the paſſage, preſſes againſt the projecting part of the proſtrate gland. But if the point of the catheter is directed along the courſe of the urethra, it paſſes, in moſt caſes, with tolerable eaſe; the great difficulty, then, conſiſts in finding the courſe of the urethra: to remove this difficulty, the obſervations above laid down muſt be attended to; and, when the ſurgeon is acquainted with the nature of the diſeaſe, and the general alteration, which has taken place in the ſtructure of the parts, every thing depends, in a great meaſure, upon his facility in handling the inſtrument; no two caſes being exactly ſimilar. The chance of ſucceſs is greater, in proportion, as he handles it with more dexterity.

The

The catheter in the hands of a ſurgeon, like the pencil in the hand of a painter, requires frequent uſe, and much practice, to be managed with facility and ſucceſs. Rules may be laid down for the forming of a rough outline; but thoſe more delicate movements which, in many inſtances, are neceſſary to enſure ſucceſs, can no more be deſcribed, than a painter can deſcribe thoſe finer touches of his pencil, which are neceſſary in the perfecting of ſome finiſhed performance.

FINIS.

It is propoſed to publiſh, in a ſhort time, ſome practical obſervations on the treatment of COMPOUND FRACTURES, containing an anſwer to the following queſtion; propoſed by the LYCEUM MEDICUM LONDINENSE, as the ſubject of their prize diſſertation, for the year 1792.

"What are the beſt methods of treating compound "fractures, according to the degree of injury the limb "has ſuſtained?"

CASES and REMARKS IN SURGERY:

To which is ſubjoined, An

APPENDIX,

CONTAINING THE

METHOD OF CURING THE BRONCHOCELE IN COVENTRY.

By B. WILMER, SURGEON.

" Rationalem quidem puto medicinam eſſe debere: in-
" ſtrui vero ab evidendibus cauſis, obſcuris omnibus,
" non a cogitatione artificis, ſed ab ipſa arte rejectis."
CELSUS.

LONDON,

Printed for T. LONGMAN, in Pater-noſter-row.

M.DCC.LXXIX.

TO

WILLIAM SHARP, Esq;

SIR,

I Take the liberty of soliciting your patronage to the following papers: which, should they prove as useful, as they are well intended, will, I flatter myself, be honoured with your approbation.

The time which I employed under your more immediate instructions, I have ever considered as one of the most fortunate pe-

riods of my life:—to that circumſtance, whatever advances I may have made in my profeſſion, are principally to be attributed.

INFLUENCED, therefore, upon the preſent occaſion, by no other motives than thoſe of the ſincereſt gratitude and reſpect, I ſhall forbear offending your delicacy, thro' a vain attempt to impreſs the world with a more favourable opinion than they already entertain, of your character and abilities:—You will permit me, however, to conclude this addreſs, with my moſt ardent wiſhes for your long enjoyment of that health, which you are every day communicating to others: and of that happineſs, which from the moſt

moſt ample experience, *you* know to be the genuine reſult of benevolent actions.

I am, SIR,

With the greateſt Eſteem,

Your moſt obliged,

Humble Servant,

Coventry,
July 20, 1779.

B. WILMER.

INTRODUCTION.

IT is now, I believe, univerſally acknowledged, that ſcience in general, hath received more advantages from experimental enquiries into truth, than from all the ſpeculative theories of the ancients.

By a diligent attention to the appearances of diſeaſes, and the obvious deſigns of nature in relieving them, the practice of phyſic is reduced to more certain principles than heretofore; and Surgery, which at the commencement of the preſent century, was in the moſt contemptible ſtate, hath of late years, in this country, arrived at a great degree of perfection.

One cauſe of the preſent improved ſtate of Surgery in England, was the act

of parliament in the year 1745, by which the Surgeons company was made a diſtinct corporation from the Barbers *. Previous to that period, and at a time when France was giving every poſſible encouragement to Surgery and Anatomy, the progreſs of theſe ſciences in this kingdom, was not in the leaſt regarded.——" The members of " the company in London were ſubject to " heavy fines and expences, and liable to " ſerve many troubleſome offices, from " which they are now exempted. The " governors of the London hoſpitals, from " an ill-judged policy, entirely refuſed the " education of pupils at one houſe, and

* The Surgeons and Barbers were incorporated by the 32d of Henry VIII. The preamble of this act ſets forth, that " the ſaid two ſeveral and diſtinct companies of " Surgeons and Barbers were neceſſary to be united, and " made one body corporate, to the intent, that by their " union, and often aſſembling together, the good, and " due order, exerciſe, and knowledge, in the ſaid ſci- " ence or faculty of Surgery, ſhould be, as well in ſpe- " culation as in practice, both to themſelves, and their " ſervants, and apprentices; and by their *learning*, and " diligent, and ripe informations, more perfect, ſpeedy, " and effectual:" it was therefore enacted, &c. This act was repealed by the 18th of George II.

" allowed

" allowed of the attendance of only nine
" at a time at the other *."

At the ſame time alſo, the leading members of the Barber Surgeons company, contrived a bye-law, to prevent the knowledge of anatomy from *ſpreading*: they levied a penalty of ten pounds, on any perſon who ſhould diſſect a body out of the hall without their leave (which was not to be obtained) and every offender was ſure to be proſecuted.

It hath been a cuſtom with me, whenever I have been concerned in any caſe, remarkable for the variety of its circumſtances: or where, the methods put in practice for the cure, had any unexpected effects, to make memorandums of it.

The preſent Cases, are ſelected from obſervations made in this manner, during a practice of eight years.

* Cheſelden's Remarks at the end of Gataker's tranſlation of Le Dran's Operations.

INTRODUCTION.

WHEREVER any remarks are annexed to a caſe, it hath been my earneſt wiſh to avoid theoretic reaſoning, and confine myſelf to the more obvious and ſimple deductions, naturally ariſing from the ſubject: I muſt take the liberty of adding, that a particular regard to fidelity hath been obſerved in the narration of events.

RELATIONS of fruitleſs attempts, or even errors in the treatment of diſeaſes, may furniſh matter of inſtruction: theſe caſes, therefore, are not intended to exhibit a ſeries of *ſucceſsful* practice only: and the reader may expect to meet with diſappointments as well as miſtakes; whenever ſuch circumſtances have happened, they have, without reſerve, been acknowledged.

THE preſent method of cutting for the ſtone in England, hath (at leaſt in my opinion) been very ill related in all the publiſhed accounts upon the ſubject: and the different proceſſes of that operation have been either curſorily paſſed over, or deſcribed in a confuſed indiſtinct manner.—

This,

This, I hope, will ſerve as a ſufficient excuſe, for attempting to give a more accurate deſcription of lithotomy.

Upon the whole, ſhould the contents of the following pages prove, in any reſpect, uſeful to the younger Practitioner, the intention of the Editor in their publication, will be fully anſwered.

DIRECTIONS to the BOOKBINDER.

PLATE I. to face page 70.

PLATE II. after the laſt Caſe of fractures, and immediately before the Appendix.

EXPLANATION of PLATE II.

FIG. 1. The inferior ſplint.

FIG. 2. The ſuperior ſplint.

FIG. 3. The ſplints applied over the foliated bandage, upon the leg and thigh.

The ſplints ſhould be made of a thin plate of iron, well hammered to the ſhape of the parts; they ſhould be covered externally with leather, lined with dimity, and well ſtuffed with combed wool.

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ERRATA.

Page 18, Line 4, *for* exomphalus, *read* exomphalos.
—— 46, —— 15, — expoliation, —— exfoliation.
—— 47, —— 14, — dilitation, —— dilatation.
—— 65, —— 13, — boney, —— bony.
—— 81, —— 14, — affect, —— effect.
—— 96, —— 21, — ſcirrhous, —— ſcirrhus.
—— 156, —— 22, — groove-ſtaff, —— grooved-ſtaff.

CASES

CASES AND REMARKS IN SURGERY.

OBSERVATIONS ON STRANGULATED HERNIÆ.

OF all the diſeaſes to which the human body is ſubject, there are none more dangerous in their tendency, nor any more ſpeedily fatal in their event, than ſtrangulated herniæ, eſpecially if they are neglected, or improperly treated. After the great pains which the moderns have taken to improve this part of Surgery, and the publication of an ingenious treatiſe written profeſſedly upon the ſubject, by a celebrated Surgeon * of Lon-

* Mr. Pott.

don, an attempt to throw any new light upon it will probably be deemed unneceſſary, if not preſumptuous. The only apology I ſhall make for entering upon this topic is, to declare, that the obſervations I have to offer are the pure reſult of practical experience.

BATHS, fomentations, and poultices actually *warm*, or *hot*, are very much, I believe I might ſay generally, uſed in this country in all caſes of herniæ, under ſymptoms of ſtrangulation.

THIS kind of practice appears to me ſo extremely injudicious, that I have often wondered how it could, for any length of time, preſerve ſo great a degree of reputation. But as erroneous ideas muſt of conſequence produce improper methods of practice, the cuſtom of applying things actually warm in theſe caſes, was probably grounded upon the ſuppoſition of a diſeaſed ſtate, or ſtricture, of the tendinous apertures of the abdominal muſcles, or ligaments. When a portion of omentum, inteſtine,

inteſtine, or both, is forced out of the cavity of the abdomen into the groin, the perſon is ſaid to have a bubonocele. This effect cannot happen, unleſs the opening of the tendon of the external oblique muſcle is preternaturally extended. It is frequently found that the contents of the hernia, from the horizontal poſition of the patient in the night, recede into the abdomen, and prolapſe again the following day. During the receſſion of the parts, the ſurgeon may puſh the integuments before his finger, and introduce its point into the opening of the tendon, and he will find that it is much larger than it uſually is in a natural ſtate; and, if either from a protruſion of a larger portion of the inteſtine, omentum, or of both, the contents cannot be eaſily returned, there is a ſudden increaſe of the tumour, by degrees the parts indurate, and the caſe becomes a ſtrangulated hernia. In this caſe a ſtrangulation does not take place becauſe the opening is *leſs* than it was before the ſymptoms came on, but becauſe the parts ſo diſplaced are become *larger*.

And, juſt for the ſame reaſon, when a ſmall portion of inteſtine only is, from ſudden violence, or muſcular exertion, forced through the tendinous opening, it becomes ſtrangulated, not becauſe there was at that moment any particular alteration or ſtricture in the fibres of the tendon, but becauſe the portion of inteſtine lying in an uneaſy ſituation, increaſes in bulk, and therefore cannot be returned without ſome difficulty. If a ring is drawn over the finger tight enough to compreſs the returning veins, the parts beneath it will ſwell. Here is a ſtrangulation, and it may be ſaid that the ring forms the ſtricture. But I believe no man in his ſenſes would in this caſe propoſe, by putting the finger into warm water, to make the ring larger, or to diminiſh the tumour, by increaſing the capacity of the whole vaſcular ſyſtem of the part ſo ſtrangulated. My reaſon for making this compariſon is, becauſe it is now generally allowed, that tendons, ligaments, &c. have ſo little elaſticity, as to be but ſlightly affected (at leaſt ſuddenly) by warm applications, eſpecially

cially when they are ſituated at ſome diſtance from the ſkin.

In every ſtrangulated hernia, before reduction can be effected, one or other of theſe things muſt happen: either the opening of the tendon muſt be made larger, or the bulk of the tumour muſt be leſſened. There ſeems to be very little chance, by warm applications to the ſkin, to relax an inelaſtic ſubſtance, even in an undiſeaſed ſtate; and they appear diametrically oppoſite to the intention of reducing the bulk of the tumour, when ſtrangulation hath taken place. If the rupture is an enterocele, all applications that are warmer than the heat of the body, will rarefy and expand the air within the inteſtine, the blood will be ſolicited in greater quantities into the vaſcular ſyſtem of the part, and every ſymptom dependant upon ſtrangulation will become worſe *.

In

* Dr. Huxham relates a caſe, where an inguinal hernia proved fatal in two days, and in which *warm fomentations* were continually applied. Upon diſſection, the blood-veſſels of the parts were turgid and varicoſe, and

In the operation of bleeding, the fore-arm may be ſaid to be ſtrangulated by the ligature; and if, to facilitate the evacuation, the ſurgeon immerſes his patient's arm in warm water, the veins and the parts below the bandage immediately ſwell.

It would be abſurd to offer any more arguments in ſupport of a propoſition, which in its own nature appears to be ſelf-evident. For ſome years paſt, whenever I have been called to a ſtrangulated rupture, I have made it my firſt buſineſs to endeavour to leſſen the bulk of the tumour by *cold*, and ſometimes aſtringent applications: and the ſucceſs I have met with from this mode of treatment, is my principal inducement for communicating it to the public.

the inteſtine within the hernial ſac amazingly diſtended with air. The Doctor concludes the account with theſe remarks: "This unhappy caſe gave me a ſevere reflec-"tion; and I cannot but think the malady was much "increaſed by the repeated application of the hot fomen-"tations, as it rarefied the air greatly, and, by relaxing "the parts, gave further room to the vaſt expanſion." Philoſoph. Tranſact. N° 459. p. 623.

I COULD produce many inſtances, where there was little apparent reaſon to expect a reduction (as well from the violence as the duration of the ſymptoms) in which I have happily ſucceeded, by the application of cold water or vinegar. To avoid unneceſſary repetitions, I ſhall ſelect two or three caſes where other ſurgeons were concerned with me.

I WAS ſent for into Leiceſterſhire, to the Rev. Mr. K——. I found him with moſt of the ſymptoms uſually attending a ſtrangulated hernia. I was informed that, for ſeveral years, he had a ſmall ſwelling in the groin, which, two days before I ſaw him, had been, by walking, ſuddenly increaſed: nothing had paſſed through the inteſtinal canal ſince this acceſſion to the contents of the hernia. He vomited and hiccoughed frequently, had great pain in the tumour, as well as in the hypogaſtric region, and his pulſe was extremely low and weak. Mr. Jervis, an ingenious ſurgeon of Lutterworth, and formerly houſe-ſurgeon to St. George's-hoſpital, had attended him from

CASE I. Dec. 1, 1774.

from the commencement of the ſymptoms, had done every thing which could obtain a ſanction from modern practice, to relieve him, and from time to time had made ſeveral attempts, by manual aſſiſtance, to reduce the prolapſed parts, without being fortunate enough to ſucceed. Warm fomentations, and the tobacco clyſter (which had never failed with Heiſter) had been here uſed ineffectually. Mr. Jervis was ſo confident, that every thing which promiſed to ſerve the patient had been put in practice, that he propoſed to our conſideration the operation for the bubonocele, as the only probable chance remaining of ſaving his life. Before we proceeded, I deſired that cold applications might be tried, to which he very readily aſſented.

THE weather was ſevere at this time: compreſſes of linen, dipped in cold vinegar, were ſuddenly applied to the tumour; and, as often as they became warm, were removed, and freſh ones uſed in their place. The patient was ſoon ſenſible of a retraction of the parts within the hernia;

and we could quickly after perceive, that the tenſion and induration of the tumour were conſiderably diminiſhed. Upon attempting then to reduce the inteſtine with the fingers, the air contained within was obſerved to move firſt, and ſoon after all the contents of the hernia were returned into the cavity of the abdomen, with the greateſt eaſe imaginable *.

CASE II. Sep. 27, 1775.

I WAS ſent for to Mrs. M——, of Withybrook in this county, to adviſe with Mr. Welton, a ſurgeon and apothecary of Bedworth, concerning the neceſſity of performing the operation for the bubonocele.

THE tumour was ſmall and painful: ſhe had been ill three days before I ſaw her. Her pulſe was quick and weak; her tongue brown; ſhe vomited often; was coſtive, and much fatigued with an hiccough. Mr. Welton had bled her, ordered clyſters re-

* I lately met Mr. Jervis, on account of an amputation of the thigh, and had the pleaſure to hear, that he had been ſent for by a ſurgeon, to perform the operation for the bubonocele, and had happily ſucceeded in the reduction by cold applications, at a time when the caſe appeared deſperate.

peatedly,

peatedly, *warm* fomentations had been uſed, and endeavours frequently made to reduce the hernia, but without the deſired effect.

By means of compreſſes, wetted with vinegar, applied *cold*, and by gently preſſing the parts with my fingers, I obtained, in a very ſhort time, a complete reduction of the hernia, and the patient became ſoon well.

Case III. Some time after this I was called to J—— D——, of Stoke, near this place, labouring under a ſtrangulated rupture. I ordered cold applications, and endeavoured to return the inteſtine, but could not ſucceed at that time. I then directed the compreſſes to be frequently changed during the ſucceeding night, and before morning the contents of the tumour had ſpontaneouſly receded into the abdomen.

I believe it happens more frequently than is generally imagined, that the impediment to the reduction of the contents of

of a hernia, is in no degree connected with the tendinous opening of the external oblique muſcle of the abdomen *. Every one in the leaſt converſant with anatomy knows now, that what uſed improperly to be called the *ring* of the muſcle, is nothing elſe but a divarication of the fibres of the tendon, running obliquely downward; ſo that, in the caſe of great compreſſure from the ſuperior edge of the aperture upon the hernial ſac, it is natural to ſuppoſe, that the prolapſed parts might eaſily puſh or force their way toward the os pubis, where the fibres of the tendon divaricate moſt. The neck, or orifice, of the hernial ſac, muſt be a circle, or nearly ſo: and ſhould that be ſo diſeaſed, thickened, or altered from its natural ſtate, as to prevent the contents of the hernia from being returned into the abdomen, it would become a cauſe of ſtrangulation, much more dangerous than any preſſure which the tendon of the external oblique muſcle could occaſion, and conſtitute a caſe where

* Vide Arnaud's Diſſertation on Hernias, Part II. Sect. 2.

warm

warm applications muſt be altogether ineffectual, becauſe the part intended to be ſoftened by them is ſo much more out of their reach.

NOTWITHSTANDING the ſucceſs I have had in reducing hernias by cold applications, after every thing elſe had failed, I have, within theſe eight years, been obliged to perform the operation for the bubonocele four times. In two of theſe caſes, the impoſſibility of reduction appeared to have ariſen from the induration and ſmallneſs of the diameter of the *neck* of the hernial ſac. The firſt perſon I operated upon loſt his life, after the tendinous aperture of the external oblique muſcle had been largely dilated. Upon diſſection of the parts after death, a ſmall duplicature of the ileum was found ſo ſtrongly embraced by the *neck* of the ſac, that it could not be diſengaged until the ſtricture was divided by the knife. In this caſe the neck of the ſac was hard, firm, thickened, cartilaginous, and reſembled the os tincæ.

MR.

Mr. Harrold, a very eminent and judicious Surgeon of this city (to whom I am under the greateſt obligations) did me the favour to attend the operation and the examination of the body.

The next caſe that occurred, in which the impediment to reduction appeared to have ariſen from a ſtricture of the *neck* of the hernial ſac *only*, had a more favourable termination.

J—— C—— of this city, was ſeized with a violent pain in the inferior part of the abdomen: which was ſucceeded by vomiting and coſtiveneſs. Case IV. Apr. 5, 1774.

On the third day of his illneſs I firſt ſaw him, and found, upon enquiry, that he had a ſwelling in his left groin, which was then become very painful; and that various methods had been ineffectually tried for his relief.

After having uſed cold applications to the part, I endeavoured to procure a reduction

duction of the hernial contents, but without ſucceſs.

THE patient was reduced much, and the bad ſymptoms had made an alarming progreſs: I therefore deſired a conſultation might be had. In the afternoon of the third day, Dr. Simſon, a very ingenious phyſician of this place, Mr. Harrold, and myſelf, determined, that the operation for the bubonocele could not any longer be prudently delayed.

AFTER the hernial ſac was opened, and the tendon of the external oblique muſcle largely divided, it was found impoſſible to return the inteſtine into the cavity of the abdomen. The part prolapſed, appeared to have been a duplicature of the ileum extremely inflamed, and had many little extravaſations of blood between its coats. I puſhed my finger within the ſac, and perceived a ſtricture in its *neck*, which forcibly reſiſted the reduction of the inteſtine.

HAVING

HAVING ſecured the inteſtine with my finger, I, with ſome difficulty, forced the obtuſe point of the curved biſtory through the ſtricture, and divided it.

THE inteſtine was then eaſily returned, and the patient recovered perfect health, without the intervention of any particular occurrence.

ONE might with great propriety compare the paraphymoſis with the ſtrangulated hernia, were it not, that the parts concerned in the latter caſe are eſſentially neceſſary to life, and in the former not ſo.

IN the paraphymoſis, the orifice of the retracted prepuce is not large enough to allow the tumefied glans penis to paſs through it.

IT would be abſurd to ſuppoſe, that bathing the part in *warm* water, or applying round it an emollient poultice, would relax the ſtricture in ſo great a degree, as it would occaſion the glans penis to increaſe

creaſe in ſize.—And yet, abſurd as the practice may appear, and notwithſtanding Celſus * and others, have given us excellent directions to the contrary, emollient poultices and warm fomentations, continue to be employed in this diſeaſe.

THE firſt neceſſary buſineſs in this caſe, as well as in the ſtrangulated hernia, is, ſo far to reduce the bulk of the tumid part by *cold* applications, and a well regulated gradual preſſure, as to enable it to be paſſed through the ſtricture, the very idea of *relaxing* which, ſhould be *totally* given up.

CELSUS † hath well obſerved the effects of heat and cold in theſe caſes; ſome modern writers ‖ have alſo recommended the uſe of cold applications for the reduction of herniæ; and there have been others, who have expreſſed their fears,

* Corn. Celſ. de Medicin. Lib. VII. Cap. XXV. p. 472.

† At ſi inteſtinum quoque deſcendit, &c. *frigore* omnia contrahitur, *calore* diffunditur. Celſ. de Medic. Lib. VII. cap. XVIII. p. 457.

‖ Poteau, Goulard, and Aiken.

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that the ſudden uſe of them to an inflamed part, might endanger a gangrene; but, as I have never ſeen this happen, I cannot ſay any thing to it from experience. Upon the ſame occaſion (the reduction of herniæ) M. Belloſte * has adviſed the application of aſtringents, in preference to emollients.

In the ſummer ſeaſon, perhaps common water or vinegar might not be cold enough to anſwer the deſired purpoſe: but in many places preſerved ice may be had; and there are various methods of creating artificial cold †, neutral ſalts whilſt they are diſſolving, increaſe the coldneſs of water.

Some

* Le Chirurgien d'Hôpital, troiſiéme partie, Chapitre III. p. 267. In the ſecond edition of the Hoſpital Surgeon, printed in the year 1773, M. Belloſte has recommended cold applications for the reduction of ſtrangulated herniæ. Le Chir. d'Hôpit. Tom. II. p. 126.

† The greateſt degree of artificial cold is occaſioned by pouring the nitrous acid upon ſnow. In the month of December 1759, at Peterſburgh, there happened a froſt, much more ſevere than had been remembered before at that place. On the 14th of December, De Liſle's thermometer ſtood at 212, equal to 42 degrees below the

SOME time ſince I was favoured with a letter from Mr. William Sharp upon this ſubject.——He acquainted me, that he had applied ice to an exomphalus, attended with very urgent and dangerous ſymptoms.—— Although it did not immediately ſucceed, yet by a diligent perſeverance in its uſe, it anſwered his moſt ſanguine expectations. It reduced the bulk of the tumour, and removed thoſe ſymptoms which appeared to have been occaſioned by a ſtrangulation of the parts.

cypher on Fahrenheit's. Mr. Braun procured four different glaſſes, containing ſnow, upon which he poured ſome of Glauber's ſpirit of nitre; having now immerſed the bulb of the thermometer ſucceſſively in them all, he found that he had increaſed the natural cold 58 degrees; and upon his taking it out, to his great ſurprize, he diſcovered, that the mercury had become ſolid and congealed: that, when it was taken out of the glaſs it was malleable, and was 12 minutes before it recovered its fluidity in the open air. De Admirando Frigore artificiali, quo Mercurius eſt congelatus, &c. à J. A. Braunio, Acad. Scient. Memb. &c.

OBSERVATIONS ON THE HERNIA HUMORALIS.

IT very frequently happens in the venereal gonorrhœa, from taking cold, from the improper uſe of injections, from the introduction of a bougie, and poſſibly from other cauſes, that both teſticles become painful, ſwollen, and inflamed.

IF relief is not ſoon obtained by reſt, proper evacuations, &c. the diſeaſe increaſes very rapidly, the ſpermatic chord becomes large, hard, and irritable, and there is a ſudden dilatation of the whole vaſcular compages of the teſtis, particularly of the epidydymis.——The vas deferens, and the vena ſpermatica, become varicous; the pain extends to the loins, and from the extreme irritation of the parts affected, heat, thirſt, and other febrile ſymptoms ſupervene.

If the caſe has been miſmanaged, or the patient obliged to uſe exerciſe, &c. the inflammation is communicated to the ſkin of the ſcrotum, and ſuppuration is either threatened, or does, in ſome inſtances, actually take place. That this event ſhould *ever* happen, appears to be more the conſequence of ſome error in the *external* treatment of the diſeaſe, than from any *natural* tendency, which this particular inflammation has to ſuppurate. ——There can be very few exceptions to the deſire, that all Surgeons have to cure almoſt every ſpecies of inflammation by diſperſion; but in the caſe we are now ſpeaking of, there are many very material reaſons, why ſuppuration ſhould be guarded againſt, as much as poſſible.

After having gone through all the pain and fatigue, which neceſſarily accompany that *degree* of inflammation which precedes ſuppuration, the patient muſt ſuffer a long time the diſagreeable diſcharge from a painful ſore, which may at laſt become fiſtulous.

That

THAT the inflammation does ſometimes terminate in this manner, we may learn from the obſervations of the celebrated Aſtruc *.

DR. VAUGHAN † relates the caſe of a gentleman, who having contracted a gonorrhœa, which was ſoon apparently cured by an injection: a ſtricture of the urethra ſucceeded, for which the patient uſed a bougie.——After ſome time, a ſwelling of the teſticles commenced, which, before the Doctor was conſulted, had increaſed to a very alarming degree; and notwithſtanding the care, attention, and ability of his phyſician, the patient died after ſuppuration had taken place.——*Warm* fomentations and emollient cataplaſms, were very liberally uſed in this caſe: of the impropriety of which, I ſhall have occaſion to ſpeak hereafter.

* Si reſolutio non ſucceſſerit, *ſæpius* in ſuppuratum abire, ruptoque abſceſſu in *fiſtuloſum* ulcus degenerare. Aſtruc de Morbis Vener. Lib. III. Cap. IV. p. 193.

† Medic. Obſerv. and Enq. Lond. Vol. III.

WHEN the venereal hernia hath arrived at the height of its inflammatory ſtage, I believe (with ſome few exceptions) the directions of Aſtruc may be conſidered as the ſtandard of common practice.

AFTER having given the moſt excellent rules in every other reſpect, he adviſes the free uſe of a *warm* fomentation, compoſed of mallow-roots and linſeed boiled in water; and the application of a poultice, made of the mucilaginous parts of vegetables and the oil of earth-worms.

THAT he had no particular ſucceſs from this mode of treatment, appears evident from his own words *.

IT often happens, in the ſlighter kind of theſe caſes, that the patient is obliged

* Tumor inflammatorius teſtium, nunquam periculo vacat, cum febrem comitem habeat, ac in graves affectus, *abſceſſum*, *fiſtulam*, &c. teſtium, poſſit degenerare.

Superſtitem duritiem dimiſſis, ſenſim tenuioribus partibus frequenter in ſcirrhum indurari, qui hydrocelen, pneumatocelen, ſarcocelen, &c. *non raro* inducit. Aſtruc de Morb. Vener. Lib. III. Cap. IV. p. 194.

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to walk about during the time of his illneſs, in which circumſtance, after having the part ſuſpended by a proper bandage, he is either directed to wear ſome diſcutient plaiſter, or to uſe ſuch other applications as he can conveniently carry in his pocket.

When the diſeaſe is ſo bad, as to render confinement neceſſary, I believe it is the general practice of many Surgeons, to direct the uſe of warm fomentations, of emollient and greaſy cataplaſms. When the greateſt degree of benefit is expected to ariſe from theſe applications, they appear to me to be capable of doing the moſt miſchief. At the time when the teſticle is very much tumefied, the ſpermatic chord is extremely painful, indurated, and enlarged, quite up to the aperture of the tendon of the external oblique muſcle of the abdomen; which (being inelaſtic, and therefore incapable of giving way to the ſwelling of the chord) preſſes upon it, and the teſticle, as well as its appendages, are juſt in the ſame ſtate with regard to the interception of the returning fluids, as the

ſtrangulated inteſtine. Indeed, the ſwelling will be more likely to be increaſed by ſuch preſſure or reſiſtance, becauſe not only the ſpermatic vein and the lymphatics, but alſo the vas deferens, ſhould return their different fluids through the opening of the tendon; and from hence, perhaps, may be deduced the reaſon, why, in theſe caſes, the vas deferens and epidydymis become ſo much enlarged.

BESIDES this kind of ſtrangulation, which the inflamed ſpermatic chord ſuffers by the preſſure of the tendon through which it paſſes, another kind of reſiſtance may be ſuppoſed to ariſe from its particular ſtructure; in which, ſo many different kinds of veſſels are cloſely compacted in a faſciculus, by a particular proviſion of membranous fibres, almoſt ſurrounded by the cremaſter muſcle, and an aponeuroſis from the abdominal tendons.

IF from theſe circumſtances, a ſtrangulation, or impediment to the return of the fluids from the teſticle may be ſuppoſed

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to ariſe, every argument againſt the uſe of warm and emollient applications, will take place in the caſe of an hernia humoralis, which I produced, when treating of the ſtrangulated bubonocele. To prevent unneceſſary repetitions, I beg leave to refer the reader to what hath been ſaid upon that ſubject before.——When a perſon attempts to perſuade others to adopt any alterations in practice, it will certainly be expected from him to produce better evidence in his favour than mere reaſoning, however plauſible it may appear.

WITHIN theſe laſt ſeven years, I have uſed cold, and ſometimes reſtringent applications in caſes of the hernia humoralis, and always with ſucceſs: I have never ſeen any bad effects from their uſe; I have never known in any inſtance, a ſuppuration take place in this gland, from a venereal cauſe; and my patients are generally cured in leſs than half the time which the common method of treatment requires, eſpecially where warm and emollient applications have been made uſe of.

DIFFERENT

DIFFERENT caſes will require different remedies: I have ſometimes uſed cold water with ſucceſs, but when the integuments are inflamed and painful, the vegeto-mineral water of Goulard is as proper an application as any other, as it ſeems to poſſeſs a ſedative, as well as a reſtringent and diſcutient quality. In proportion as the inflammation abates, the quantity of the extract of lead, as well as of the camphorated ſpirit, ought to be increaſed in the ſaturnine water. When the ſkin is not at all inflamed, the caſe will admit of ſtronger aſtringents, and ſometimes ſtimulating applications will do great ſervice.

I HAVE uſed the aqua vitriolica camphorata with theſe intentions, and have ſeen, frequently, a ſudden diminution of the tumour, from the free uſe of a ſolution of crude ſal ammoniac in vinegar, applied cold, and frequently renewed.——At the time, ſome one or other of theſe applications is uſed, as the circumſtances of the caſe indicate; the general ſtate of the patient muſt be attended to, and ſuch evacuations

cutations made, as the Surgeon may think neceſſary.

CASE V. 1773.

A GENTLEMAN of rank having contracted a gonorrhœa in London, and being under a matrimonial contract, put himſelf under the care of an eminent Surgeon there, giving him a ſtrict injunction to cure him with as much ſpeed as poſſible.

IN the courſe of a fortnight, by means of injections, all appearances of the diſeaſe were removed, and the Gentleman very joyfully ſet out upon a journey to Ireland.

BEFORE he had left London an hour, he perceived an uneaſineſs and weight in one of his teſticles, and a pain ſoon afterwards extended to his groin.

THESE ſymptoms were probably aggravated by travelling, and increaſed ſo very rapidly, that when he arrived at this place, he found it impoſſible to proceed any farther.

HE

July 21. He was feverish, the testicle was prodigiously enlarged, the skin of the scrotum had began to inflame; the spermatic chord was hard, painful, and swollen quite up to the tendinous aperture of the external oblique muscle of the abdomen. I took some blood from the arm, bathed the diseased testicle well with the saturnine water of Goulard, *cold*; and then suspended the part in a bag-truss. The patient was ordered to bed, and directed to lie with the thigh of the affected side bent, that the tendinous fibres which pressed upon the spermatic chord might be relaxed.

His bowels were opened by a solution of manna and Rochelle salt in water, and he was ordered a draught at night, containing thirty drops of thebaic tincture.

The next day, he was in every respect much in the same state, only that he had more ease.

He

He was ordered to keep in an horizontal poſition, and the ſolution of Rochelle ſalt, &c. was repeated. The ſaturnine water was applied cold, as before, during the courſe of this day, and the compreſſes were frequently changed. The anodyne was repeated at night.

On the third day the ſkin of the ſcrotum had reſumed its natural colour, and the general ſwelling of the parts was diminiſhed.——The ſame medicines and applications were continued as before.

On the fourth day, the tumour was well bathed with a ſolution of crude ſal ammoniac in vinegar, and linen rags wetted with it, were often applied to the parts, *cold.*

This method was purſued until the tenth day, when the ſwelling was almoſt reduced.——There remained at that time, ſome little induration of the epidydymis, for which I adviſed the uſe of the emplaſtrum

plaſtrum è ſapone cum mercurio *; and as the patient's affairs required his preſence in Ireland, he left this city on the eleventh day, believing himſelf cured.

MR. AIKEN, an ingenious Surgeon of Warrington, has recommended, in his Obſervations on the external uſe of the preparations of lead, the ſaturnine water applied cold in the hernia humoralis, and I flatter myſelf my readers will excuſe me, if I tranſcribe the whole paſſage.

" The ſwelled teſticles," ſays he, " frequently accompanying a gonorrhœa, will " very well illuſtrate the effects of emollient, ſaturnine, and common aſtringent " and ſtimulating topics.——Theſe uſually " come on very ſuddenly, increaſe to a " large bulk, and are extremely painful " and ſenſible to the touch. The preſent " practice of applying an emollient poul-

* ℞ Cerat. Sapon.
Empl. Commun.
Argent. Viv. āā ℥iv.
Balſ. Peruv. ℥ſſ. M. f. S. A. Emplaſtrum.

" tice

" tice indiſcriminately to every kind of in-
" flammatory tumour, has given me, and,
" I ſuppoſe, almoſt every Surgeon, fre-
" quent opportunities of obſerving the
" effects of theſe topics: and I will ven-
" ture to appeal to the experience of any
" practitioner, whether ſuch a treatment
" does not always prove extremely tedi-
" ous, painful, and confining; and whe-
" ther the cure is not generally incom-
" plete, a conſiderable hardneſs of the
" epidydymis remaining, perhaps for
" life.

" SATURNINE applications have been
" uſed in theſe caſes with great ſucceſs.

" I HAVE ſeen the ſaturnine water,
" made pretty ſtrong, applied cold, and,
" aſſiſted by proper poſture and bandage,
" remove the tumour and pain in a ſhort
" time; and, duly continued, take away
" all hardneſs.——Common aſtringent and
" ſtimulant applications have alſo been re-
" commended, and I once had a ſtriking
" inſtance of their efficacy.——A perſon

" ſuddenly attacked in the morning with
" a ſwelled teſticle, was obliged, on ac-
" count of neceſſary buſineſs, to walk about
" all that day. I applied a folded handker-
" chief, well ſoaked with rum, to the
" part, retained by another tied round his
" body.——This was wetted twice or
" thrice during the day, and at night I
" found, notwithſtanding his exerciſe, that
" the bulk was greatly reduced, and the
" ſenſibility diminiſhed.——This applica-
" tion, with the addition of vinegar, was
" continued ſome time longer, and the
" part perfectly recovered, without any
" confinement to the patient.

" I HAVE heard a juſtly celebrated pro-
" feſſor adviſe the emollient method in
" theſe caſes, and condemn the uſe
" even of camphor, as too ſtimulating:
" but ſuch a caſe as this, and many ſimilar
" ones that are to be met with in practice,
" would prove to me at leaſt, a ſufficient
" aſſurance againſt any ill conſequences
" that might be apprehended theoretically
" from the uſe of this claſs of topics in
" inflam-

" inflammatory tumours; and I am well
" convinced, that emollients are peculiarly
" ill calculated for the reſolution of in-
" flammations of lax glandular parts,
" while medicines pretty ſtrongly ſtimu-
" lant, may be applied with great ſafety
" and advantage."

AN ABSCESS OF THE TESTIS.

CASE VI. June 9, 1778. J. B——, ſervant to a gentleman, aſked my opinion concerning a complaint he had in the ſcrotum.

ONE of his teſticles was very much enlarged, indurated, and the ſpermatic chord was likewiſe diſeaſed quite up to the opening of the external oblique muſcle.

NO venereal ſymptom preceded the ſwelling, which had been a great while forming; and was, he ſaid, the conſequence of a bruiſe upon the part.

AS he was in a few days obliged to go to London, I gave him only, at that time, ſome applications of the emplaſtrum è ſapone cum mercurio, and ſuſpended the ſcrotum in a bag-truſs.

July 1. UPON his return from London, the complaint was much increaſed, the ſkin of

of the ſcrotum was inflamed, and there was an evident fluctuation within.

I DIRECTED him, then, to uſe a fomentation and poultice, prepared with cicuta. In a few days a more complete ſuppuration enſued, and the matter made its way out by two different orifices, which did not appear to communicate with each other.

THE diſcharge continued more or leſs ſeveral weeks; and, during that time, the applications were not altered. At length the drain totally ceaſed; and then the emplaſtrum è ſapone cum mercurio was again applied, to diſſolve the remaining hardneſs, which was effected in time, and the patient became well.

A CASE of a SCIRRHOUS TESTICLE of an uncommon ſize, combined with an HYDROCELE and an INTESTINAL HERNIA; cured by caſtration.

CASE VII. Sept. 8, 1778. W—— B—— applied to me for advice, reſpecting a very large tumour he had in the ſcrotum.

THE account he gave of his diſeaſe was: that ſixteen years before I ſaw him, he had a rupture on the left ſide, which was ſo troubleſome to him, that he was frequently obliged to exert very conſiderable efforts to return it; that he had procured a truſs, which he believed had prevented the deſcent of the rupture; but that his teſticle began to ſwell, that it had by degrees increaſed, and of late was become ſo inconvenient to him, that he would ſubmit to any thing I would recommend, to obtain a cure.

THE

THE tumour in the ſcrotum was very large; and, although there was a manifeſt fluctuation, and I was convinced there muſt be a conſiderable quantity of ſome fluid within the tunica vaginalis, yet, from the hardneſs and inequality of the ſurface, I was equally certain that the teſticle itſelf was very materially diſeaſed.

AT this time there was an inteſtinal hernia on the other ſide; the veins of the ſcrotum were very much enlarged, and varicous: and the patient had a pain in his back, which probably aroſe from the weight of the tumour.——The ſuperior part of the ſpermatic chord was plainly to be diſtinguiſhed, and appeared to be very little thickened.——With a view to aſcertain, with as much preciſion as might be, the true ſtate of the teſticle, I paſſed a ſmall trochar into the anterior and inferior part of the tumour, and drew off twenty ounces of bloody lymph.——The teſticle appeared then to be extremely hard, unequal, and ſcirrhous. In conſultation with Mr. Harrold, caſtration was propoſed, and

the operation performed the enſuing day. The diſeaſed teſticle weighed more than two pounds.

BEFORE the operation the patient took a purge, which having emptied the bowels, he was ordered an anodyne draught; and this was repeated the firſt night.——The next day he was feveriſh, and vomited often; but theſe ſymptoms were removed by drinking water impregnated with fixed air, joined with ſmall quantities of tinctura thebaica.

THE wound was treated according to the rules of ſurgery, and was entirely *healed in nine weeks.*

BY ſome modern writers in ſurgery it hath been contended, that there are particular advantages to be derived from taking up the ſpermatic artery, without any other part of the chord. In every operation of the kind that I have yet ſeen, the *whole ſpermatic chord* was tied in the beginning of the operation; which

manœuvre

manœuvre has ſeemed to me, in general, to leſſen the pain of the conſequent parts of the diſſection; and, by dividing the chord beneath the ligature, immediately after it hath been tied, the ſurgeon will more ſpeedily, and with greater facility, diſengage the teſticle from the ſcrotum.

In the caſe I have here related, I tied the ſpermatic chord in the beginning of the operation; from which proceſs the patient declared he felt leſs pain, than when, afterward, the artery of the ſeptum ſcroti was taken up by a tenaculum, and ſecured by ligature.

A TUMOUR upon the HEAD, under which there was a deficiency of the Cranium.

CASE VIII. IN the year 1774 a boy, fourteen years of age, was brought to Mr. Harrold, with a tumour upon the head, ſituated about the middle of the ſagittal ſuture, and equal in ſize to an hen's egg.

THE account his father gave was: that his ſon had been violently ſtricken over the part affected, about two months before, with the handle of a broken chair, and that a ſwelling immediately enſued, which he every day hoped would diſappear, from the uſe of ſuch medicines as his neighbours had recommended to him. Being deceived in his expectations, he was obliged to have recourſe to better aſſiſtance.

MR. HARROLD, upon examination of the caſe, judged the tumour to contain blood, and made a free inciſion thro' the integuments.

A large quantity of blood in a fluid ſtate, not in the leaſt grumous or diſcoloured, was immediately diſcharged; and a conſiderable hæmorrhage enſuing, he haſtily dreſſed the wound with dry lint, &c.—— Two days afterward he removed the external dreſſing; and, as he did not chuſe to hazard a return of the hæmorrhage, he left ſome part of the lint, which adhered ſtrongly to the parts. When this was removed at a ſubſequent dreſſing, a quantity of ichorous and putrid matter was diſcharged with it.

Upon inſpecting the bottom of the cavity, Mr. Harrold was ſurpriſed to perceive the pulſation of the brain, and that there was a total deficiency of bone in all that part, correſponding with the baſis of the tumour, the diameter of which was nearly two inches.——The ſurface of the dura mater granulated, and the wound was healed according to the rules of ſurgery.

The

The HISTORY of a FRACTURE and DEPRESSION of the SCULL, no ſymptoms of which appeared until the fourteenth day after the accident.

CASE IX. May 22, 1771. A Chaiſe-driver at one of our inns, applied to me on account of a wound he had received in his forehead, and he particularly deſired I would examine the ſtate of his ſcull, which he was apprehenſive was broken.——He informed me, that the day before I ſaw him, he was ſitting before the body of his maſter's chaiſe, between Atherſtone and Nuneaton, and ſtooping forward to adjuſt ſome part of the harneſs which had been diſordered, he received a kick from one of the horſes.

He perceived he was wounded, that he bled very much, and, to ſtop the hæmorrhage, he jumped off the carriage, and filled the wound with ſand. When he arrived at Nuneaton he applied to a Surgeon, whom he likewiſe deſired to examine the ſtate

ſtate of his ſcull.——The boy was very well when he came to me in every reſpect, except the wound in his forehead.

AFTER I had waſhed out the ſand and dirt, I proceeded to examine the ſtate of the ſubjacent parts.——The pericranium ſeemed bruiſed, but it was not *detached* from the bone. The patient came every day to my ſurgery to be dreſſed, and (againſt my directions) continued to look after horſes, and drive chaiſes, as uſual.

IN the ſpace of fourteen days, the wound upon the upper part of the forehead was almoſt healed.——He then began to complain of a giddineſs of the head; and, when this ſymptom commenced, he was ordered to loſe ſome blood, and to be kept very quiet.——Notwithſtanding the directions that were given upon this occaſion, the vertigo increaſed, accompanied with a pain of the head; and to theſe ſymptoms ſupervened a defect of memory, and a general loſs of ſtrength.——It was now apparent there was ſome latent miſchief; the wound

was

was therefore inſpected with particular attention. One part of it appeared more flabby than the reſt, and, upon preſſure, a ſmall quantity of ſanies was diſcharged.——I puſhed a probe through the fungous part, and paſſing it upward under the ſcalp, diſcovered a roughneſs on the ſurface of the right parietal bone, near the ſagittal ſuture, and more than three inches from the wound of the forehead.

HAVING made an inciſion through the ſcalp over this part, I diſcovered a fracture, attended with very conſiderable depreſſion of the bone.——By two applications of the trephine, aſſiſted by Mr. Simſon, Surgeon of Glaſgow, the whole of the depreſſed portion of the ſcull was removed.

THE ſymptoms did not in the leaſt abate *immediately* after the operation: the preſſure of the fractured os parietale upon the dura mater, having occaſioned an inflammation of that membrane. The cauſe was removed, but the effects ſeemed to remain. ——Although the patient was three times bled

bled within a ſmall ſpace of time after the operation, and, in other reſpects, a ſtrict antiphlogiſtic plan was purſued, yet the diſeaſe of the dura mater went on from inflammation to mortification.——The patient was trepanned on the 7th of June, ſixteen days after the accident happened; and, on the 15th, the dura mater ſloughed off in a putrid ſtate. The bad ſymptoms decreaſed after this event; but there was a troubleſome fungus from the cortical ſubſtance of the brain, and a conſiderable portion of it came away in the ſubſequent dreſſings *.

The patient, after the febrile ſymptoms diſappeared, became very languid; but, by a liberal uſe of the bark, he gradually recovered his ſtrength, and, in deſpite of all remonſtrances, began again to purſue his irregularities.——He was often drunk, ran about the ſtreets, attended the buſineſs

* Hildanus relates, that part of the ſubſtance of the brain protruded, in a perſon that he trepanned, to ſuch a degree, that he was obliged, ſeveral times, to remove it by ligature.—The patient recovered. Obſervat. Chirurg. Centur. IV. Obſ. III. p. 287.

of

of the ſtables, and, notwithſtanding all he could do to prevent it, nature ſtill prevailed, and healed his wound.

In this caſe it appears very probable, that the wound of the forehead was occaſioned by one part of the horſe's ſhoe, and the fracture of the parietal bone by another.

The preſent method of removing a large circular portion of the ſcalp, previous to the operation of the trepan, appears to me not only a very unneceſſary, but a very inhuman practice.——It removes the ſeat of the hair, expoſes a larger quantity of the ſurface of the bone than is neceſſary (rendering thereby an expoliation almoſt unavoidable) conſiderably retards the cure of the wound, and when, at laſt, the parts are healed after this operation, they will experience the loſs of that defence, which the thick ſkin and aponeuroſis of the occipito-frontalis muſcle, forming the ſcalp, would otherwiſe have yielded to them *.

* Nuda enim caro, ſi ſine cute relinquatur, ægre ad cicatricem perducitur. Galen. Comment. III. in Hippocr. de fracturis charter. Tom. XII. p. 254.

In

In ſeveral caſes of fractured ſculls that I have been concerned in, and in which it was neceſſary to apply the trephine more than once, the cure hath been accompliſhed without removing any portion of the ſcalp; and the wounds were healed in half the time that muſt have been employed, if exciſion had taken place.——In two of theſe caſes the injury was in the forehead; by purſuing the above method, a very conſiderable deformity was avoided: and I have ſeen but one caſe, thus treated, where an exfoliation of the bone was neceſſary.

To make a proper dilitation of the wound for the admiſſion of the trephine, I purſue the track of the fracture with the knife, in whatever direction it appears to take.

If the circumſtances of the caſe make it proper to expoſe a portion of the ſcull, in a form nearly circular, the old way of making two inciſions, interſecting each other at right angles, and afterward diſſecting back the flaps, will denude the ſubjacent bone

bone full as well, for every purpoſe of the operation, as if all that part of the integuments had been cut off *.

If it is not, therefore, abſolutely neceſſary to remove any portion of the ſcalp, even when the ſcull is *extenſively fractured*, how very irrational and cruel is the practice (which I have too often ſeen) of *ſcalping* the patient, even upon the *ſuſpicion* of a fracture; protracting thereby the cure to three or four months, which otherwiſe might have been accompliſhed in almoſt as many days.

* Quæ duabus tranſverſis lineis litteræ X figuram accipit, ut deinde à ſingulis procedentibus angulis cutis ſubſecetur. Celſus de Medic. Lib. VIII. Cap. IV. p. 516.

A LACERATION of the RIGHT HEMISPHERE of the BRAIN, occaſioned by external injury.

CASE X. Auguſt 19, 1772.

I WAS ſent for, in the middle of the night, to —— Hands, who, being much in liquor, had fallen from his horſe, upon the road betwixt Warwick and this city.——I diſcovered that he had bled at the ears, was inſenſible and ſpeechleſs.——As there were marks of contuſion on the right ſide of the head, I made an inciſion through the ſcalp, but the pericranium was not *detached,* and the ſcull appeared ſound.

AFTER ſuffering the arteries that were divided to bleed about fourteen ounces, I dreſſed the wound, and left him until the morning, by which time I ſuppoſed thoſe ſymptoms which aroſe from intoxication, would, of courſe, diſappear. In the morning of the ſucceeding day he was in no reſpect better, but continued very comatoſe and feveriſh.

I THEN had recourſe to evacuations, which, I flattered myſelf, would have given the abſorbent ſyſtem an opportunity to take up the fluids, which, I ſuppoſed had been extravaſated under the ſcull.—A large quantity of blood was taken from the arm; leeches were applied to the temples; bliſters to the legs, and behind the ears; ſtools were procured by clyſters; and the evacuating plan was purſued on the two following days, without the leaſt amendment. ——On the fifth day the patient remained ſtupid, inſenſible, and ſpeechleſs.

IT was now evident that evacuations, general and partial, had been made as far as prudence would allow; and, at this period, the ſurface of the ſcull having aſſumed a diſeaſed aſpect, in conſultation with Mr. Harrold, it was agreed to perforate the bone.——When the circular portion of the ſcull was removed, there was no extravaſated blood perceived betwixt it and the dura mater; but under that membrane ſome kind of fluid was evident to the touch.

THE dura mater was divided by a lancet, and about half a tea-cup-full of bloody lymph was immediately diſcharged.—— The patient had no ſort of relief from the operation: freſh bliſters were applied; more blood was taken away; anodynes with ſudorifics were adminiſtered, without the leaſt good effect.——The day after the trephine was applied, Mr. William Sharp, of St. Bartholomew's-hoſpital, ſaw the patient; who thought that nothing had been left untried, which promiſed to be of any eſſential ſervice in the caſe.——On the ninth day from the accident he died.

UPON diſſection, no part of the ſcull appeared fractured; the pericranium and dura mater were, in every point, adherent to it.——Upon removing the arch of the bone, a large laceration was perceived to extend through the right hemiſphere of the brain, beginning in the anterior, and terminating in the poſterior lobe. It penetrated through the cortical, and part of the medullary ſubſtance of the brain, and communicated with the right lateral ventricle.

A CASE of the HYDROCEPHALUS INTERNUS, where mercury was adminiſtered without ſucceſs.

CASE XI. Dec. 14, 1777. I WAS deſired to ſee Mary Sitherſtone, an active lively girl, four years of age.——I found her very ill, complaining of great pain of the head, toſſing it about from one ſide of the pillow to the other. Her cheeks were red, her pulſe quick, and ſhe had been four days coſtive. Her mother informed me, that eight days before I ſaw her daughter ſhe was drowſy, and had a great deſire to incline her head upon the table.——The ſecond day of her illneſs, ſhe complained of pain in the back part of her head, and deſired her mother to hold and preſs it.——On the fifth day ſhe was ſick, brought up her breakfaſt, and could not bear the light.——On the ſucceeding day ſhe was drowſy, vomited, and complained much of her head, but remained ſenſible.——The ſymptoms continued and increaſed until the eighth, when ſhe was in the ſtate above deſcribed.

DURING

During the whole progreſs of the diſeaſe, ſhe could never bear a candle to be in the room at night, but ſcreamed aloud to have it removed.

As ſhe had been coſtive four days, the firſt neceſſary buſineſs ſeemed to be to empty the inteſtinal canal. With this view two clyſters were injected, at proper intervals; but they both returned without producing the deſired effect. An opening medicine was ordered, and bliſters were applied betwixt the ſhoulders, and upon the arms.

The diſeaſe increaſed, but ſhe could ſpeak, and was ſenſible.——Six grains of calomel were divided into as many doſes, and they were all taken in the courſe of the day and the ſucceeding night; one drachm, likewiſe, of the ſtronger mercurial ointment was well rubbed into the legs. Dec. 15.

Before the next morning there had been a conſiderable diſcharge of lymph and ſaliva from the mouth and noſtrils, and her eyes watered much.

Dec. 16. She was much worſe: her hands were convulſed, and the muſcles moving the globe of the eye ſo affected with ſpaſms, that no part, except the white, could be ſeen for ſome hours.——Being out of town all this day, the mercurial courſe was intermitted.

— 17. The convulſions had ceaſed; ſhe was, however, worſe in all other reſpects: ſhe lay ſtill, was ſtupid, inſenſible, ſpeechleſs, and incapable of deglutition. Her pulſe was too quick to be counted with accuracy; the pupils of the eyes were widely dilated, and did not contract at the approach of the ſtrongeſt light: the diſcharge from her mouth and noſe had ceaſed.——As I could not, in the preſent ſituation, give her any more mercury by the mouth, I directed two drachms of mercurial ointment to be rubbed this day into the legs.

— 18. I was ſurpriſed to find her alive. The ſymptoms were, in every reſpect, much the ſame as they had been the preceding day.

day. There was no diſcharge from the mouth; and two drachms more of the ointment were, in the evening, rubbed into the legs and thighs.

SHE was rather better, could ſwallow, but there was no diſcharge from the ſalivary glands. She was at this time coſtive; and as the calomel had before opened her body, ſix grains of it were joined in a mixture *, and the whole quantity was taken in the courſe of the day and the night enſuing. Dec. 19.

SHE was no worſe in any reſpect; ſhe could ſwallow well, and diſcovered in her motions more ſigns of ſenſibility; but the eyes at this period were not affected by light, and the pupils remained widely dilated. In the afternoon her cheeks were very red, her pulſe remarkably quick, and a profuſe ſweat broke out from every part —— 20.

* ℞ Calomel, gr. vi.
Syr. ſambuci, ʒ vi.
Aq. puræ ʒ ii. M.
Capiat ſextam partem, horis ſingulis tertiis.

of the body. The mixture, containing ſix grains of calomel, was repeated.

Dec. 21. SHE was much worſe in every reſpect; ſhe had ſweated profuſely in the night, and her pulſe was uncommonly quick and weak; the eye-lids were wide open, and the ſurface of the tunica conjunctiva dry and glaſſy. She ſwallowed nothing in the courſe of the day, and died in the evening. Leave could not be obtained to examine the head.

I TRIED mercury in this caſe, from the ſucceſs which the ingenious Dr. Dobſon of Liverpool had by the exhibition of this remedy, in one inſtance of the hydrocephalus internus.——Diſagreeable as it muſt be to relate the inefficacy of a medicine that hath, even once only, ſucceeded in a diſeaſe before deemed incurable, and from which the medical world had conceived the higheſt expectations; yet having given it, in the above recited caſe, a fair trial, I thought it a duty incumbent on me to communicate to the public this inſtance of its want of ſucceſs.

An

An ACCOUNT of the good Effects ariſing from a Scarification of the TUNICA CONJUNCTIVA, in a violent CHEMOSIS.

THOMAS DAVIS, of Bedworth, applied to me with a diſeaſe of the left eye, which had been of ſix weeks continuance.——The tunica conjunctiva of the eye-lids, as well as of the globe of the eye, was much inflamed, and ſo exceſſively thickened, that it projected very conſiderably beyond the ſurface of the cornea, and gave it the appearance of being ſunk in the eye. In this ſtate the tunica conjunctiva reſembled a piece of raw liver.——The patient was almoſt deprived of ſight, partly occaſioned by a general cloudineſs of the cornea, and on account of an opake ſpot, which occupied that part of the ſurface of the eye oppoſite the pupil. CASE XII. Sep. 25, 1778.

HE complained of a very excruciating pain from the diſeaſed eye, ſhooting through

through the temple to the back part of the head. He informed me that he had been repeatedly bled, and adviſed to apply bliſters behind the neck and ears; from neither of which, nor indeed from any thing that had been attempted to relieve him, had he received the leaſt benefit: on the contrary, it was much to be apprehended, that a total loſs of the uſe of the organ of viſion muſt have been the inevitable conſequence.

I DIRECTED him to have ſix leeches applied in the circumference of the eye, as cloſe to it as poſſible; and, on account of the extreme pain and irritability which attended, I gave him a pill every night, compoſed of two grains of extractum thebaicum, and the ſame quantity of calomel. He was directed to uſe a pediluvium every night, and to take, every third morning, an ounce of Rochelle ſalt diſſolved in water. The diſeaſed eye was fomented ſeveral times a day, with the ſaturnine water of Goulard.

THE

Sept. 19. THE tunica conjunctiva not being in any degree unloaded, ſix leeches were again applied round the eye; and I intended to have opened the temporal artery, but its pulſation could not be diſcovered with ſufficient preciſion, to give that operation any chance of ſucceeding. The other directions were obſerved as before.

—— 21. THE acute pain in the head was diminiſhed, but the ſtate of the tunica conjunctiva was much the ſame as before.——Having fomented the eye and temples ſome time with warm milk and water, I inverted the lower lid, and with the point of a lancet made ſeven or eight ſcarifications into the tunica conjunctiva. I kept the cartilage ſome time inverted with my finger, to promote the evacuation; and by theſe means two or three tea-ſpoonfuls of blood were diſcharged: the warm fomentation was uſed again. The patient ſlept much better this night than uſual; in the ſucceeding morning he could ſee objects more clearly than before, and the pain of the head was inconſiderable.

THE

Sept. 28. The ſcarification was repeated with ſuch advantage, that on the 30th the tunica conjunctiva appeared only of a pale red colour, its veſſels having been emptied and contracted. The calomel pills were continued; in which the proportion of opium was reduced to half the uſual quantity. The application to the eye was then the aqua vitriolica camphorata, and it was ordered to be uſed cold.

On the 6th of October the patient could diſcern objects pretty diſtinctly; the ſpot upon the cornea was much reduced in dimenſions, and the inflammation of the tunica conjunctiva *entirely* removed.

In very bad inflammations of the eye, where that ſyſtem of veſſels which, in a ſtate of health, circulate only the pellucid parts of the blood, are ſo much dilated as to admit the red globules (errore loci) if the diſeaſe hath been of long continuance, the veſſels are ſo preternaturally diſtended, and their contractile power ſo much weakened, that it will be in vain to expect a cure

cure from any general evacuations.——In this ſtate of the caſe, I have often ſeen the moſt beneficial effects from a ſcarification of the tunica conjunctiva of the inferior eye-lids, with a bruſh made of the ears of bearded wheat; by which the veſſels of the part inflamed are divided, the ſtagnant blood is evacuated, and perhaps a ſalutary ſtimulus is communicated, by which the relaxed veſſels contract to their proper dimenſions. A very particular account of this operation, and a great number of caſes, demonſtrating its good effects in many diſeaſes of the eye and its coats, are given by Duddell *, in a treatiſe upon theſe ſubjects. The reaſon I uſed a lancet in the caſe I have juſt related was, becauſe I had no bruſhes at that time, nor any proper materials for making them.—— There is an objection to the uſe of the lancet: if the little wound of the divided veſſels does not exactly correſpond with that of the tunica conjunctiva, the blood may inſinuate itſelf into the reticular mem-

* Benedict Duddell, on the Diſeaſes of the horny Coat of the Eye, &c.

brane,

brane, and ſpreading abroad under the ſkin, give it the appearance of a black eye. This remark may, perhaps, appear of very little importance; nor ſhould I have mentioned it, if I had not experienced the inconvenience of ſuch a circumſtance.

A TUMOUR of the INFERIOR EYE-LID, cured by exciſion.

CASE XIII. Jan. 4, 1775.

I DISSECTED a tumour from the lower eye-lid, in a young man of this city: it was about the ſize of a pigeon's egg. A tranſverſe inciſion was made over the tumour, about an eighth of an inch below the edge of the eye-lid; and, in endeavouring to ſeparate the cyſt from the ſkin, I wounded it, and found it full of hydatids. I cut away all the anterior part of the cyſt, the reſt ſloughed off; and the wound ſoon healed, without leaving any deformity.

The

The HISTORY of an uncommon TUMOUR, which thruſt the Globe of the right Eye entirely out of the Socket.

CASE XIV. IN the year 1774, M. Watts, aged thirty, interfering between two men who were fighting, had a blow from one of them, by which ſhe was knocked down. About a week after this, ſhe perceived a ſmall ſwelling on the part where ſhe received the blow. It was not very troubleſome to her, and therefore ſhe neglected it. As I was paſſing her houſe one day, ſhe called me in to examine it.

I DISCOVERED a tumour, about the ſize of a hazel nut, upon the upper part of the noſe, rather inclining to the right ſide. Its baſis adhered to the os naſi, very near, and a little above that part, where the tendon of the orbicularis muſcle is inſerted, and it was ſo fixed, hard, and immoveable, that I imagined it to have been an exoſtoſis.

I ADVISED her to rub into the part, every night and morning, ſome mercurial ointment.——I believe it was three months after this time before I ſaw the poor woman again.——At this period, the tumour was much increaſed, extending its dimenſions on every ſide, particularly toward the eye; and part of it having approached near the orbit, in ſuch a degree as to preſs upon the ſaccus lachrymalis, occaſioned the tears to diſtil down the cheek. The moſt prominent part of the ſwelling was ſoft, but its circumference ſtill retained a boney hardneſs. The patient began to have a dull pain in the part, which extended to the temple and right ſide of the forehead.

As the caſe appeared then very ſingular, I took every opportunity of ſhewing it to ſurgeons of my acquaintance. Although none of them could define the exact nature of the diſeaſe, they all agreed, that, from the apparent fluctuation in the moſt prominent part, there muſt be a fluid within. In a conſultation, at which four ſurgeons were preſent, it was determined

that an inciſion ſhould be made into the body of the tumour, to evacuate the fluid, and that if any thing further was done, the future proceſſes of the operation ſhould be regulated by circumſtances as they aroſe. The neceſſity of ſome attempts to relieve the patient was urged, on account of the large ſize of the tumour, of the great diſpoſition which it diſcovered to increaſe every day, and the probability there was that the globe of the eye would be injured, or entirely deſtroyed, by the further progreſs of the diſeaſe.

In purſuance of this reſolution, and in preſence of the gentlemen who adviſed the meaſure, I made an inciſion through the integuments, the whole length of the tumour, and afterward divided a thick cartilaginous cyſt, but, to our great ſurpriſe, not one drop of any fluid was evacuated, except ſuch a quantity of blood as might be ſuppoſed to flow from the inciſions: the cavity of the tumour ſeemed to be filled up with a fungus.

THE queſtions now were, Whether we ſhould ſtop, or Whether we ſhould proceed, and attempt the extirpation of the whole?—The great extent of the baſis of the tumour, its firm adherence every where to the ſubjacent bones, and the incompreſſible hardneſs of its ſides, were arguments againſt the *prudence* of the enterprize; the ſituation of part of the tumour within the orbit, and the probability that the bones of the noſe, &c. partook of the miſchief, in a ſituation too deep to be reached by any efforts of art, furniſhed preſumptive proofs of the *impracticability* of the operation. The wound was therefore dreſſed up in the common manner, and it healed in a little time, without demonſtrating the leaſt appearance of any kind of malignity. The ſwelling kept on increaſing as uſual, extending lower down by the ſide of the noſe, and the eye began to be puſhed out of its ſocket.

IN this deplorable ſituation, I was very deſirous that the poor woman might have the beſt advice poſſible, and therefore ſent

her to London, recommended her to the care of Mr. William Sharp, and acquainted him by letter, that if he could give her the leaſt encouragement, ſhe would ſubmit to any thing he adviſed, and ſtay in London as long as he thought proper.

MR. SHARP was ſo obliging as to procure for her the joint opinion of the ſurgeons of St. Bartholomew's-hoſpital. Thoſe gentlemen, upon a conſideration of the caſe, agreed that the extirpation of the tumour could not be undertaken with any proſpect of ſucceſs; and therefore nothing could be done but to palliate the ſymptoms. After ſtaying ſome days in London, ſhe returned to Coventry.

HER complaints then became every day gradually worſe, and ſhe had frequent returns of hæmorrhage from the noſe, which reduced her ſtrength ſo much, that her life was not apprehended to be of long continuance. By means, however, of the bark, a nouriſhing diet, the uſe of opiates (when her pain made them neceſſary) and the

the ſaturnine water of Goulard, applied cold to the tumour, ſhe recovered her ſtrength wonderfully, and the returns of hæmorrhage were much leſs frequent. In proportion to the increaſe of the tumour, and conſequent diſtention of the parts, her pain augmented, and the uſe of opium in large doſes, became more than ever neceſſary.

THREE months before her death, which happened two years after the commencement of the diſeaſe, the noſtril of the affected ſide appeared to have been filled up with a hard ſubſtance, of the ſcirrhous polypous kind; and the other ſo compreſſed by its bulk, that the noſe appeared ſtrangely diſtorted, and there ſeemed to be no paſſage even for air, through the noſtrils into the lungs.

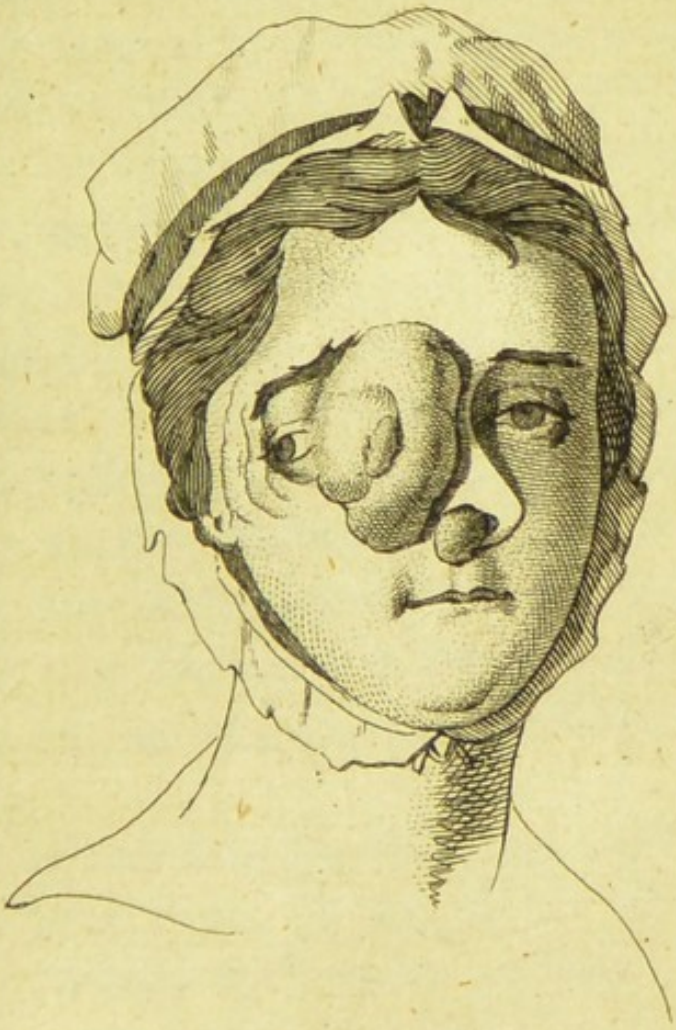
AT this period, the globe of the right eye was *entirely thruſt out of the ſocket*; and, notwithſtanding the great elongation which the optic nerve muſt neceſſarily have ſuſtained, before this wonderful change of

ſituation could have taken place, the poor woman could ſee to read a large print, when the other eye was covered. This can only be explained by the very gradual, and almoſt imperceptible manner, in which this event happened. The pupil was capable of free expanſion and contraction, but the circle at all times was rather larger than it ſhould have been in a natural ſtate of the eye.

ABOUT a fortnight before ſhe died, the polypous excreſcence appeared externally through the right noſtril, and from the ſeparation of a ſlough about the center of the tumour, the ſame fungous appearance preſented. No other circumſtances of this extraordinary caſe happened worth relating, except that a little time before her deceaſe, there was a conſiderable hæmorrhage from the noſtril.——At length, worn out with pain, weakneſs, and fatigue, death put a welcome period to her ſufferings. It is much to be lamented, that I could not procure permiſſion to examine the ſtate of the parts after her deceaſe.

A

PL.I



Roe Sc.

A CANCEROUS DISEASE of the MOUTH, ſucceſsfully treated.

Case XV.

MRS. E——n, of Warwick, at the latter end of the year 1769 perceived a ſmall ſwelling within her upper lip. Some little time after its firſt appearance it was attended with pains, ſhooting over the roof of the mouth toward the throat. The neighbouring parts became hard, her pains increaſed, the point firſt affected ulcerated, and the diſeaſe ſpread toward the throat. At the expiration of two years, when all her complaints, inſtead of giving way to the methods that had been tried for her relief, appeared to be exaſperated, ſhe was ſuppoſed to be incurable by the gentlemen who had attended her.

In this ſituation ſhe came to Coventry, in June 1772. I found her then much emaciated, with an hectic fever; the diſeaſe had ſpread into her throat; her upper lip and gums were almoſt deſtroyed; and the parts around the ſore were indu-

rated and tumefied. Her nights were paſſed without ſleep, on account of the continual lancinating pain under which ſhe laboured. Her appetite was gone, her pulſe was quick, and ſhe had for ſome time been weakened by exceſſive nocturnal ſweats.

SHE was deſired to confine herſelf as much as poſſible to a milk diet, joined with rice, and when thirſty, to drink the malt infuſion. Three times every day ſhe took an antiſeptic draught *. I deſired her to take into her mouth often, half a large ſpoonful of a mixture of the expreſſed juices of the leaves of hemlock and the roots of carrot, in equal quantities; and every night, at bed-time, an anodyne pill † was adminiſtered.

* ℞ Infuſ. cort. Per. frigid. ℥ i.
Tinct. cort. Hux. —— ʒ ii.
El. vit. acid. —— gutt. xx.
Syr. è cort. aur. ʒ i. M.
Fiat hauſtus.

† ℞ Extr. cicutæ, gr. v.
—— Thebaic. gr. i.
M. f. pilula.

AFTER

AFTER purſuing this plan a fortnight, her acute pains were leſſened, and the general aſpect of the ſore was clearly not worſe than when we began, which afforded ſome kind of encouragement to proceed.

THE draught was continued twice a day only, the elixir vitrioli omited, and half a grain of mercurius corroſivus ſublimatus, diſſolved in a ſmall quantity of proof ſpirit, added to each. The anodyne pill was taken as before, and a quarter of a pint of a decoction * ordered to be drank every night and morning.——Amendment was then viſible every day: in leſs than a month the indurated ſides of the ſore ſoftened; the cavity leſſened; the pains were almoſt gone; the night ſweats ceaſed; and her health in every reſpect was better. July 26.

HER mouth was at that time become ſore, from the effects of the ſublimate;

* ℞ Rad. ſarſæ inciſ. ℥ ii.
Cort. Peruv. contuſ. ℥ i. coque ſimul in aquæ fontanæ ℔ iii. ad ℔ ii. cola & adde aq. cin. fort. ℥ ii.

but

but ſuch evident advantages appeared to have ariſen from it, that I did not chuſe to incur any hazard of ſtopping the progreſs of a ſucceſsful treatment, to avoid a merely local inconvenience. When there ſeemed to be any danger of ſalivation, it was prevented, by waſhing the mouth with the ſaturnine water of Goulard, and keeping her bowels open. The corroſive ſublimate, therefore, and the other medicines were continued, until the cure was completed.

On the 18th of September 1772, Mrs. E—— returned to Warwick, perfectly well; and although it is now more than ſix years ſince ſhe was under my care, ſhe has not experienced the leaſt return of her complaint *.

* The late Mr. Gooch, in his laſt publication, hath given us an account of the good effects of ſublimate in a cancerous caſe, nearly ſimilar to the above. Med. and Chirurg. Obſerv. p. 145.

An

An ACCOUNT of the extirpation of a large TUMOUR of the Ranula kind.

CASE XVI. Sep. 16, 1772.

MRS. W——d, of Warwick, applied to me for the relief of a large ſwelling under her chin.——It occupied all the ſpace under the lower jaw, and its inferior point extended as low as the thyroid gland. It appeared very large likewiſe within the mouth, under the tongue, which was thruſt againſt the roof of the mouth, and, by its preſſure upon the epiglottis, made the action of breathing ſometimes difficult; during the time ſhe ſlept, ſhe was obliged to lie with her mouth quite open. ——She was thirty-ſix years of age; and the ſwelling had been gradually forming ever ſince her infancy. At the age of ſixteen it almoſt vaniſhed, then increaſed again; and from that period to the time I ſaw her, it became continually larger, although its increaſe was ſlow, and almoſt imperceptible.——She had taken a great variety

variety of medicines, but without any advantage.

I INFORMED her ſhe could have no chance of a cure without the aſſiſtance of the knife. She replied, that ſhe came to Coventry to ſubmit to any thing I ſhould propoſe for her advantage.

Sept. 18. HAVING her head well ſecured betwixt the knees of a perſon ſitting down, and, with the approbation of Mr. Harrold, I made two inciſions through the integuments, whoſe points meeting each other at the ſuperior and inferior parts of the tumour, deſcribed a figure nearly oval; and the ſkin was afterwards diſſected on each ſide toward the baſis. The cyſt not being yet expoſed, the inciſion was continued through the platyſma myoides, and the mylo-hyoidei muſcles. Upon dividing the cyſt, which was extremely thick, about twelve ounces of curdled matter were diſcharged. I cut away all the anterior part of the cyſt; and after taking up three arteries, which bled very freely, filled the cavity

cavity of the wound with dry lint.——After the operation, ſhe was ordered to drink plentifully of diluent liquors, to gargle her mouth often in the day with a repellent cooling application, and at night to take an opiate.

THE parts were in great pain, tenſe, and hot; the membrane of the mouth was thickened, and there had been a large diſcharge of ſaliva.——Some blood was taken from the arm, a clyſter ordered, the gargle was continued, and the opiate repeated at night. Sept. 19.

THE ſymptoms were much more favourable; ſhe reſted well, and the pain and heat of the parts were abated. —— 20.

UPON removing the dreſſings, I diſcovered the muſcles had contracted ſo much (the ſmall opening which communicated with the remaining part of the clyſt, being now contracted ſo much as ſcarcely to admit my finger through it) that I feared the aperture might be obli- —— 22.

terated,

terated, before we could procure a deſtruction of the cyſt. To prevent this effect, I introduced a bit of prepared ſpunge.

Sept. 23. THE ſpunge having ſufficiently dilated the aperture of the muſcles, ſome of the cauſticum commune fortius was ſpread upon lint, and introduced upon the point of my finger, into contact with the cyſt, where it was held for the ſpace of half an hour, when I thought it probable that a ſufficient ſlough might be produced.——In a few days the cyſt began to looſen, and ſoon after digeſted off; new granulations aroſe; in ſix weeks the wound healed; and the patient returned home in perfect health.

The CURE of a RANULA, by inciſion and cauſtic.

I WAS conſulted in the caſe of Miſs P——, of Wooton in the county of Warwick, who had a tumour of two year's continuance under the tongue. I hoped, after the containing fluid ſhould be evacuated, and the ſides of the cyſt made to adhere, that a cure might be obtained. CASE XVII. May 26, 1773.

FOR this purpoſe I paſſed a large crooked needle, armed with a ſtrong ligature, within the mouth, from one ſide of the baſis of the tumour to the other. About two large ſpoonfuls of a fluid, in conſiſtence like the white of an egg, were diſcharged; and the ends of the thread were left to hang out of the patient's mouth, that they might be drawn from ſide to ſide every day.

As ſoon as the diſcharge of the viſcid fluid ceaſed, the ſeton was withdrawn,

and in a little time ſhe appeared well.—In leſs than a month's time the ſwelling became as large as ever. I then cut away a circular portion of the membrane of the mouth, and on the ſucceeding day applied the cauſtic, in the ſame manner as hath been related in the preceding caſe. The cyſt was in this manner effectually deſtroyed; and the patient afterward continued free from any return of her complaint *.

To

* The cure of the ranula can never be obtained by ſimply opening the tumour.

Stalpart. Vander-Wiel relates a caſe, where a ranula had been opened three times without ſucceſs; and at laſt the cure was obtained by corroſive applications. Tom. I. Vide Schenkius, Obſ. 388. lib. 10.

Paré recommends the actual cautery. Lib. VII. Chap. V.

In a caſe of this kind, Tulpius obſerves that the cure was obtained by hot iron. Obſerv. Med. Lib. I. Cap. 52. p. 103.

Barbette, after inciſion, employed an eſcharotic powder. Anatom. pag. 115.

Roſius adviſes that, after having opened the tumour with a ſcalpel, it ſhould be dreſſed with lint, ſaturated with alum water. Obſerv. Chirurg. p. 143.

Van Swieten relates a caſe of a large ranula cured by inciſion, and the uſe of an aſtringent fomentation. Comment. in Aphor. Boerh. §. 796.

Marchetti

To Dr. ASH.

Sir,

"THE following caſe of the ſcarlet "fever * (the preſent epidemic of "this county) having been attended with "very ſingular circumſtances, I flatter "myſelf a ſhort hiſtory of it will not be "diſpleaſing to you. I am, &c."

Marchettis recommends the juice of the chelidonium majus vulgare, to deſtroy the cyſt. Velchius adviſes the ſame application. Obſerv. Medic. Epiſ. 26. p. 17.

M. de la Faye deſcribes the caſe of a ranula ſo large, that it prevented the patient from opening the mouth, or ſpeaking: it was cured by inciſion and cauſtic.

Dionis obſerves, that the ſimple opening of the tumour will not affect a cure: therefore he adviſes the part to be dreſſed, after inciſion, with the vitriolic acid and mel roſarum.

M. Louis declares that he hath opened many of theſe tumours by inciſion, and they have been reproduced in a ſhort ſpace of time. He contends that the ranula is occaſioned by a dilatation of the ſublingual ſalivary gland, in conſequence of a diſeaſe or obliteration of the excretory duct: and therefore the diſeaſe cannot properly be called an encyſted tumour. Vid. l'Encyclopédie, article Grenouillette.

* Febris anginoſa. Huxham. Scarlatina anginoſa. Sauvage. Scarlatina. Plenciz.

CASE XVIII. ON the 14th of October laſt Elizabeth Green, a healthy young woman, of Stoke in this neighbourhood, was ſeized with a ſhivering fit, which was ſoon ſucceeded by heat, thirſt, and other febrile ſymptoms. The next day her mouth and throat were ſo painful, that ſhe ſwallowed with the utmoſt difficulty. On the third day a ſcarlet raſh made its appearance on her arms, neck, and other parts. Theſe ſymptoms continued until the fifth day, when ſhe became delirious; and having been for ſome hours incapable of ſwallowing liquids, or of breathing without great difficulty, by a violent exertion of coughing and retching ſhe brought up ſome bloody matter, and a great quantity of membranous ſloughs. After this diſcharge ſhe could ſwallow much better, and with leſs pain; but the fever and its ſymptoms continued until the fourteenth day, when I was firſt deſired to viſit her.

I FOUND her extremely ill: her pulſe was quick and weak; her ſkin hot and dry; and the

the epidermis univerſally peeling off in ſcales. Her throat was, ſhe ſaid, better; but I had no opportunity of examining the ſtate of it, the muſcles of the lower jaw being ſo rigid, that ſhe could only open her mouth to admit the extremity of a tea-ſpoon. She complained of much pain on the left ſide of the neck, where, upon examination, was diſcovered a very perceptible induration. I thought there might be ſome chance of a ſuppuration taking place in this part, which might prove ſerviceable to the caſe, and therefore directed an emollient cataplaſm, to which was added a proportion of flour of muſtard, ſufficient to communicate a heat to the ſkin. Every fourth hour ſhe was ordered to take two ounces of decoction of bark, mixed with half a drachm of the cordial confection.

The next day (the fifteenth) I was haſtily ſent for, her friends ſuppoſing ſhe was dying. She had fainted; and, when I ſaw her, all the muſcles of the right arm and leg were violently convulſed. She continued in this ſtate two hours, and then

the ſpaſm ceaſed. I made no other alteration in the treatment, than adding five grains of camphor to each doſe of cordial mixture. In the night the convulſions returned, attended with a rattling in the throat. After the paroxyſm left her, ſhe lay ſome time in a ſtate, in which her friends again ſuppoſed ſhe had but a ſhort time to live: ſhe recovered, however, a little, and deſired to drink ſome cold water.

On the ſixteenth the convulſions returned three or four times, with equal violence; and in the intervals ſhe complained of great pains of the neck. Her cordial medicine with wine was perſiſted in, and the ſtimulating cataplaſm continued.

On the ſeventeenth day I perceived an obſcure fluctuation in the ſide of the neck; and apprehending that an external opening for the matter would afford the beſt chance of recovery, I made an inciſion, three parts of an inch in length, through the integuments, under the angle of the jaw, and near

ear the anterior edge of the ſterno-maſ-
oideus muſcle; then puſhing the knife
n, about two ounces of very offenſive
natter were diſcharged. The drain con-
nued large for ſeveral days; but, after
ae operation, ſhe never had the *leaſt re-*
urn of convulſions, the febrile ſymptoms
radually abated, and every appearance of
anger is now entirely gone; a great de-
ree of weakneſs only remaining, which
ill probably require a conſiderable length
time to remove.

Coventry,
ov. 16, 1778.

The HISTORY of a fatal DISEASE of the OESOPHAGUS, occaſioned by an accident.

CASE XIX. IN the month of January, 1776, one Thurſton, a barber, having a diſpute with a man, received an injury in his throat, by a rough ſtick being, with violence, puſhed down it. Some blood was diſcharged; and the next day, finding his throat ſore, he called upon me. I was not at home, and he neglected to procure any aſſiſtance until a month had paſſed, when I was deſired to viſit him.

HE complained then of a moſt violent pain in the ſide of the neck, could ſwallow nothing but fluids, and thoſe with the utmoſt difficulty.——I had not an opportunity of examining the throat, as the pain and rigidity of the muſcles prevented him from moving the lower jaw.

I TREATED the complaint at firſt as an inflammatory quinſey, by bleeding, clyſters,

ers, antiphlogiſtic gargles, and bliſters.—— On the fourth day from the time I firſt ſaw him, after a very reſtleſs night, he brought up ſuddenly a large quantity of purulent and very offenſive matter. The ſymptoms were, in conſequence of this, in ſome measure abated, and I had hopes that the ſuppuration would have proved the criſis of the diſeaſe; but in this expectation I was diſappointed: the quantity of matter, inſtead of leſſening, continually increaſed. On ſome days, indeed, it appeared very ſmall, then it uſed ſuddenly to increaſe; probably occaſioned by a lodgement in ſome part of the œſophagus, or from the matter finding its way into the ſtomach, from whence it was, every third or fourth day, diſcharged by vomiting.

As there was then much reaſon to fear the patient would ſink under ſuch a long continued diſcharge of matter, or ſuffer from its abſorption into the ſyſtem, every method was taken to prevent, as much as poſſible, theſe effects. The bark was very liberally adminiſtered; the parts

were conſtantly waſhed with an antiſeptic gargle; a milk and vegetable diet was enjoined; and a conſtant circulation of freſh air was procured through the chamber, but to no good purpoſe: the patient became weaker; the hectic ſymptoms advanced; and the diſcharge of matter was every day augmented.

In the beginning of March (three months from the time the injury was received) I obſerved a bluſh of inflammation on the ſide of the neck, againſt which the patient deſcribed the ſtick to have been puſhed; and hoping that we might prevent the matter from draining into the ſtomach by an external opening, I ordered an emollient poultice to the part, which was continued eight days. I then directed another cataplaſm, compoſed of the farina of linſeed and water, to which a ſmall quantity of the powder of muſtard was added. This application occaſioned pain; in a little time a tumour was formed, and, as ſoon as a fluctuation was evident, I opened it by cauſtic, and let out about

four

four ounces of matter, the moſt putrid I ever remember to have ſeen. When the eſchar ſeparated, the fat of the cellular membrane appeared to have been entirely melted away; the carotid artery was expoſed; and the muſcles were as clean as if they had been diſſected. The external opening appeared to communicate with the internal ulcer, as ſome parts of the food were now and then diſcharged through it.

THE patient was ordered to lie upon the ſide affected, that the matter might have a more depending drain; the antiſeptic plan was ſtrictly continued, and every precaution taken that might afford a chance of recovery. But the matter became more acrimonious, and increaſed in quantity; his ſtrength leſſened; a diarrhœa came on; and in June (ſix months from the date of his complaint) he died, emaciated to the greateſt degree.

An ACCOUNT of a wound of the TRACHEA, which proved mortal from an uncommon cauſe.

CASE XX. ON the 4th of March, 1774, a young woman of this city, in a fit of deſpondency, cut her throat. Soon after ſhe was diſcovered, I ſaw her.——She had divided, with a penknife, the whole annular ſubſtance of the trachea, juſt beneath the thyroid cartilage; had loſt a great quantity of blood, and was incapable of ſpeaking.——By two ſtitches of the interrupted ſuture, aſſiſted by ſlips of ſticking plaiſter, I brought the ſides of the wound of the *integuments* into contact.

THE next day the patient was in a promiſing way, and was capable of ſpeaking. ——On the third day ſhe had a violent cough; and, upon removing the dreſſings, the greateſt part of the air, in the act of expiration, ſeemed to eſcape through the wound, with an uncommon noiſe.——With a view to moderate the cough, ſhe was ordered

ordered an anodyne linctus, and a large blister was applied to the back. She was directed to abstain from every thing acrimonious or heating; nourishment was always given her in a liquid form; and, to promote a regular discharge from the intestinal canal, a clyster was administered every evening.

By degrees the cough abated, and every day there seemed to be more reason to entertain hopes of a favourable termination of the case. At the expiration of three weeks she was capable of sitting up; the wound was very much diminished in size, and the mucous discharge lessened at every dressing. In the fourth week the wound was nearly healed, when the patient was seized with a difficulty of breathing, accompanied with a sense of suffocation; and, after a continuance and increase of these symptoms during the space of twenty-four hours, she died.

I dissected the parts the day after her decease, assisted by Mr. Harrold.——The external

external wound had been contracted ſo much, that there was then only room to introduce a probe, which paſſed very freely into the trachea downward. The cicatrix adhered very firmly to the *inferior* part of the divided trachea, but the ſuperior portion had retracted half an inch, and its cavity was ſo much filled up by *granulations of fleſh*, that there did not appear room for a ſufficient quantity of air to paſs through it to dilate the lungs; and when the external wound became ſo ſmall that the lungs could not be ſupplied with air from that ſource, a difficulty of breathing commenced, and at length the patient was ſuffocated, by the very efforts which nature made to heal the divided parts.

SOME time before this caſe occurred, Mr. Harrold did me the favour to deſire I would ſee a patient of his, who had cut into the cavity of the trachea, betwixt the cricoid and thyroid cartilages.——In this caſe the *integuments only* had been united by ligature, and the patient, in every reſpect, ſeemed to be in a ſituation as remote

mote from danger as could be imagined: nevertheleſs, in the fifth night he ſuddenly died.

I ATTENDED the examination of the body; and the immediate cauſe of death, in this inſtance, appeared to us to have been occaſioned by the rupture of a ſmall artery, the blood from which not having a ready external paſſage, had found its way into the trachea, and there formed a coagulum, which plugged up the cavity of the windpipe, and ſuffocated the patient, by preventing the acceſs of air to the lungs. When we took out the coagulated blood, it appeared to have branched out into the ramifications of the aſperia arteria.

QUERY. Would the ſewing up the windpipe, and leaving the external wound open, in *both* or *either* of theſe caſes, have afforded a better chance of recovery?

A very ſingular affection of the OESOPHAGUS, which occaſioned the death of the patient.

THE œſophagus (whoſe ſound ſtate is of the utmoſt conſequence to the animal machine) is ſubject to many and very dangerous diſeaſes. Amongſt the cauſes that have occaſioned a difficult deglutition, have been mentioned ſpaſms *; ulcers; a ſcirrhous induration of the coats of the œſophagus †, or of the numerous lymphatic glands ‖ nearly in contact with it; and ſacculi, or preternatural pouches §.

* An account of a caſe of this kind, cured by antiſpaſmodics, is related by Dr. Percival. Med. Tranſact. Vol. II. p. 90.

† The œſophagus in a perſon was found cartilaginous throughout its whole extent, and ſo much contracted, that a hog's briſtle could ſcarcely be tranſmitted. Mem. de l'Acad. Royal. de Chirurg. Tom. I. p. 489.

‖ Tulpius has related a caſe where the œſophagus was rendered impervious, by a ſcirrhous tumour ſituated betwixt the trachea and œſophagus, which proved fatal. Obſerv. Medic. Lib. I. Cap. XLIV. p. 83.

§ A remarkable inſtance of this kind is recorded by Mr. Ludlow of Briſtol. Medical Obſervations and Enquiries, Vol. III. p. 85.

EVERY

EVERY degree of difficulty of ſwallowing may be ſuppoſed, likewiſe, to ariſe from a paralytic ſtate of the œſophagus *, conſidered as a muſcle; and the daily and conſtant action it muſt neceſſarily undergo

* Tulpius deſcribes a caſe, where, from a paralytic ſtate of the muſcles ſubſervient to deglutition, the patient died on the ſeventh day. Obſerv. Medic. Lib. I. Cap. 12. p. 79.

Jacotius obſerves that he hath ſeen this diſeaſe, and that the patient generally dies: but Stalpart. Vander-Wiel hath given the hiſtory of a caſe, where a young woman was reduced almoſt to a ſkeleton, from a difficulty of ſwallowing.—A whale-bone was introduced, and no ſtricture found: whence the phyſician concluded the caſe was paralytic. During the ſpace of a whole year the food, after being maſticated, was puſhed into the ſtomach by a probang, with a ſpunge fixed to its extremity. At length the patient wonderfully recovered. Obſervat. Tom. II. Obſ. 27. p. 287.

Willis likewiſe deſcribes a paralytic caſe, almoſt ſimilar to the laſt; wherein the muſcular fibres of the œſophagus having loſt their tonic power, the food was daily forced into the ſtomach, during the ſpace of ſixteen years, by the whalebone. Pharmaceut. Ration. Sect. II. Cap. 7. p. 45.

Galen probably alludes to this diſeaſe of the œſophagus, when he ſays, "Si ingeſtorum in tranſitu tarditas æqualis & ſine dolore accidere conſuevit, & in ſupino decubitu augetur, erecta vero cervice mitigatur, circa ullum anguſtiæ ſenſum." De locis affectis, Lib. V. Cap. 5. Chart. Tom. VII. p. 491.

for

for the purpoſes of life, muſt neceſſarily expoſe it to an infinity of miſchief, reſulting from the retention of extraneous and adventitious ſubſtances. The moſt dangerous, and perhaps not the moſt infrequent cauſe of a chronic difficulty of ſwallowing, originates from a thickening and gradual contraction of the coats of the gullet; and which regularly, and by ſlow degrees, increaſes, until the canal is rendered totally impervious, and the miſerable patient is literally ſtarved to death.

WHETHER this particular diſeaſe of the œſophagus is truly ſcirrhous, is of a ſcrophulous nature, or whether it is independent of both, hath not yet been ſufficiently aſcertained. Certain it is, that this complaint is ſometimes complicated with ſwollen lymphatic glands; and mercury, which from all experience hath been found to exaſperate a true ſcirrhous, is the only remedy which, in the caſe before us, hath hitherto been known to have produced a cure.

VAN

VAN SWIETEN *, who has deſcribed this diſeaſe with his uſual accuracy, is inclined to think, that the pernicious cuſtom of drinking tea or coffee almoſt ſcalding hot, may be the cauſe of it, by coagulating the fluids, and ſhrinking up the ſolids. This opinion is probably true, becauſe women are almoſt the only ſubjects of the diſeaſe. Indeed, in all the caſes of the kind that I have ſeen or heard of, the patients were of that ſex.

DR. MUNCKLEY † has given a hiſtory of the cure of this diſeaſe by mercury ‖: in a very candid manner he informs us, that ſucceſs can only be expected to attend its adminiſtration under certain circumſtances and periods of the diſeaſe; and that, when no nutriment can be conveyed into the ſtomach, and the conſtitution is much impaired from the want of ſuſtenance, &c. the patient is equally unable to bear either the remedy or the diſeaſe.

* Comment. in Aphor. Boerh. § 797.

† Med. Tranſact. Vol. I. p. 165.

‖ Ruyſch firſt gave an account of the utility of mercury in theſe kinds of difficult deglutition. Adverſ. Anat. Med. Chirurg. Dec. 1. Obſ. 10.

This obſervation of Dr. Munckley is moſt certainly true.

CASE XXI. A LADY in the neighbourhood of this city had a difficulty of ſwallowing, gradually increaſing during four years; and, when I was conſulted in her caſe, it was with the utmoſt difficulty, and with great pain, that ſhe could get into her ſtomach a tea-ſpoonful of water.

Two drachms of the ſtrong mercurial ointment were in this caſe rubbed into the patient's legs, every night, until a moderate ſpitting was occaſioned. At proper intervals the proceſs was repeated, until eight ounces of the ointment had been applied. No kind of benefit, however, aroſe from its uſe: but, on the contrary, the difficulty of deglutition increaſed every day until her death, which happened three months after ſhe began the mercurial courſe *. From a miſtaken delicacy of her friends, I was prevented from examining the ſtate of the œſophagus after her deceaſe.

* Van Swieten obſerves that, among other things, he has tried the effects of mercury in this diſeaſe, and has ſeen a ſalivation brought on without any kind of benefit. Comment. in Aphor. Boerh. § 797.

AMONGST

AMONGST the various diſeaſes to which the œſophagus is ſubject, the following is ſo extremely ſingular, that the communication of it muſt be pleaſing to the medical reader, although it may, perhaps, afford him no material practical information.

CASE XXII.

MRS. W——, of this place, of a thin and relaxed habit of body, during the laſt ten years of her life experienced great difficulty in ſwallowing ſolid food; and very frequently the ſmalleſt portion of any thing, ſhe was eating, would ſtick in the paſſage, until it was diſlodged by puking, and by violent exertions of the diaphragm and abdominal muſcles.

ABOUT two years after ſhe was affected with this diſorder, finding that her complaints became very troubleſome, ſhe conſulted a phyſician, who preſcribed an internal medicine, which was a preparation of mercury. She had no relief from it; and perhaps the reaſon might have been, that ſhe had not reſolution ſufficient to

perſiſt in its uſe, until it was probable that any material benefit could have ariſen from it.

In the month of September 1774, ſhe was unable to ſwallow the leaſt portion of any ſolid ſubſtance whatever; and ſome time afterward ſhe was incapable of getting into her ſtomach any kind of fluids. During the whole continuance of her illneſs, ſhe had no fixed pain in her throat, and, although the pharynx was frequently inſpected, it exhibited no other marks of particular diſeaſe, but that it appeared more pale than uſual.

She complained of a troubleſome and very diſagreeable dryneſs of her throat; to relieve which, an emollient gargle was ſent her: but, upon making the experiment, ſhe diſcovered ſhe had not the leaſt power to uſe it. She had very frequent and troubleſome retchings, which appeared to have been occaſioned by wind; and although no fluids could at this period find their way from the mouth, through the

œſophagus,

œſophagus, into the ſtomach, yet the contents of the ſtomach were diſcharged by vomiting, with apparent eaſe.

FROM the time ſhe was incapable of ſwallowing liquids until a week before her death (an interval of ſix weeks) the vis vitæ was ſo well ſupported by mutton broth, frequently injected into the inteſtines, that ſhe could walk about her apartment, and had regular ſtools of a ſolid conſiſtence. Nothing like matter was, during the progreſs of the diſeaſe, diſcharged from her mouth; nor was there ever obſerved the leaſt offenſive ſmell in her breath. About the time ſhe was incapable of ſwallowing ſolids, the caſe appeared ſo much to reſemble thoſe deſcribed by Dr. Munckley, that it was determined to give the remedy he recommends a fair trial.

WITH this view, a proper quantity of mercurial ointment was rubbed upon the legs ſeveral weeks, without the leaſt advantage. No method which could be

thought of, appeared in the leaſt to retard the progreſs of this extraordinary diſeaſe: on the 20th of March, 1775, ſhe died.

AFTER her deceaſe, I examined the parts with a very eminent ſurgeon.——The thyroid gland was enlarged, but it did not appear to have made any preſſure upon the œſophagus. We diſcovered that the whole annular ſubſtance of the ſuperior part of the œſophagus was converted into a tough viſcid maſs, of a dark brown colour. The length of that part of the tube thus diſeaſed, was at leaſt three inches. The ſtructure of the coats of this part of the œſophagus, as well as of the correſponding portion of the longi colli muſcles, was ſo entirely deſtroyed, that nothing appeared to be betwixt the bodies of the vertebræ cervicis and the trachea, but the rotten ſubſtance juſt deſcribed. That part of the œſophagus below the ſeat of the diſeaſe was perfectly ſound, nor was there any particular ſtricture at the inferior point, where the miſchief ſeemed to terminate. The ſuperior line near the pharynx, had much

much the appearance of the edge of a malignant ulcer, except that it appeared to have been corroded only, without any induration of the parts.

THE circumſtance of the patient being unable to ſwallow liquids, at the time the contents of the ſtomach were freely diſcharged through the œſophagus, will not appear ſurpriſing, when we conſider, that a very eſſential part of the office of deglutition, is carried on by the ſucceſſive contractions of the orbicular fibres of the muſcular coat of the œſophagus, which were totally deſtroyed in this caſe *.

IN the action of vomiting, the contents of the ſtomach are forcibly expelled through the mouth, by the violent ſpaſmodic contractions of the diaphragm and abdominal muſcles; and in this operation the œſophagus ſeems to be *paſſive* only.

* Aliæ vero interiores, circulares, etiam valentes fibræ, ſimiliter à cricoide principio ſumto, ſucceſſivo motu contractæ cibum depellunt, &c. Alb. Haller. Primæ Lineæ Phyſiol. Cap. 23. p. 399.

An ACCOUNT of a LOCKED JAW and OPISTHOTONOS, cured by opiate clyſters.

CASE XXIII. Oct. 10, 1773. A Poor woman in the workhouſe in this city, who ſome time before had been ſubject to paralytic complaints, ſuddenly fell down in a kind of convulſive fit, and when ſhe was taken up, could neither ſpeak nor ſwallow.

—— 11. WHEN I ſaw her, the lower jaw was quite locked; the muſcles which move it upward were rigid; the temporal and maſſeters were as hard as a board; the head was drawn backward, and the muſcles of the ſpine were in ſo contracted a ſtate, that it was impoſſible to bend the back in the leaſt degree forward.

SHE had loſt two teeth from the upper jaw; and through this aperture I poured into her mouth a ſpoonful of water; but when it came into her throat ſhe ſeemed in danger of ſuffocation, until a ſtrong convulſive

ulſive motion of the thorax had forced it ack again. The poor woman was all the me ſenſible, without the power of ſpeak- ng, and made ſigns, in a very miſerable ay, for every thing ſhe wanted.

As it did not appear to me, that ſhe ould ſwallow one drop of any kind of uids, I thought the beſt, indeed the only ay of relieving her, muſt be by giving edicines as well as nutriment in clyſters. accordingly ordered eight ounces of mut- on broth to be injected three times a day, nd every eight hours a clyſter, conſiſting f ſix ounces of water, and two drachms f tinct. thebaic. She remained four days the ſame ſtate, in which time ſhe did ot ſwallow any thing. The quantity of nct. thebaic. was increaſed in the clyſters, nd the rigid muſcles of the face were ell rubbed with camphorated oil.

On the fifth day ſhe could ſpeak, and pen her mouth a little. On the ſeventh e could ſwallow liquids. She was then irected to take two drachms of laudanum

three

three times a day, by the mouth. She every day became better, and in a ſhort time was almoſt as well as uſual; but it was ſix weeks before the muſcles of the neck and back had recovered their proper flexibility.

A PORONYCHIA, attended with uncommon ſymptoms.

JOHN PEG, of this place, in the middle of June 1775, very ſlightly ſcratched the inſide of his right thumb. Previous to this accident, he was healthy in every reſpect. Finding the next day that his thumb was ſwollen, he applied to a ſurgeon for relief. His caſe became every day worſe; and on June 26, ten days from the commencement of the complaint, I was deſired to ſee him. CASE XXIV.

THE thumb was then exceſſively enlarged, and the fore-arm ſwollen to the elbow joint, from whence a red ſtreak extended along the courſe of the lymphatics, into the axilla. On account of the extreme pain of the parts, he had ſlept little for ſeveral nights; he was hot, and his pulſe beat 110 ſtrokes in a minute. I made an inciſion in the middle of the inſide of the thumb, extending the whole length of it. The flexor tendons were very ſloughy, and

and matter was confined all round the bones. I dreſſed the wound with the ceratum ſaturni, and covered the whole arm with linen rags, moiſtened with oleum and acet. litharg. āā. p. e. and ordered him to take an ounce of ſal Glauberi diſſolved in water.

June 27. He paſſed a good night, had been refreſhed with ſleep, and was much eaſier. All the circumſtances of the caſe were promiſing; there was then a free diſcharge of matter; the tendon appeared more ſloughy; the ſwelling was reduced; and the red ſtreak entirely gone. He was dreſſed exactly as before. About half an hour after this, he cried out with the violent pain of his thumb, which gradually extended up the inſide of the arm in the courſe of the veſſels, and crept into the axilla. Soon after he complained of his heart, and was ſeized with ſuch an oppreſſive difficulty of breathing, that the people about him thought he was dying.

At

AT this time I was in the country, and ›uld not ſee him till three o'clock in the ternoon. In the ſpace of five hours, in hich I was abſent, he had eight convul-ve fits, and the ſpaſms of the muſcles ere ſo violent, that ſeveral men could ›t, without difficulty, confine him in :d. His pulſe was very low, his coun-nance pale; the fore-arm was again ›ollen, and hot; and, upon the whole, was evident that an uncommon irrita-›n of the thumb was the cauſe of theſe ngerous ſymptoms.

I REMOVED the dreſſings from the ›und, and applied to it a pledget of lint, ıbued with the balſamum Peruvianum, d gave him internally thirty drops of the me balſam upon a lump of ſugar, which as likewiſe ordered to be repeated every ›ur. Six leeches were directed to be ap-ed to the inſide of the arm, near the riſt. In the evening he was rather bet-; had but one violent paroxyſm ſince aw him laſt; but, as he was then hot, ook from the other arm twelve ounces

of

of blood. The uſe of the balſam was continued through the night.

June 28. He had a bad night, the convulſive paroxyſms continuing, although not ſo violent as before. He had a diſmal countenance, the muſcles of the lips and cheeks being often diſtorted. The diſcharge from the thumb was large. It was dreſſed as before with the balſam, and the internal uſe of it continued through the day. His pulſe was very low, and he had frequent returns of the difficult reſpiration; in the evening an intenſe pain of the thumb extended up his arm. Cloths wet with the ſaturnine water of Goulard, were applied *cold* to the wriſt and fore-arm, and ſixty drops of thebaic tincture were given in wine and water, and repeated every third hour of the night. He doſed much; and when he awaked had returns of the ſpaſms, but they were leſs violent.

— 29. He was remarkably low this morning; his pulſe had ninety ſtrokes in a minute; the convulſions had ceaſed ſome hours; and

ıd the fore-arm was neither ſwollen nor ıinful; he bore it to be preſſed hard with- ıt complaining; but his head ached, hich was attributed to the large quan- ty of laudanum (ʒ ß) which he had ken ſince the laſt evening. The ſore as uncommonly irritable, the leaſt touch ith ſoft lint communicated, he ſaid, a ing to his heart. The ſame dreſſings ere continued, and ſixty drops of the- ıic tincture, with the ſame quantity of eruvian balſam, were ordered to be taken ery ſix hours, alternately, through the ay.

WITHIN the ſpace of half an hour after s thumb was dreſſed laſt, he had three olent convulſive paroxyſms, which left m very weak. Before the acceſſion of ıe fits, his thumb was always particularly ıinful. Being at this period coſtive, a yſter was ordered. The balſ. Peruv. ıving heated and diſagreed with his ſto- ıach, was then diſcontinued, and eighty ops of thebaic tincture were adminiſtered ery four hours. June 30.

HE

July 1. He was conſiderably better, and paſſed the night without any return of convulſion. The ſwelling of the hand was entirely removed, nor had he the leaſt pain there. The ſore digeſted well, but was ſtill remarkably irritable: the matter, therefore, was not wiped off, but the balſam applied as before. As he continued ſtill coſtive, he was ordered to drink a draught of a ſolution of ſal Glauberi every four hours. After ſtools were procured, the laudanum was repeated as before.

— 2. He began to recover his natural complexion; the anxiety about his heart, he ſaid, was entirely gone; his pulſe beat a hundred ſtrokes in a minute; he had no convulſions, except ſome very ſlight and frequent twitchings of the muſcles. In the courſe of dreſſing this morning, having accidentally touched his thumb too hard, he fainted from the violence of the pain. He was directed to take eighty drops of laudanum, as before, every ſix hours.

AFTER the laſt dreſſing he had ſeveral convulſions, but continued free from them all the night, and ſlept well; his pulſe was at eighty; he had two ſtools; and, upon the whole, was much better. The ſore diſcharged largely, yet ſtill remained very painful: the tinct. theb. was continued as before. July 3.

THE convulſions returned twice: the thebaic tincture was ordered to be taken in the uſual doſe. From this time he was free from all ſpaſmodic ſymptoms, and the wound became leſs painful every day, until it was healed. The uſe of the laudanum was left off by degrees. —— 4.

A DISEASE of the STOMACH, which occaſioned death, by a ſcirrhous induration near the pyloris.

CASE XXV. IN June 1774, I was conſulted in the caſe of J. Phillips, of this city, aged thirty-five. During the ſpace of a year before he applied to me, he experienced many complaints, the ſeat of all which, he ſaid, was in his ſtomach. He had ſuffered a great degree of pain, which was always aggravated by eating, and it generally continued until, by vomiting, the ſtomach had diſcharged the load. His appetite was as good as uſual; but, for the laſt month before I ſaw him, he could never keep any thing upon his ſtomach longer than half an hour. He was extremely reduced and emaciated; had taken repeated vomits, rhubarb, and other medicines, without any good effect.

I ORDERED a ſaline medicine to be taken in the act of effervеſcence, joined with a few drops of laudanum, and directed him

to eat frequently the moſt nutritious food in very ſmall quantities. After this plan had been purſued ſome time without any advantage, I gave him columbo root, with no better ſucceſs; and deſpairing at length of doing any good in the caſe, I adviſed him to leave off all medicine, and to take, three or four times a day, clyſters of mutton broth. This reſource probably lengthened out his miſerable life ſome time; and at laſt he died of a maraſmus, worn out with pain, fatigue, and want of proper nutriment.

On the day after his death I examined his body, with Dr. Simſon.——The ſeat of the diſeaſe was near the pyloris: the coats of the ſtomach at that part were indurated, thickened, and compreſſed the paſſage ſo much, as almoſt to obliterate its orifice. The villous coat of the diſeaſed part of the ſtomach was a little ulcerated, but it appeared to have been the effect of a very recent change that had taken place in the part. The other viſcera were in a ſound ſtate.

An AMPUTATION of a CANCEROUS BREAST.

CASE XXVI. July 6, 1774. I WAS ſent for to Mrs. W——, of Prime-Thorpe, Leiceſterſhire. Two years before I ſaw her, ſhe perceived a lump in her left breaſt. In the courſe of a few weeks the diſeaſe increaſed, and ſhe then applied to a ſurgeon in her neighbourhood, who adviſed her to leave it to nature. In the ſpace of a year from the firſt appearance of the tumour, it ſeems that it made very little progreſs; but afterward it increaſed rapidly, and alarmed the patient and her friends.

MR. SMITH, an eminent ſurgeon of Leiceſter, was then called in, who adviſed the extirpation of the tumour; but the patient not conſenting to the operation, he was obliged to be content with endeavouring to palliate the ſymptoms. He very prudently adviſed her to avoid every thing which either by ſtimulus or acrimony might irritate the ſcirrhus, and convert it into

into a cancer. He adminiſtered the cicuta both internally and externally, and joined opium with the external application, whenever pain, or other circumſtances, made it neceſſary. Notwithſtanding theſe precautions, the diſeaſe every day gained ground.

WHEN I ſaw her, the whole breaſt was in a cancerous ſtate, amazingly enlarged, ulcerated, and diſcharged a large quantity of corroſive ſanies. The continual draining of this poiſonous fluid, had inflamed and excoriated all the neighbouring parts with which it came in contact.

SUCH were the circumſtances of a caſe in a patient of ſeventy-four years of age; under which, in conſultation with her ſurgeon, I propoſed the extirpation of the breaſt. The arguments in favour of this practice were:

FIRST, The breaſt, though ſo much enarged, did not *apparently* adhere to the ectoral muſcle.

SECONDLY, Notwithſtanding the cancer was ulcerated, and had affected, by the acrimony of the diſcharge, the circumjacent parts, yet there were no certain proofs that the habit was diſeaſed, or that the virus had been abſorbed, the lymphatics and glands of the axilla being at this time perfectly free, and in a natural ſtate.

THIRDLY, The patient ſuſtaining ſo well an immenſe daily diſcharge from the diſeaſed breaſt, might be admitted as a preſumptive proof that ſhe would as well bear the loſs of fluids, which muſt neceſſarily be the reſult of the operation. And,

LASTLY, The certain proſpect of a miſerable death, if ſhe did not avail herſelf of the only chance remaining of eſcaping from ſo terrible a calamity.

THESE reaſons were ſubmitted to the conſideration of the patient and her friends, who agreed upon the operation; and on the 13th of July ſhe came to Coventry.

As ſoon as ſhe had recovered the fatigue of her journey, I amputated the breaſt, with the aſſiſtance of Meſſieurs Harrold and Yardley.——The baſis of the tumour adhered to the pectoral muſcle, part of which was cut off, to prevent any part of the cancer remaining. I likewiſe diſſected as much of the adipoſe membrane ſurrounding the breaſt, as I could with convenience. From the day of the operation to the time the dreſſings were removed, no particular circumſtance occurred: ſhe was treated in the common manner.

She reſted ſo well the firſt night, that an anodyne, which was directed to be taken in the beginning of the night, was omited. The ſaturnine water of Goulard was applied cold, over the dreſſings, and to the inflamed parts, with ſuch ſucceſs, that the patient experienced very little pain; and in the courſe of a week the ſkin had almoſt reſumed its natural colour and ſoftneſs. On the fourth day after the operation, ſhe had ſome degree of that fever, which generally precedes ſuppuration; the

ſymptoms, however, were moderated by neutral ſalts, and an anodyne at night.

July 21. THE dreſſings were firſt removed, except ſome of the lint, which firmly adhered to the pectoral muſcle. By the uſe of mild digeſtives the wound was ſoon clean, but the diſcharge was putrid, and of a bad colour. The patient became very weak, and the heat of the atmoſphere was at that time exceſſive.

A STREAM of freſh air was procured through the room, by opening all the windows; ſhe eat all kinds of fruit that were in ſeaſon; ſhe took an antiſeptic draught * every four hours, and the ſore was dreſſed with a lotion of the ſame kind †. After this plan had been purſued two or three

* ℞ Extr. cor. Per. ℈ i.
Tinct. cort. Hux. ʒ i.
Elix. vit. acid. ʒ ſs.
Syr. cort. aur. ℥ i.
Inf. cham. ℥ i. M. f. hauſtus.

† ℞ Aq. font. ℔ i.
Tinct. myrrh. ſimp. ℥ i.
Merc. corroſ. ſub. gr. iv.
M. f. lotio.

days,

days, the diſcharge was altered for the better, both in colour and conſiſtence, and the wound contracted ſo faſt, that in ſix weeks it was reduced to the ſize of a crown-piece. At that time there aroſe from a part of the ſore a fungus, of a dark colour, which became painful, and gleeted, notwithſtanding all the reſt of the ſurface produced laudable pus. Fearing, therefore, this might have been ſome remains of the original diſeaſe, I determined to involve it in a ſlough; and, to do this effectually, I puſhed into the fungus a bit of corroſive ſublimate, the ſize and figure of a barley-corn.

THIS application gave very little pain, and ſoon anſwered the intended purpoſe. In a few days a deep eſchar ſeparated, leaving under it healthy granulations. From this time every circumſtance appeared favourable; and on the 20th of Auguſt Mrs. W—— left Coventry, with the reaſonable expectation that the ſore would be completely healed in a ſhort time.

THIS

THIS much wiſhed for event did not, however, take place: the glands of the axilla, and the lymphatics betwixt them and the edge of the ſore, indurated. After ſhe had been at home a few weeks another tumour aroſe, became painful, and ulcerated; the advance of the ſymptoms was rapid, and occaſioned the death of the patient.

An ACCOUNT of a CANCER of the BREAST, where the tumour was twice extirpated, without ſucceſs.

CASE XXVII. March 12, 1772.

I WAS deſired to viſit Mrs. S——, of this city. She had a ſcirrhous tumour, which in the courſe of ten months occupied nearly half the right breaſt, above the nipple. It was perfectly free from any attachment to the ſubjacent parts, and the glands of the axilla were not in the leaſt indurated. I informed her, that the effects of medicine in ſuch caſes were extremely uncertain; and adviſed her, without farther delay, to have the tumour removed by the knife. Two days afterward, in the preſence of Dr. Simſon and Mr. Harrold, I performed the operation.

THE ſides of the wound were brought as cloſe together as could be, with ſlips of ſticking plaiſter; the patient took an opiate three nights ſucceeding the operation; and in leſs than four weeks the wound was well cicatrized.

AT

At the expiration of four months ſhe perceived another tumour, near the axilla, which became painful and enlarged every day. She was then directed to take the extract of cicuta, in as large doſes as the ſtomach would bear; and to this medicine was joined a decoction of bark. The leaves and juice of cicuta, in the form of a cataplaſm, were applied to the tumour.

In a few weeks the diſeaſe made a quick progreſs; and, after conſulting Mr. Sharp of London, and Mr. Harrold, it was again recommended to take that chance of recovery which the knife only, promiſed to afford. This was urged to her the more, as the diſeaſe was then advancing ſo faſt, that it was to be feared, in a ſhort time the tumour might be ſo much attached to the ſubjacent parts, as to render the extirpation of it difficult, if not impoſſible.

On the 2d of November I performed the ſecond operation; removed a part of the inferior edge of the pectoral muſcle, to which the tumour adhered, and likewiſe

wiſe cut away a conſiderable quantity of the ſurrounding adipoſe membrane.

INSTEAD of treating the wound as before, that it might heal by the firſt intention, I filled the cavity with lint, to promote as large a ſuppuration as might be. The ſore had for ſome time a very good appearance, and every day diminiſhed in ſize; but after the fourth week it became again painful, the diſcharge was acrimonious, the ſuperior edge was hard, and the parts betwixt it and the axilla became diſeaſed; the ſubaxillary glands indurated; and, notwithſtanding a plentiful uſe of the cicuta and bark, the ulcer ſpread into the axilla, and corroded ſome large branches of the artery, from whence death enſued.

THE two preceding caſes are not related with a deſign to deter the young practitioner from extirpating cancerous tumours, but to afford a caution, that, previous to the operation, his promiſes of a cure ought to be guarded and reſerved. In this view, therefore, I thought their communication might

might be more uſeful to the profeſſion than the relation of many other cancerous caſes, in which I have employed the knife with ſucceſs.

THE ſecond caſe here deſcribed, was one of the moſt promiſing I ever ſaw; but when the diſeaſe is not merely local (and of which we can have no ſort of evidence) however favourable appearances may ſeem at firſt to the ſurgeon, the event of the operation will ever be extremely uncertain. I remember to have ſeen a ſcirrhous tumour extirpated from the inſide of the knee, by an eminent ſurgeon, and the wound produced by the operation completely healed. Some months afterward another ſwelling aroſe under the cicatrix, which ſpread into the ham, and ſeemed to adhere to the femur. In conſultation amputation was adviſed, and performed. When the wound was thought to be in a favourable ſtate for healing, a cancerous fungus ſprouted from the extremity of the bone, and, before the patient died, a diſeaſe of the ſame kind made its appearance in his mouth.

OBSER-

OBSERVATIONS on the utility of BLISTERS, applied to the UMBILICAL REGION in the ILEUS, and INVERSION of the PERISTALTIC MOTION of the INTESTINES from other cauſes.

SIR John Pringle * recommends the application of bliſters to the painful part of the abdomen, in the ileus; and obſerves, that "he has more than once "known the patient relieved, as ſoon as "he has felt the burning of the ſkin, and "at the ſame time have ſtools by a purge "or clyſter, which had been given before "without effect."

IN the three following caſes a bliſter applied *round the navel* ſucceeded, when the means uſually employed in ſuch circumſtances had been previouſly tried without ſucceſs. The firſt was a true ileus; in the ſecond the inteſtines appeared to have been inflamed, in conſequence of external

* Diſeaſes of the Army, p. 150.

injury;

injury; and in the third, there was a complete inverſion of the periſtaltic motion, clearly ſymptomatic; and which ſeems to afford a ſtrong preſumptive proof, that the operation of cantharides, ſo applied, is merely antiſpaſmodic.

CASE I. ON the 3d of February, 1774, I was deſired to viſit a young man in this city, who had been attended two days by an apothecary. He had repeatedly bled him, ordered clyſters, fomentations, opiates, and a variety of ſolutive medicines in a fluid ſtate, and in the form of pills, without the leaſt advantage.——The ſymptoms were, a conſtant and acute pain below the navel, continual vomiting, hiccough, languid pulſe, coſtiveneſs, and a cadaverous countenance.

I DIRECTED a large bliſtering plaiſter, with a perforation in its center, to be applied *round the navel*; and, being determined to wait the effects, I ordered no medicine. Soon after he experienced the pain of the bliſter he enquired for the cloſe-

ſtool,

ſtool, had an evacuation, by which he was much relieved, the pain of the abdomen gradually abated, and in a few days he was reſtored to health. A proper attention to diet was obſerved; but the patient took no medicine after the application of the bliſter.

CASE XXIX.

IN the beginning of the year 1777, a boy, fifteen years of age, accidentally fell from the wall of a gentleman's garden, upon ſome iron palliſadoes, the ſpikes of which projected ſeven inches beyond the horizontal rail. He was ſuſpended ſome time; and, when he was taken off, it was diſcovered that he had ſeveral wounds in his belly, through one of which a part of the inteſtines protruded.

I WAS engaged, when this accident happened, in other buſineſs; and therefore ſent a gentleman (at that time a pupil of mine) to the aſſiſtance of the patient, with inſtructions, if he found any difficulty in returning the prolapſed inteſtine, to make a dilatation of the wound

with a biſtoury, ſufficient for that purpoſe*. He purſued my directions in every reſpect, but could not ſucceed.

I SAW the boy in the evening. There were two perforations into the cavity of the abdomen, at ſome little diſtance from the navel, and a third in the right flank, near the flexure of the thigh, through which a ſmall portion of inteſtine was ſtill *ſtrangulated*, although the wound of the integuments was very properly dilated. I diſcovered, upon a more minute examination, that the inteſtine was forced under *Poupart's ligament*, from whence the impediment to reduction aroſe. With a probe-pointed curved biſtoury, guarded by the fore-finger of my left-hand, I divided the ligament, in ſuch a degree as was neceſſary for the re-admiſſion of the inteſtine. The wound was united by the interrupted ſuture. Great attention was paid to every circumſtance which might be ſup-

* "Si anguſtius vulnus eſt, quam ut inteſtina commode refundantur, incidendum eſt, donec ſatis pateat." Corn. Celſ. Medic. Lib. VII. Cap. 16.

poſed

poſed to regard either the preſent welfare, or future recovery of the patient. The inteſtinal canal was kept open by clyſters; pain was relieved by anodynes; ſaline medicines and neutral ſalts were given, to abate the febrile heat, which ſupervened the day after the accident; fomentations were applied to the abdomen; and blood was freely taken from the arm. Notwithſtanding theſe precautions, which (there was reaſon to hope) might have afforded better ſucceſs, ſymptoms of the moſt alarming nature very ſoon made their appearance.

On the fourth day the pulſe was quick, the ſkin hot and dry; he was extremely reſtleſs, and there was a general tenſion, accompanied with pain, throughout the whole abdomen. The wound of the groin was particularly painful; its edges indurated, and, upon preſſure, ſome very offenſive matter was forced out. To give as free a diſcharge to it as poſſible, the threads of the ligature were cut through, and the patient was ordered to lie frequently upon

the affected ſide. Before the next day the diſcharge of matter was plenteous, and the relief obtained conſiderable. All the bad ſymptoms by degrees abated; and when the inflammatory diatheſis was removed, I ordered him the bark.

In twenty days after the accident, the two ſuperior wounds were entirely healed, and that of the groin in a good ſtate, affording a proper quantity of thick pus, which leſſened every day; ſo that no doubt ſeemed then to remain, but in a little time the cure muſt have been completed. But before this event happened, and near a month from the time of the accident, without any certain apparent cauſe, all the ſymptoms of the ileus came on. He was coſtive, vomited, and had a conſtant and moſt violent pain in the inferior part of the abdomen.

He was then ordered ſome pills of calomel, opium, and extractum catharticum, and in the intervals of the hours when he took them, he drank a ſmall quantity of a ſolution of the ſal cathart. amar. Clyſters were

were alſo directed, and a fomentation was applied to the abdomen.

On the enſuing day he was worſe in every reſpect; a hiccough attended, and the clyſters produced no ſtool. The calomel pills were repeated, and in the intermediate hours he took a draught, compoſed of a ſolution of caſtor oil in peppermint water, with a few drops of laudanum. In the evening he was exactly in the ſame ſtate, when a large bliſter was applied to the umbilical region. Before the next morning his vomiting ceaſed, he had ſeveral ſtools, and the pain was in a great degree abated. From this time he gradually recovered, and continues as well as he ever was before. When he firſt went abroad a crural hernia happened, from Poupart's ligament having been divided; but this was remedied, by the application of a proper elaſtic bandage *.

* Tulpius relates a caſe, where a hernia ſucceeded a wound of the abdomen, which being neglected, produced a mortification and death, ſeveral years after the accident happened. Obſerv. Medic. Lib. III. Cap. 20. p. 211.

CASE XXX.

ON the 5th of November, 1778, John Sneith, a boy fifteen years of age, received a violent blow upon the head, from the edge of an iron-hooped pail, which fractured the ſcull. Although a conſiderable portion of the os frontis was depreſſed, the boy was exempt from moſt of thoſe ſymptoms, which uſually attend ſuch accidents; and the day after he received the blow, he was very ſenſible, and could walk about.

AT this time, in conſultation with Mr. Harrold, it was agreed, by repeated application of the trephine, to remove all the fractured portion of the bone. After the operation (which was performed *without cutting off any part of the ſcalp*) he was kept quiet, and a clyſter was directed.

THE next day he was feveriſh, complained much of his head, and vomited *.

* From the wonderful ſympathy which prevails betwixt the head and the precordia, Sculletus obſerves, that almoſt all thoſe who receive wounds of the head, complain of a bitter taſte in the mouth. Scultet. Armament. Chirurg. p. 198.

As the clyſter given the day of the operation had not procured any evacuation, he was ordered another, in which an ounce of Epſom ſalt was diſſolved. This had no better ſucceſs; and in the courſe of the day he had two more clyſters, neither of which anſwered the intended purpoſe; and his nurſe ſuppoſed they came up by the mouth, as the ſickneſs and vomiting were always occaſioned as much after them, as when he took any thing into the ſtomach.

SOME blood was taken from the arm, and a ſmall pill was adminiſtered, containing one grain of opium, and three of calomel. On the third day from the operation, the hopes of his recovery were ſmall; the fever increaſed, attended with continual vomiting, by which the contents of the inteſtines were diſcharged upward. Clyſters were repeated, but no ſtools were procured; and it appeared evident, that the periſtaltic motion of the inteſtinal canal was *totally inverted*. In the evening he became delirious, and it required conſtant

attention to keep him in bed. He had taken, during the day, ſaline draughts, in a ſtate of efferveſcence, with a few drops of laudanum; but neither theſe, nor any thing we could contrive, ſtaid upon his ſtomach longer than a few minutes.

In this deplorable ſtate of the caſe, when every effort of art proved ſo abſolutely inefficacious, a large bliſter was applied *round the navel*, and its ſucceſs much exceeded our expectations. After the bliſter had been upon the abdomen four hours, the vomiting ceaſed, and *never returned* afterward. Before the next morning he had two ſtools, and was in many reſpects better, although he ſtill continued very ill. The delirium was gone, but he had great pain in his head; his pulſe was quick, and in the evening of the fourth day he was ſo reſtleſs, that we thought it neceſſary to give him an opiate.

On the 5th he was much in the ſame ſtate, and this night he had ſeveral ſtools, which were ſucceeded by a ſtrangury, and

and ſuch a violent irritation of the rectum, as to occaſion a conſtant teneſmus. An eryſepelatoſe eruption alſo covered the whole ſurface of the body. The ſtrangury and teneſmus were attributed to the action of the cantharides, and they were, after ſome time, relieved by drinking a decoction of marſh-mallow roots, and a ſolution of ſpermaceti, with a proper quantity of thebaic tincture.

On the ſeventh he was much reduced in ſtrength, but continued ſenſible; his face was pale, his pulſe languid, the wound dry, and ſhewed not the leaſt diſpoſition to digeſt; and the circumjacent parts were flabby and œdematous. The bark was then given, and repeated until the eleventh day, when he was much better; his ſtrength increaſed, and the edges of the ſore wore a more favourable aſpect; but the ſurface of the dura mater was ſtill black and putrid. The parts were dreſſed with an antiſeptic balſam, compoſed of mel roſar. & balſ. traumat. āā. p. e.

THE dura mater ſoon afterward ſloughed off, and a fungus aroſe from the brain; but this appeared to have been reſtrained by dry lint, aſſiſted with moderate preſſure. The patient continued to mend every day, and on the 12th of January the wound was completely cicatrized.

QUERY, Did the bliſter in this caſe remove the ſpaſm of the inteſtinal canal, by exciting pain on the ſkin of the abdomen? Or was the periſtaltic motion *re-inverted* by the action of cantharides, abſorbed into the ſyſtem, and thence irritating the neck of the bladder and rectum?

The

The DISSECTION of a WOMAN in the laſt month of PREGNANCY.

CASE XXXI.

IN the year 1772 a poor woman of this city, in lifting a weight too great for her ſtrength, was ſeized with a flooding. Being very near the expiration of her reckoning, ſhe ſent for a midwife, who tried every method ſhe could think of, for ſome days, to ſtop the diſcharge, but in vain. Within a few minutes after the poor woman died, I was haſtily ſent for, by thoſe about her, to extract the child, which they affirmed to be alive.

I WAS very glad to embrace this opportunity of ſeeing the gravid uterus, and therefore immediately laid open the cavity of the abdomen, by a crucial inciſion.—— The body of the uterus was rather to the left ſide; the ſmall inteſtines were puſhed to the right, and againſt the liver. I opened the uterus longitudinally, and found the child ſurrounded by the water, the membranes not having been broken.

The

The fœtus was dead; the head reſted upon the brim of the pelvis, the occiput correſponding with the center of the opening. The os uteri was not much dilated; the placenta adhered to the cervix, excepting a ſmall portion, which had probably been ſeparated by the ſtrain, and which had been the cauſe of the flooding, and death of the woman.

An

An UNIVERSAL EMPHYSEMA, occaſioned by the abſorption of putrid fluids from the uterus.

CASE XXXII. July 24, 1774.

I WAS called to Mary Winny, in this city, who had been a week in labour. The midwife attending informed me that the child preſented right; that the labour had from the beginning proceeded in a very ſlow manner, but that of late her pains had left her, and on the day before, her body had began to ſwell; whence ſuppoſing her in great danger, ſhe had deſired that I might be ſent for.

UPON entering the room, the air was ſo putrid and offenſive that I could ſcarce bear it. The patient's ſkin was hot, and communicated a painful ſenſation to the touch; her whole body, particularly the face, was much inflated. The reticular membrane of the eye-lids was ſo much diſtended, that ſhe had no power of opening them, and ſhe complained much of thirſt and internal heat. When the ſwelling

ing was examined more particularly, it was diſcovered to be emphyſematous, and that the cellular membrane was univerally blown up by air. The head of the child was at that time engaged in the center of the pelvis; the ſcalp peeled off, which, together with the cadaverous ſmell, proved that it had been dead ſome time.

I OPENED the head, and with a crotchet extracted the child, in a very putrid ſtate. The patient was ordered into another room, the windows and doors of which were kept conſtantly open. She was directed to eat currants, gooſeberries, and cherries; her common drink was Port wine and water, with orange and lemon juice; and every two hours ſhe took two ounces of the tincture of roſes.

SHE had a better night after her delivery than could have been expected; the next day ſhe was cooler, and not ſo much ſwollen; on the third day ſhe could open her eye-lids. The antiſeptic plan was purſued: ſhe took the bark; by degrees the general

general tumefaction ſubſided; the patient (contrary to my expectation) recovered; and, at the expiration of five weeks, was as well as women uſually are after lying-in.

THIS uncommon caſe clearly proves, that, in conſequence of putrefaction, air may eſcape from the fluids into the cellular membrane, or that part of it where there is the leaſt reſiſtance; that, being rarefied by febrile heat, it may diſtend the body in a wonderful manner, and produce a general emphyſema. Huxham has given an account of two caſes of emphyſema, which aroſe from a putrid cauſe. The inſtance here related, ſeems likewiſe to demonſtrate that putrid fluids may be abſorbed into the ſyſtem from the uterus, and be a cauſe of very dangerous puerperal fevers.

An

An ACCOUNT of a fatal RETROVERSIO UTERI.

CASE XXXIII. July 7, 1777.

I WAS desired, by the parish-officers of Allesley, to visit Elizabeth Arnold, a poor woman belonging to that place. I found her in a very weak state, and complaining of violent pain in the back and abdomen. Her pulse was very quick and tremulous; her tongue dry, and of a dark colour; she vomited frequently, and was much fatigued with a troublesome hiccough; she had been costive ten days, and I was informed her urine distilled from her involuntarily. Her complaints in general seemed to me so much to resemble those attending an intestinal hernia under strangulation, that I enquired whether she had any particular swelling in her groins or belly, and was informed she had a great swelling at her navel. Upon examination, I discovered a general tension of the abdomen, and a large elevated tumour at the navel, which protruded so much, as to resemble the half of a melon. The skin upon the

the apex of the tumour was inflamed, and ſo irritable, that the leaſt touch or preſſure upon it gave her much uneaſineſs. A ſurgeon and apothecary in the neighbourhood had ordered various medicines for her relief, none of which were retained in her ſtomach; and a bliſtering plaiſter had been applied upon the tumour.

FROM her deſcription of the ſymptoms, at my firſt viſit, I muſt confeſs I apprehended that a large quantity of the inteſtinal canal was protruded at the navel; therefore ordered a ſtimulating clyſter to be injected into the rectum as ſoon as poſſible, and gave her internally a ſolution of the oleum Ricini, in mint-water; a compreſs ſaturated with cold vinegar was directed to be applied to the tumour.

THE next day, July the 8th, I ſaw her again. Her attendants had not been able to adminiſter the clyſter, the pipe could not be introduced. She had four thin ſtools after ſhe began with the mixture, and her vomiting had been much leſs fre-

quent than on the preceding day. Notwithſtanding the relief that might have been expected from an open ſtate of the belly, the ſwelling at the navel was increaſed, and was become more painful than before. The caſe appearing now more myſterious than ever, I again deſired to hear the hiſtory of her complaints; and was told, that, three weeks before I ſaw her, ſhe imagined herſelf to be more than twelve weeks gone with child; that one day ſhe had been much tired in weeding corn, had ſat three hours upon the cool graſs to reſt; that ſhe was taken ill in the evening, and, from the pains ſhe experienced, believing ſhe was going to miſcarry, ſhe ſent for her midwife, who informed her ſhe was not pregnant. She was ſeven and forty years of age, had had ſeveral children, the laſt of which was born when ſhe was five and forty.

I EXAMINED the vagina, and the caſe then appeared very plain. A large, hard, circumſcribed tumour was ſituated betwixt my finger in the vagina, and another introduced

duced into the rectum. I could neither diſcover the os uteri, nor with eaſe paſs my finger betwixt the tumour and the ſymphyſis of the oſſa pubis. Having attempted, ſeveral times, to introduce a catheter into the bladder without ſucceſs, I made a very conſiderable preſſure upon the tumour in the vagina, which receding a little, a ſmall ſtream of urine ruſhed out. The catheter was then eaſily introduced, and ſix pints were drawn off: the tumour at the navel immediately ſubſided. The preſſure upon the rectum was ſo great, as not to allow of a clyſter paſſing; as ſoon, therefore, as the bladder was emptied, I placed the patient upon her elbows and knees, in the manner recommended in the Medical Obſervations and Enquiries, and having introduced two fingers of the left-hand into the rectum, and as many of the right as I could paſs into the vagina, I endeavoured to replace the retroverted uterus; but it was ſo locked up in the pelvis, that I could not ſucceed.

July 9. She was much worſe and weaker in every reſpect. I drew off by the catheter on this day, about four pints of urine, and again tried various methods to reinſtate the uterus, but all my endeavours were ineffectual. She now ſunk very faſt, and every ſymptom became worſe; in the evening there was an appearance of blood upon the linen and bed-cloaths, and on the next day ſhe died.

The day ſucceeding her death I examined the body, aſſiſted by Mr. Harrold. —The bladder was very much diſtended, and its fundus extended higher than the navel. The inteſtinal canal, in general, was filled with air, and in many parts diſcovered marks of inflammation. The inferior part of the tube was more particularly diſeaſed. The colon was amazingly enlarged, inflamed, and the meſocolon interſperſed with gangrenous ſpots. The bladder contained a large quantity of bloody, coffee-coloured urine; and more than half a pound of coagulated blood was in its cavity. I made a tranſverſe inciſion through the inferior

inferior and poſterior part of the bladder, into the upper part of the vagina, and diſcovered the *os tincæ preſenting* to the *ſuperior* part of the ſymphyſis of the oſſa pubis. I paſſed a catheter into it, the inſtrument took a direction downward, and with my finger in the vagina, felt its point in the *fundus* of the uterus, now reſting upon the os coccygis. By preſſing alternately on the upper and lower parts of the uterus, I could very diſtinctly feel, at the inferior part of the vagina, the head of the fœtus fluctuate and ſtrike againſt the point of my finger, which was then oppoſite the fundus of the uterus.

THE pelvis was ſo filled up that, notwithſtanding all reſiſtance from the integuments and abdominal muſcles was removed, and the weight of the inteſtines and bladder taken off, we could not reduce the uterus, until we had divided the ſymphyſis of the pubes. Then introducing my hand into the vagina, I returned the gravid uterus, and we were ſurpriſed at the ſize of it. It contained a male fœtus, com-

pletely formed; the membranes were unbroken, nor were any of the contents in any reſpect diſeaſed; there was a conſiderable quantity of the liquor amnii.

Dr. De la Cour of Bath, and Dr. Simſon of this place, ſaw the uterus, &c. at my houſe, the day after the diſſection, and were of opinion that the fœtus muſt have been at leaſt four months old at the time the woman died. If a ſimilar caſe was to occur in my practice again, I ſhould be inclined to try the method recommended by Dr. Hunter; by a ſmall trochar to perforate the uterus through the vagina: from this operation the liquor amnii would be diſcharged, and an opportunity given of reducing the uterus; or if reduction could not be immediately accompliſhed, abortion might take place, which would probably anſwer the ſame beneficial purpoſes.

An UNCOMMON CASE in LITHOTOMY.

CASE XXXIV. Oct. 13, 1775.

T. OLDHAM, of Griff, in the county of Warwick, came to Coventry, to be cut for the ſtone. In the preſence of ſeveral gentlemen of the faculty, I performed the operation. When the forceps was introduced into the bladder I could very diſtinctly feel the ſtone, and obtained a firm hold of it between the blades of the inſtrument. In attempting to extract it, I met with ſo much reſiſtance, that it unfortunately ſlipt out of the forceps, into ſuch a ſituation of the bladder, that it could not afterward be touched, although ſeveral endeavours were made for that purpoſe, by myſelf and the other gentlemen, with various kinds of forceps, both ſtraight and curved. After fatiguing the patient to no good purpoſe for a conſiderable time, it was judged expedient to order him to bed, and to defer any other attempts to extract the ſtone, until thoſe ſymptoms which we expected would be

the reſult of the injury the parts had already ſuffered, ſhould have ſubſided.

THE ſymptomatic fever was as favourable as it uſually is after any of the great operations of ſurgery; and, with the aſſiſtance of an opiate, the patient ſlept ſeveral hours the firſt night. His bowels were kept open by clyſters, and ſuch other directions given as the nature of the caſe ſeemed to require. On the fifth day he was ſo well, that we determined to make another attempt to extract the ſtone.

ACCORDINGLY, the patient being placed upon a table, in the ſame ſituation, and ſecured in the ſame manner as when he was cut, by means of a common director a gorget was introduced into the bladder, to ſerve as a conductor for the forceps. The ſtone was again, with ſome little difficulty, engaged in the forceps; but, probably from the ſame cauſe as before, it could not be extracted, notwithſtanding all the precautions we uſed on this occaſion. When it ſlipped out of the forceps,

forceps, the patient ſaid that he found it was drawn up high in his body, as if it had been acted upon by a ſucker. After this happened, we were never able to touch the ſtone again by the inſtrument. It probably got into a pouch of the bladder, near the fundus, becauſe, after its retraction from the forceps, we could feel it by preſſing, over the oſſa pubis; but neither this preſſure, nor any change in the poſition of the body, made any alteration in the ſituation of the ſtone. In the ſpace of thirteen days he was placed five different times upon the table, and every effort we could deviſe to extract the ſtone was practiſed without ſucceſs.

By ſo much reiterated pain and fatigue, the life of the patient was reduced to great hazard. He was kept, however, as eaſy as ſuch circumſtances would admit, by a very free uſe of opium. On the fourteenth day, after a very reſtleſs night, there happened a large diſcharge of purulent and offenſive matter from the bladder. The next day I ſecured the ſtone within the

blades

blades of the forceps, and extracted it with very little difficulty.

The various attempts to extract the ſtone, accompanied with ſo much pain and irritation, brought on ſuch ſymptoms, that we could not flatter ourſelves (although the ſtone was now removed) that the man could live many days. His voice was ſo low and hoarſe that it could ſcarce be heard; his tongue was dry and brown; the whole internal ſurface of the mouth was covered with apthous incruſtations; his pulſe was weak and intermitting; he hiccoughed often; and a very extenſive mortification occupied the region of the os ſacrum.

Notwithstanding theſe very dangerous circumſtances, the patient gradually recovered a perfect ſtate of health; the urine, after ſome time, flowed through its proper channel, and the wound was completely cicatrized. The apthæ were ſoon cured by the expreſſed juice of turnips, given internally, as recommended by Katelaer,

telaer *, and a plentiful uſe of the bark appeared to be ſerviceable: but the patient probably owes his life to the great abilities and attention of Mr. Harrold, who ſuperintended the whole treatment.

I REMEMBER to have ſeen in London a man, who had been cut for the ſtone at Montpelier: he had with him a certificate, ſigned by four ſurgeons, deſcribing the particulars of the operation, and ſetting forth, that the extraction of the ſtone could not be accompliſhed until the third week after, although many attempts had been made for that purpoſe. At length they ſucceeded, after a ſuppuration of the internal coat of the bladder had looſened an adheſion, which, in *their opinion*, had taken place between the ſtone and the bladder.

* Katelaer de Apthis, p. 50.

A DESCRIPTION of the PRESENT METHOD of OPERATING for the STONE.

TWO days before the operation, if the patient is plethoric, ſome blood ſhould be taken from the arm, and he may uſe a warm bath in the evening. The next day after bleeding, a proper doſe of manna and Rochelle ſalt ſhould be given in the morning, and at bed-time an anodyne draught is to be adminiſtered. A common clyſter muſt be injected into the rectum, two hours before the operation; and after its diſcharge the patient ſhould be inſtructed to retain his urine, that the poſterior part of the bladder may be ſecured from injury when the cutting gorget is introduced.

THE perinæum having been ſhaved, and the patient properly ſecured upon a table of convenient ſtructure, the ſurgeon muſt paſs the groove-ſtaff into the bladder; by inclining its handle obliquely toward the right

right groin, the groove will preſent to the left ſide of the perinæum. The ſtaff is then to be delivered to the aſſiſtant ſurgeon, who is not only to hold it firm, but to give it ſome degree of preſſure forward, and in the direction he received it; another perſon is to ſupport the ſcrotum. The operator is to fix himſelf in a chair of convenient height, with his right foot upon a ſtool, that by reſting his elbow on his knee, his hand may be ſupported with more ſteadineſs during the operation. The knife is then to be introduced at a point a little on the left ſide the raphe of the perinæum, and about half an inch below the ſymphyſis of the oſſa pubis. The inciſion is to be carried on obliquely downward and outward, and to terminate rather below the obtuſe proceſs of the left iſchium. If this is properly done, the length of the inciſion in adults will be about three inches and a half. Another inciſion muſt then be made nearer the middle line of the pelvis, and of leſs extent than the former, by which the tranſverſalis perinæi, and part of the fibres

fibres of the levator ani muſcles, ſhould be divided. The line of this inciſion will be cloſe to the left ſide of the muſculus accelerator urinæ, which will, in ſome degree, be removed from its natural ſituation, by the oblique direction of the ſtaff. The deſign of this proceſs is to expoſe the *membranous* part of the urethra, through which the groove of the ſtaff ought to be diſtinctly felt. If this cannot be done to the ſatisfaction of the ſurgeon, he muſt diſſect a little deeper through the cellular membrane, and divide any bridles or fibres that may happen to be in his way. When the groove of the ſtaff can be accurately diſtinguiſhed, the operator is to preſs the end of the nail of his left thumb upon the right edge of the groove, by which he may with facility conduct the point of the knife into the ſulcus. When he is certain the knife and groove of the ſtaff are in *naked contact*, he is to divide the membranous part of the urethra to the anterior ſurface of the proſtate gland *.

* The term *anterior* is here uſed in relation to the *ſupine* poſition of the patient.

THE

THE wound of the urethra having been thus properly made, the ſurgeon is to introduce the beak of the common *cutting* gorget into the groove of the ſtaff, where he muſt ſuſtain its ſituation with firmneſs, and riſing from his chair, he is to take the ſtaff in his left-hand, from the aſſiſtant. The direction of the ſtaff is then to be changed. Hitherto it had been preſſed downward, and obliquely forward, to facilitate the intention of cutting into the groove; the handle is now to be brought forward, by which the point in the bladder will be raiſed, and the curvature removed nearer the arch of the pubes *. The handle of the gorget is to be preſſed as low down by the ſide of the anus as the wound will admit, and its beak is to be puſhed upward and along the groove of the ſtaff, until it enters the bladder; by which manœuvre the proſtate gland will be divided laterally, and the danger

* If this circumſtance is not attended to, the gorget may be puſhed into the cellular ſubſtance betwixt the rectum and bladder, or even into the cavity of the former; an accident I once ſaw happen to an operator in London.

avoided

avoided of wounding the left ſeminal duct, which opens cloſe to the caput Gallinaginis, now ſuppoſed to be in the ſulcus of the ſtaff.

The ſurgeon will know when the gorget is in the bladder, by the efflux of urine. The ſtaff is then to be withdrawn, and the forceps, conducted by the gorget, introduced into the bladder. The gorget muſt be removed, and, before the blades of the forceps are opened, every endeavour ſhould be made to aſcertain, with all poſſible preciſion, the ſituation of the ſtone. It frequently is the caſe that it lies in a kind of bed, formed by its weight and preſſure, below the proſtate gland, and the moment the forceps is opened, it gets beyond and over the ſtone. When this happens, it will be adviſeable to employ a pair of forceps whoſe blades are curved, or form an angle with the handles of the inſtrument. If the ſtone is ſituated higher in the bladder, and there touched by the points of the ſtraight forceps, the operator, at the ſame time that he opens the inſtrument,

ment, ſhould advance it, otherwiſe, when he cloſes the forceps to embrace the ſtone, it will only rub againſt its anterior ſurface; becauſe as the blades divaricate, they deſcribe a ſegment of a circle, and are every moment receding from the ſtone, if the caution here given is not obſerved.

In the extraction of the ſtone, the ſurgeon muſt avail himſelf of his anatomical knowledge of the bones and ligaments of the pelvis. He will reflect, that if he gives the forceps a direction upward, he will be reſiſted and counteracted in his deſigns by the branches of the oſſa pubis, which are not capable of giving way; whereas if he acts directly downward, or obliquely to the left ſide, the os coccygis and ſacro-ſciatic ligament will admit of conſiderable dilatation.

For more minute directions relative to the engaging the ſtone in the forceps, or its conſequent extraction, I muſt beg leave to refer the reader to Monſ. le Dran * and

* Le Dran's Operations, tranſlated by Mr. Gataker, p. 239, &c.

Mr. Bromfield *, who have treated theſe ſubjects very copiouſly.

A FISTULA in ANO, from which a ſtone was extracted.

CASE XXXV. IN the month of November, 1774, Mr. A——, of Warwick, applied to me on account of a fiſtula in ano, which he had been afflicted with more than twelve months. Upon examination, an aperture was diſcovered about half an inch from the verge of the anus, on the left ſide.

THROUGH this opening I introduced a probe into the ſinus, more than two inches deep, in a direction parallel with the rectum, and felt at the bottom a ſtone. From the nature of the diſcharge through the fiſtulous opening, I ſuſpected likewiſe there was a communication with the rectum. I paſſed a probe-pointed curved biſtoury to the bottom of the ſinus, and receiving its point upon my finger, within the rectum,

* Chirurgical Obſervations and Caſes, Vol. II. p. 233.

with-

withdrew them together, by which means the cavities of the fiſtula and rectum were laid into one, and, by the ſame ſtroke of the knife, the ſphincter muſcle was divided. A pair of common forceps being conveyed into the wound, I extracted a ſtone, which appeared to have belonged to a plumb or apricot.

No other particular circumſtance occurred worth relating in this caſe. In the ſpace of two months the wound healed; but the patient (from his age, and the ſphincter muſcle having been much weakened by diſeaſe) experienced ſome inconvenience from not being able, at all times, to retain his excrement.

An ACCOUNT of the good effects of DIVIDING the APONEUROSIS of the BICEPS MUSCLE, in a painful lacerated wound *.

CASE XXXVI.

A Plethoric young woman, ſervant to the Rev. Mr. Goodwin, at Loughton in Buckinghamſhire, on the 11th of June, 1769, was thrown from a cart, and in the fall received a wound by a flint, in the flexure of the arm. I ſaw her ſoon after the accident: ſhe was then in great pain; there had been a conſiderable hæmorrhage, and her arm was much ſwollen. The wound was tranſverſe, near an inch in length, its lower extremity terminating at a little diſtance from the inner condyle of the os humeri. The *faſcia* of the biceps muſcle was torn, and part of it appeared ragged between the lips of the wound.

* This caſe was publiſhed in the fourth volume of the Medical Obſervations and Enquiries.

AN

An emollient cataplaſm * was applied to her arm; ſixteen ounces of blood were taken away; the fore-arm was kept in a bent poſition, to relax the biceps; and the patient was directed to bed: a laxative medicine was alſo ordered to keep the body open. She paſſed the night very ill, and was feveriſh; her arm was exceſſively painful; ſhe could neither move it herſelf, nor would ſhe ſuffer it to be moved by any one elſe.

A fortnight elapſed, during which time the bad ſymptoms I have deſcribed continued, notwithſtanding a ſtrict antiphlogiſtic plan was purſued. The pain was ſo acute, that even opium produced neither eaſe nor ſleep, and the great irritation kept up a conſtant fever, accompanied alternately with ſhiverings and weakening ſweats. The wound diſcharged a

* From the experience I have ſince had, in ſome caſes where the aponeuroſes of tendons have been wounded, I have reaſon to believe, that if *cold aſtringents* had been employed in the above recited caſe, inſtead of *warm emollient* cataplaſms, there would have been no neceſſity for dividing the faſcia of the biceps muſcle.

thin gleet, of a greeniſh colour; the parts around it were much indurated, and, as ſhe expreſſed it, her arm felt as if it had been bound tight by a cord.

In theſe diſtreſſing circumſtances, when her life was apparently in the greateſt danger, I determined to divide the *faſcia*, thinking, by taking off the ſtricture, we ſhould probably have an alteration in our favour. On the twenty-fifth of June I made an inciſion, two inches long, through the integuments and aponeuroſis of the muſcles. As ſoon as this was done, the divided parts of the faſcia flew open, and the ſucceſs was equal to our expectation. She was relieved immediately; the pain, tumour, inflammation, and fever left her; and the firſt time the dreſſings were removed after the operation, there was laudable pus, inſtead of the thin gleet which had been before conſtantly diſcharged. The wound granulated and healed as ſoon, and with as little trouble, as if it had been in any other part of the body. It may be neceſſary to obſerve, that there was no

matter

matter under the *fascia*, nor was the division of it attended with much pain.

WHOEVER considers the great irritability of parts in a state of inflammation, and how much the pain is increased by any pressure of bandage, will easily account for the sudden relief which this person had from a division of the *fascia*, the inelasticity of which prevented it from giving way to the swelling of the parts beneath it; and this case seems to make it extremely probable, that the bad symptoms following wounds of the tendons, and their aponeuroses, result more from mechanical pressure, than any peculiarity in the structure of these parts, which were, till of late, thought so exquisitely nervous and sensible.

The HISTORY of a RUPTURE of the CRURAL VEIN, attended with a very large extravaſation of blood.

CASE XXXVII. May 8, 1772.

MR. B—— had the misfortune to fall from his horſe, and was rode over by another gentleman, cloſe behind him. He was carried to an inn at Nuneaton, and a ſurgeon reſident at that place immediately ſent for. The next day, ſome very alarming ſymptoms having appeared, I was deſired to viſit him, with an eminent phyſician of this city.

IN the ſuperior part of the right thigh, near the groin, and juſt below Poupart's ligament, was a ſmall eſchar, which appeared to have been occaſioned by the violent preſſure and blow of the horſe's ſhoe. The integuments of the anterior part of the thigh, as well as of the inferior region of the abdomen, were raiſed up in a very extraordinary manner by extravaſated blood, and the whole ſcrotum was prodigiouſly enlarged.

CLOTHS

CLOTHS wetted with a ſolution of crude ſal ammoniac in vinegar, were continually applied cold to the affected parts, to promote the reabſorption of the fluid; and every proper direction was given by Dr. Simſon, reſpecting the internal treatment of the patient.

THE ſucceſs attending the methods that were purſued was ſo great, that on the fourth day from the accident, more than half the extravaſated blood appeared to have been taken into the road of circulation. From this time the proceſs of abſorption did not appear to go on ſo rapidly; the eſchar was ſeparating, in every point, from the contiguous parts; and we had apprehenſions that it might, poſſibly, have been thrown off before the wound of the veſſel which had furniſhed the extravaſated blood, ſhould have been healed. The cold application of vinegar, &c. was therefore continued until the eighth day, at which time the ſlough came away, with a large quantity of thick grumous blood. The parts affected were then covered with the

the ceratum ſaponaceum, except the wound, which was dreſſed with a pledget of ſoft digeſtive, that as little impediment as poſſible might be given to the diſcharge. The grumous blood came away every day in conſiderable quantities, by which the bulk of the tumour was diminiſhed; there was no return of internal hæmorrhage; and in two months the cure was perfected, without any particular accident, but the epidydymis of the right teſti.le remained for ſome time indurated and enlarged.

An

An ANEURISM of the POPLITEAL ARTERY, with ſome REMARKS on ANEURISMS in general.

IT hath been inconteſtibly demonſtrated, that the principal arterial trunks of the leg and arm may be tied in the operation for the aneuriſm, and the circulation of the blood afterward carried on by the collateral anaſtomoſing branches *. It hath been ſaid, and indeed upon the evidence of reaſon and experience, that this operation will ſucceed beſt when a due degree of preſſure upon the tumour hath been previouſly made, by which the collateral branches will be gradually dilated, and the

* Parey was the firſt perſon who ſecured the bleeding veſſels *after amputation* with a ligature; but this method was recommended long before.—Thus Galen ſays, "Quippe de genere obturantium quodammodo eſt, & "vinculum ipſis vaſis ſanguinem fundentibus circumpo- "ſitum, ipſique noſtri digiti, dum ea committunt & "conſtringunt." Method. Med. Lib. V. Cap. 3. Charter. Tom. X. p. 107, &c.—From the time of Galen to Ambroſe Parey, ſurgeons were uſed to reſtrain hæmorrhages from the larger arteries with the actual cautery.

new

new road for the blood opened, before the old one be rendered impervious.

THE recommendation of the uſe of preſſure, as a proper preparative for the operation, muſt, however, be received with limitation, as there are ſome ſpecies of the ſpurious aneuriſm, where it cannot be ſuppoſed to take place. Till within theſe very few years, it was an opinion generally received amongſt ſurgeons in England, that if the principal arterial trunk of the arm or thigh was tied, the parts below the ligature muſt neceſſarily mortify, from an interception of the blood which ſhould nouriſh them. Whenever, therefore, an aneuriſm had its ſeat in the crural or humeral artery (above the flexure of the elbow joint) nothing but amputation was thought of. Some very eminent ſurgeons have declared their opinion, that whenever the operation for the aneuriſm hath ſucceeded in the bend of the arm, the artery had divided above the part (a variety ſometimes obſerved) and a branch only had been included in the ligature.

ANATOMISTS

ANATOMISTS have diſcovered, by their injections, that the whole body is an anaſtomoſis of veſſels, and by this wiſe diſpoſition of our machine, whenever the vaſcular ſyſtem of any particular part is obſtructed, the circulation will be carried on by the collateral veſſels. It ſeems to have been reſerved for modern ſurgery, to prove that even the trunks of the humeral and *crural* arteries may be included in a ligature, and, notwithſtanding the great impediment to the circulation of the blood, which muſt be the reſult of the operation, the parts below will neither in general mortify, nor be deprived of their uſe.

THE change which takes place in the mode of circulation of the blood after the operation for the aneuriſm, hath ſometimes occurred from ſome particular diſeaſe of the arteries. I have ſeen an injected preparation (the hiſtory of the perſon it was taken from I cannot recollect) where the cavity of the crural artery was obliterated the length of two or three inches, and in which

which the collateral branches were ſo wonderfully dilated, that the progreſs of the circulation might very well be ſuppoſed to have been carried on without any great hindrance.

MR. ANTROBUS of Liverpool hath recorded a caſe, in which the patient's foot was mortified, and a ſeparation took place, accompanied with good digeſtion, *two inches* above the ancle. The leg was amputated at the uſual place below the knee, and when the tourniquet was ſlackened, there was no efflux of blood from the divided arteries, nor any pulſation to be perceived in their extremities *. In this caſe it appears, that after the principal arteries had been, by diſeaſe, rendered uſeleſs, the circulation was carried on by the collateral branches with ſufficient force to produce a good digeſtion, at a conſiderable diſtance below the ſound part of the large veſſels.

I HAVE been myſelf witneſs to a caſe nearly ſimilar to that related by Mr. An-

* Med. Obſervations and Enquiries, Vol. II.

trobus,

trobus, where no hæmorrhage happened from the principal arteries, either at the time of amputation or afterward, although nothing more ſtyptic than dry lint was applied to the ſtump; the digeſtion and cicatrization of the wound went on without interruption.

THE firſt account of the crural artery being tied, we meet with in Severinus. The caſe was a ſpurious aneuriſm, and the ligature was made upon the artery ſo near the groin, that amputation could not have been performed. The patient was young, and perfectly recovered the uſe of the limb *.

SOME few years ſince Mr. Burchall, of Mancheſter, tied the crural artery with ſucceſs, for an aneuriſm. This operation was performed in the Mancheſter infirmary, on the 4th of March, 1757. The patient was diſcharged cured, on the 17th of April following, and the limb was found

* Marc. Aurel. Severin. de Effic. Med. Lib. I. Part 2. p. 51, &c.

nearly

nearly as ſtrong and as ſerviceable as the other, when he was afterward examined by the Medical Society of London *. From the circumſtances of this well authenticated caſe, there can remain no degree of doubt but that the *trunk* of the crural artery was tied in the operation. Since the publication of Mr. Burchall's caſe, the crural artery has been tied by Mr. Leſlie of Cork, in a ſpurious aneuriſm, and with ſucceſs †.

In all controverted points of ſurgery, the moſt certain rule to direct our conduct will ever be found to ariſe from a compariſon of the events of a given number of ſimilar caſes, treated in different methods. Thus in twelve patients, where the *crural* artery hath been tied, a certain proportion of this number will probably die: and in the ſame number who ſuffer amputation, it cannot be expected they ſhould all recover. If now, for example, *four* out of the twelve who have had the crural artery

* Med. Obſer. and Enquiries, Vol. III. p. 106.
† Med. Comment. Edinb. Vol. II.

tied

tied ſhould die, and only *three* of thoſe who have undergone amputation, it will be an argument in favour of the propriety of the former practice: becauſe thoſe who ſurvive from this method, have their limbs preſerved; and if the ligature fails, and the parts below ſhould mortify, the patient may have ſome kind of hope of eſcaping at laſt by amputation. As far, therefore, as the ſucceſs of a few caſes can obtain, the ſurgeon will be authoriſed to recommend the operation for the aneuriſm of the crural artery, in preference to amputation *.

ALTHOUGH it be certain there is a natural proviſion for the maintenance of the collateral circulation in general, when any of the principal arterial trunks are, by diſeaſe or accident, rendered inadequate to the purpoſe: yet it may be deſerving attention to enquire, whether

* It is, I fear, much more to be wiſhed than expected, that ſurgeons would candidly acquaint the public with their ill ſucceſs, as well as with their more fortunate practice; a proper line of conduct might then be had, by comparing the events of particular caſes.

we may not be deprived of this advantage, on account of ſome local peculiarities of the ſyſtem. In the thigh the crural artery, at its ſuperior part, detaches ſome very conſiderable branches, which are deſtined for the nouriſhment and ſupport of the numerous large muſcles of the limb; and theſe veſſels anaſtomoſe, with others, from the inferior part of the trunk, in a ſufficient degree to afford at leaſt a probable ſuppoſition, that the circulation might be continued after the principal artery had been, by ligature, rendered impervious. But, in the *ham*, the *popliteal artery* ſeems very much deprived of theſe advantages; very few ramifications are here made, and thoſe that anaſtomoſe with others from above the joint, are in a ſituation to be obſtructed in their dilatation, by the preſſure of the adjacent tendons and ligaments, rendered irritable by the operation, by the projection of the epiphyſis of the tibia, and the condyles of the os femoris, communicating reſiſtance to every ſalutary effort of expanſion.

SHOULD the operation for the aneuriſm be attempted in the ham, the ſituation the patient muſt be in, will be particularly embarraſſing to the ſurgeon: if the leg is *extended*, to put the tumour and the artery upon the ſtretch, the tendons forming the ham-ſtrings will very much impede the future proceſſes of the operation; and if the leg is placed in a ſtate of flexion, there will be ſtill more objections to the poſition. The mere difficulties attending any operation in ſurgery may, perhaps, appear not to be ſufficient reaſons to decline it; and by the adventurous and intrepid operator it may be conceived, that honour and reputation are to be acquired in proportion to the danger he hath incurred. But when to the difficulties attending any operation, is added the extreme hazard the patient muſt ſuſtain, even from the moſt adroit performance of it, it ſurely becomes a ſubject deſerving the attention of the moſt dextrous operator, and well worth the conſideration of the moſt ſcientific and beſt informed practitioner.

WITH regard to the caſe of which we are now ſpeaking (the aneuriſm of the *popliteal* artery) there is not, that I know, a ſingle caſe upon record, where the operation for the aneuriſm hath ſucceeded. It hath been done ſeveral times within theſe few years, in our public hoſpitals; but I have not heard of any one caſe where it anſwered the intended purpoſe. In a converſation I had, two years ſince, with a very ingenious ſurgeon of London *, upon this ſubject, he acquainted me that he had lately performed the operation, and with great hopes of ſucceſs; but unfortunately, on the ſecond or third day after, a profuſe hæmorrhage enſued, of which the patient died, before he could get to his aſſiſtance.

WHILST the minds of ſurgeons of the firſt eminence are wavering with reſpect to the propriety of operating for the aneuriſm in the ham, every caſe upon the ſubject, recorded with fidelity, ſhould be well received by the public; and, with a view to aſſiſt in clearing up a doubtful part of

* Mr. H——r.

our

our profeſſion, I ſhall cloſe theſe remarks with the following caſe:

CASE XXXVIII.

IN the year 1774, J—— J——, by trade a blackſmith, perceived a ſmall tumour, deep ſeated in his left ham. After it had continued ſome time, he ſhewed it to an eminent ſurgeon, who gave him ſuch directions as he thought neceſſary. The diſeaſe increaſed every day, and he applied for my aſſiſtance about a year after the commencement of his complaints. The tumour was then become very painful, and ſo large as to occupy all the ſpace betwixt the ham-ſtrings, and to deſcend downward within the heads of the gaſtrocnemius muſcle. Applying my hand upon it, I diſcovered a very ſtrong pulſation, and no doubt ſeemed to remain of its being an aneuriſm of the *popliteal* artery.

IN conſultation afterward with Mr. Harrold and Mr. Parrott, a very eminent ſurgeon of Birmingham, in conſideration of the difficulty of performing the operation

for the aneuriſm in this part, and of the very uncertain nature of the event, it was ſtrongly urged to the patient to ſuffer amputation. The man deſired he might have time to conſult his friends upon the ſubject, who lived at a conſiderable diſtance. They, in anſwer, requeſted he would come to them, as ſome ſurgeons in their neighbourhood had propoſed to cure him without the loſs of the limb. He went to them, the operation for the aneuriſm was done, and the patient died on the third day *.

* Vide Ægineta, Lib. VI. Cap. 37. Marc. Aurel. Severinus de Effic. Mediçinæ. Schenckius. Morgagni de Cauſis & Sed. Morb. Hildanus Cent. Obſerv. Mem. de l'Acad. Roy. An. 1712, 1733. Bonetus Sepulch. Anat. Philoſoph. Tranſact. Abr. Vol III, VIII. De Haen de Aneuriſmat. Rat. Medend. Cap. XXX. Mem. de l'Acad. de Chirurg. Edinb. Med. Eſſays, Vol. II. and IV. Sharp, and le Dran's Operations. Med. Obſ. and Enq. Vol. I, II, III, and IV. Med. Com. Edinb. Vol. II. White's Caſes in Surgery. Treatiſe upon Sponge. Pott's Remarks on the Neceſſity of Amputation, p. 69. Ruyſch. Obſ. Centur.

OBSER-

OBSERVATIONS on COMPOUND FRACTURES.

SOME years have now elapſed, ſince Mr. Pott publiſhed his Remarks on Fractures and Diſlocations, wherein he appears the advocate for *immediate* amputation in certain caſes, which I ſhall more particularly deſcribe hereafter. The ſame gentleman hath likewiſe favoured us lately with Obſervations on the Neceſſity of Amputation, &c. The mode of practice recommended in both theſe publications (if it may be conſidered as the ſtandard by which the conduct of ſurgeons is to be regulated) ſeems to be, at leaſt, the probable ſource of infinite miſchief to mankind. Before I proceed farther I ſhall premiſe, that no one either has, or can have, a greater veneration for Mr. Pott's chirurgical abilities in general than myſelf; perhaps no man hath contributed ſo much to the improvement of ſurgery; and I acknowledge with gratitude the great ad-

vantages I have received both from his writings and his lectures.

To enjoin an *immediate* recourſe to amputation after an accident happens, when the reſtoration of the limb may be at moſt but *doubtful*, and the delay of the knife attended with no apparent danger, is leaving the unhappy patient too much to the mercy of the generality of ſurgeons, in a ſituation ſo truly delicate, as to require the abilities of the moſt ſagacious practitioner to determine upon the neceſſity of the operation; and the loſs of a limb is ſuch a melancholy circumſtance, that nothing but the moſt *indiſpenſible* neceſſity ſhould ever induce the ſurgeon to recommend it. Mr. Pott confeſſes *, "that 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."

AFTER having thus deſcribed the nature of this operation, he proceeds to de-

* Remarks on the Neceſſity of Amputation, &c. p. 45.

fend

fend the propriety of it, becauſe it ſeems " a contrary doctrine * has, within a few " years, been boldly and induſtriouſly " propagated, not without ſome very in- " decent, as well as untrue reflections, on " the profeſſion in general, and on thoſe " who have the care of hoſpitals in par- " ticular: and, becauſe" he is " con- " vinced that ſuch doctrine has been em- " ployed to the prejudice of mankind, by " covering ignorance and *timidity*, and " alſo for ſerving the baſe purpoſe of ma- " levolence." Mr. Pott further obſerves, that " mankind † are 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."

WITH reſpect to this obſervation, I profeſs I do not underſtand how mankind, in general, are to judge of the propriety of a ſurgeon's conduct, but from his ſuc-

* Remarks on the Neceſſity, &c. p. 46. † Ibid. p. 47.

ceſs:

ceſs: they cannot be ſuppoſed to know either the nature of his profeſſion, or the principles upon which it is founded.

Mr. Pott proceeds to reprehend the backwardneſs which appears in young ſurgeons to amputate. "A young * practitioner," ſays he, "at a diſtance from "aſſiſtance, and thereby deprived of that "ſupport, may be afraid to put his character to hazard, by acting in ſuch a "manner, as, although it might juſtly "intitle 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, and "the malevolence of others." Mr. Pott ſeems to have forgotten that formerly, upon another occaſion, he had cenſured the young ſurgeon for too much attention to *operations*, and the little regard paid to the common, or practical parts of ſurgery †.

When

* Remarks on the Neceſſity of Amputation, &c. p. 47.

† The treatment of the fiſtula lacrymalis "hardly "comes under the name of an *operation*, the great, and "almoſt

When young ſurgeons leave the country to attend the London hoſpitals, their purſuit ſeems chiefly directed to the operative part of ſurgery. In their converſation with each other, they aſk what operations have been done, what to be ſeen, who performs them with the greateſt expedition? &c. Is it then improbable that ſuch an one, freſh from the ſchool of St. Bartholomew, when he is called upon to give his aſſiſtance in a compound fracture, attended with extenſive comminution of the bones, and laceration of the muſcles; where the external wound is large, and horrible to the ſight; under ſuch circumſtances, perhaps wiſhing to operate, encouraged by Mr. Pott's opinion and direction: is it, I ſay, at all improbable that he will condemn the limb to immediate amputation?

After engagements at ſea and upon land, where compound fractures are extremely frequent, have the ſurgeons of the

"almoſt *only object*, which they who come hither" (London) "from the diſtant countries, have in view." Mr. Pott's preface to his Obſervations on the Fiſtula Lacrymalis.

army

army or navy ever betrayed the leaſt reluctance to amputation? Has *timidity* marked their conduct in this reſpect? or have they, at any time, been accuſed with attempting to preſerve too many legs and arms? On the contrary, it is no leſs a lamentable, than an indiſputable fact, that, upon theſe occaſions, the limbs of thoſe unfortunate men, who have ventured their lives in their country's cauſe, have been frequently ſacrificed to the indolence or barbarity of their ſurgeons.

At a time, therefore, when 300,000 men are ſaid to be employed in the ſervice and defence of the Britiſh empire, is it either political or prudent, can it be conſiſtent with humanity, that one of the firſt ſurgeons of Europe ſhould give deliberate encouragement to the ſanguinary buſineſs of mutilation?

Mr. Pott obſerves, that "flat contradictions have no more authority than "poſitive aſſertions:" I will therefore ſubmit the reaſons I have for diſſenting from his

his opinion, to the conſideration of himſelf, and the reſt of my brethren.

ACCORDING to Mr. Pott, there are three points of time in compound fractures, in which amputation may become neceſſary.

FIRST, "*Immediately*, or as ſoon as "may be after the receipt of the injury."

SECONDLY, "When the bones con-"tinue for a great length of time with-"out 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."

THIRDLY, "When a mortification "ſhall have taken ſuch complete poſſeſ-"ſion of the ſoft parts of the inferior part "of the limb, quite down to the bone, "that, upon a ſeparation of ſuch parts, "the bone or bones ſhall be left bare in "the interſpace."

IN

In my humble opinion, there can be but one good reaſon why amputation ſhould be performed in any caſe, viz. to preſerve life. The firſt queſtion, therefore, that I ſhall aſk Mr. Pott is, Whether he amputates *immediately* after the accident to prevent ſudden death? The anſwer muſt be in the negative; ſudden death never happening in compound fractures, eſpecially in thoſe which he calls *hazardous*, or that may *probably* be productive of mortification, &c. and for which he adviſes the operation. If Mr. Pott does not operate to prevent *immediate* death, his intention muſt be to avoid thoſe ſymptoms which he has ſtated in the two other periods, when, in his opinion, amputation may become neceſſary.

We might therefore proceed to enquire, whether the operation could not be performed at thoſe other points of time, with equal, or perhaps greater advantage, than at firſt;—when the *neceſſity* of the meaſure might be eſtabliſhed by demonſtration; but, before

before we do this, we ſhall make ſome remarks upon the firſt propoſition.

We will ſuppoſe the circumſtances of a compound fracture are ſuch, as to render the caſe, in Mr. Pott's judgment, *hazardous*; and he has declared his opinion, that (although the patient might *poſſibly* recover without the operation) yet he will have a much better chance of living by having the limb removed: we will alſo take it for granted, that the patient and his friends are convinced of the force of his arguments, and the operation is *immediately* performed: can Mr. Pott ſay that his patient is thereby exempted from danger; or that he is not almoſt in as dangerous a ſtate as ever? I have ſeen the practice of ſeveral hoſpital ſurgeons, and have known their * patients die where amputation had been performed in compound fractures, *immediately* after the accident.

Compound fractures moſt frequently happen to the laborious part of mankind;

* The relative proportion I cannot exactly aſcertain.

to

to thoſe who are ſtrong and in health. Skilful ſurgeons have remarked, and experience hath confirmed their obſervation, that a ſtate of high health is unfriendly to the ſucceſs of amputation. People thus circumſtanced are ſubject to more fever, pain, and irritation, in proportion to the ſtrength of the muſcles, and the force of the circulation. There is likewiſe a diſtreſs of mind, a melancholy deſpondency, inſeparably connected with the *ſudden* loſs of a limb. Although it is propoſed to amputate as ſoon as poſſible after the injury hath been received, yet ſome ſpace of time muſt neceſſarily intervene, before the proper apparatus can be procured, and the buſineſs undertaken. In this interval pain is excited, and ſome degree of inflammation may well be ſuppoſed to poſſeſs the part upon which the operation is intended to be performed.

THE ſecond point of time at which, Mr. Pott ſays, amputation becomes neceſſary, is " when the bones continue for a " great length of time without any diſpo-

" ſition

" ſition to unite, &c. and the patient,
" from too large a diſcharge of matter,
" &c. is ſuppoſed to be in danger of
" dying."

WHEN the patient is reduced to this deplorable condition; when the diſcharge of matter is great, or, from an abſorption of part of it into the ſyſtem, the blood is melted down; when all the ſymptoms are in a progreſſive increaſe from bad to worſe (the moſt powerful antiſeptics having been ineffectually employed, and the bones ſtill remaining in *a ſtate of diſunion*:) if the patient does not part with his limb, the loſs of his life muſt be the inevitable conſequence. Should amputation be performed even in theſe circumſtances, before the patient is *too much reduced*, the ſurgeon will have the ſatisfaction to think, that he has not performed the operation until the *neceſſity* of it was demonſtrable: and (which is of much greater conſequence) the patient will have a *better* chance of recovery, than if it had been performed

immediately after the accident *. I appeal to the experience of all ſurgeons, whether perſons who have been previouſly reduced, either by pain, abſorbed matter, colliquative diarrhœas, &c. do not generally recover after amputation; and whether the reverſe of this propoſition is not true of thoſe, who loſe their limbs ſoon after the injury hath happened.

DOES Mr. Pott, therefore, adviſe amputation *immediately* after accidents, to anticipate a period wherein that buſineſs might be undertaken with more apparent ſafety to the patient, and greater ſatisfaction to the ſurgeon? This ſuppoſition militates ſo ſtrongly with the ſound judgment which

* Mr. Pott, after cenſuring Van Swieten for adviſing us to wait *two or three* days, until antiſeptics might be tried in theſe caſes, before we proceed to amputation; obſerves, "that, by waiting that time, the patient will "have very little chance indeed from the operation." But that it is not *always* ſo dangerous to wait a *few days*, we may fairly conclude, when Mr. Pott himſelf acquaints us, that, in the ſecond ſtage of a compound fracture, amputation may become neceſſary, "when the bones con- "tinue for a *great length of time* without any diſpoſition "to unite," &c.

characteriſes

characteriſes Mr. Pott's works in general, that it muſt be totally inadmiſſible.

COMPOUND fractures, I muſt allow, are obſerved to terminate very unfavourably in public hoſpitals; patients cannot be ſuppoſed to have the benefit of good air, where wounded people are too often crouded in the ſame wards, with others who are dying of malignant fevers. But I have often thought there muſt have been ſome other cauſe beſides contaminated air, to produce the difference in the events of compound fractures in the country, and in public hoſpitals. When tenſion hath taken place in the limb, which it generally does, more or leſs, it is a maxim in many hoſpitals to uſe emollient relaxing poultices, warm or hot, to apply which, it is neceſſary that the limb be lifted up at each time of dreſſing; by this motion the bones rub againſt each other, and wound or irritate the muſcles: and this buſineſs is ſometimes done by the nurſes, that the limb may be clean for the inſpection of the ſurgeon. When the poultice is removed, a

warm fomenting cloth is put on, and thus the ſore is expoſed to the air, perhaps an hour; and, before another cataplaſm is applied, the fractured limb muſt be once more diſturbed.

When the whole limb in a compound fracture is much ſwollen, painful, inflamed, and indurated, what are the curative intentions? The anſwer is, to get the parts unloaded by a reſolution of the inflammatory tumefaction, and *thereby* to procure an eaſy digeſtion of the wound, and to avoid the formation of abſceſſes under the ſkin, or in the interſtices of the muſcles. Warm emollient applications relax the veſſels; encourage, therefore, a greater influx of juices: in conſequence of both, they *increaſe* tumefaction. Digeſtion of wounds is beſt procured when the circumjacent parts are *leaſt* ſwollen. Warm emollient applications therefore, in this caſe, retard the digeſtion of the wound. At the ſame time, alſo, that the ſurgeon (if he purſues this kind of practice) is counteracting the curative intentions, he is doing

ing every thing in his power to encourage a general ſuppuration, and reduce the caſe to the very ſtate ſo well deſcribed by Mr. Pott, and in which it may be neceſſary to amputate the limb, to prevent the patient from dying, in conſequence of ſuch extenſive ſuppuration.

THE third ſtage of a compound fracture is ſaid to be, when "a mortification ſhall have taken ſuch complete poſſeſſion of the inferior parts of the limb, that, upon a ſeparation of the morbid from the ſound parts, the bone or bones ſhall be left bare in the interſpace."

OF all the different kinds of mortification, none might be ſuppoſed to be ſo truly local, or ſo little diſpoſed to ſpread, as that occaſioned by external violence. It is very eaſy to imagine, that, from the fall of great weights upon the limbs, and by the operation of various other cauſes, the ſtructure of the parts may be ſo much deſtroyed, as to make mortification not

only a probable event, but an unavoidable conſequence. It is very frequently the caſe, even in mortification from internal cauſes, that the efforts of art produce a ſtop to the diſeaſe. How much more likely is this event to happen, when external violence hath been the cauſe? Accordingly we find, that ſometimes the ſkin, muſcles, tendons, and ligaments are deſtroyed to the bones, which, upon a ſeparation of the mortified parts, are left quite bare. In ſome of theſe caſes, nothing elſe may be neceſſary but to ſaw through the bones.

But Mr. Pott obſerves, "that ſome-"times the progreſs of the diſeaſe is "ſo rapid, as to deſtroy the patient in a "ſhort ſpace of time."

Those perſons who have been deſtroyed by a ſpreading gangrene, from external injury, muſt have had very bad habits; and it therefore ſtill remains a queſtion, whether early amputation could have ſaved them.

them. Upon the whole, then, I have ne-deavoured to prove,

FIRST, That amputation ſhould never be performed *immediately* after compound fractures have been received, in thoſe caſes, which appear uncertain, or *hazardous* only.

SECONDLY, That the ſecond point of time in which that operation is ſaid to be neceſſary, would not ſo frequently happen, if a proper method of treatment had been purſued; and if it ſhould occur, the patient will have a better chance of living than if it had been performed at firſt: and,

THIRDLY, That if a mortification ſhould unexpectedly ſupervene, it will not, of *neceſſity*, prove fatal.

IN the courſe of my practice I have not hitherto, in a ſingle inſtance, had occaſion to amputate for a compound fracture, although I have been concerned in

ſome caſes where, upon Mr. Pott's hypotheſis, the operation would have been deemed neceſſary; yet not only the lives of the patients, but the uſe of the injured limbs have alſo been preſerved *.

I HAVE never, indeed (when I have attended from the beginning of the caſe) had a patient in that ſtate from a compound fracture, where it might even have become a queſtion, whether amputation ſhould have been performed, to obviate the effects of too large a diſcharge of matter, or of its abſorption into the ſyſtem: and this ſucceſs I attribute very much to the early uſe of cold and repellent applications, and avoiding all warm, emollient, and relaxing to-

* If it was neceſſary to amputate for a compound fracture ſo frequently as Mr. Pott would make us believe, it muſt appear very extraordinary that the late Mr. Gooch, in a very extenſive and long continued practice, never cut off a limb on ſuch an occaſion. See his laſt Volume, p. 82.

Monſ. Boucher has demonſtrated, by a variety of inſtances, that caſes of the moſt apparently dangerous nature, and where the bones have been fractured in their articulation, may be cured without amputation. Mem. de l'Acad. Roy. de Chirurg. Tom. II. Obſerv. ſur des Playes d'Armes à Feu, p. 287 & 461.

pics;

pics; whereby the ſuppurative proceſs hath been kept within due bounds.

As ſoon as I am called to a caſe of this kind, if no peculiar circumſtance forbids, the leg (for inſtance) is placed upon its outſide, in the common inflected poſition *. If the ſuperior portion of the fractured tibia protrudes through a ſmall wound, and there is difficulty in its reduction, it will invariably be found to ariſe from the bone being girded by the integuments. Inſtead, therefore, of fatiguing the patient by an unneceſſary and fruitleſs extenſion, the ſurgeon ſhould divide with a biſtoury, that part of the ſkin

* Many of what are called the *modern* improvements in ſurgery, may be found in the writings of the ancients. The practice of placing limbs, when fractured, in ſuch an eaſy inflected poſture as they uſually take in a ſtate of reſt or ſleep, is enjoined both by Hippocrates and Galen. "Quibus in figuris quum otiamur, partes habere con-"ſuevimus, hæ in curationibus eligendæ ſunt." And afterward, "Itaque ſi homines otiari conſideraveris, ple-"rumque manus (e. g.) inter ſummam extenſionem, & "extremam flexionem non plane medias reperies, ſed "quæ ad extenſionem propendeant." De Med. Officin. Text. 21. Chart. Tom. XII. p. 87.

which

which appears to form the ſtricture. But if the protruded part of the bone ſhould be fractured very obliquely, or with ſuch ſharp angles as would probably, when reduced, either wound or conſiderably irritate the muſcles, it will, in general, be adviſeable to ſaw it off. It ſometimes happens that the tibia is very much ſhattered and comminuted; in this caſe, if the fragments are looſe, they ſhould by all means be removed; and if the external wound is not large enough for this purpoſe, it may very ſafely be dilated. But if the intermediate fragments are large, and firmly attached to the muſcles, &c. the attempt to remove them may poſſibly be attended with much inconvenience, and is therefore to be avoided.

AFTER the wound of the ſkin hath been enlarged, or the protruded portion of the bone removed by the ſaw; when the looſe fragments have been extracted, or ſuffered to remain; or as either of theſe methods may be rendered more eligible than the reſt, by the particular circumſtances

ſtances of the caſe: it will, in general, require but a ſmall degree of extenſion to reduce the limb to its natural form. The wound is then to be dreſſed; and, whether it be ſmall or large, no application ſeems, in general, ſo proper as dry lint, which ſhould be ſuffered to remain on the part (at leaſt not forcibly removed) until it is looſened by digeſtion, or ſome other cauſe.

THE next proceſs, indeed the moſt neceſſary of any, is to endeavour, by ſome topical application to the whole limb, to counteract that determination of fluids into the parts which is always, more or leſs, the effect of contuſion, pain, and irritation. In proportion to the degree of inflammation, and extent of tumefaction, we may form a fair conjecture of the enſuing danger from exceſſive ſuppuration, which (though frequently a fatal attendant on compound fractures in public hoſpitals) I have very rarely found reaſon to apprehend in the country.

I HAVE before attempted to prove, that all warm relaxant applications are very pernicious, when tenſion hath already taken place in the limb; and if ſo, very little need be ſaid to ſhew the impropriety of their uſe, when the deſign of the ſurgeon is to *prevent* inflammation, to reſiſt the dilatation of the veſſels, and thereby reſtrain the conſequent tumefaction and ſuppuration within as ſmall bounds as may be. I do not know any better method to anſwer theſe intentions, in general, than to apply a very ſoft napkin, well ſoaked in the ſaturnine water of Goulard, *cold*, all over the injured limb. As ſoon as it becomes dry, a freſh lotion ſhould be poured on, and this ſhould be continued during the firſt days, or until all inflammatory appearances have ſubſided.

IT ſometimes happens, that one or more of the deep-ſeated veins are lacerated, and if the wound of the integuments is ſmall, or becomes choaked up with coagulable lymph, the extravaſated blood will force its way betwixt the ſkin and muſcles.

muſcles. When this caſe occurs, or whenever tenſion happens from an internal hæmorrhage, no better application can be uſed than a ſolution of crude ſal armoniac in vinegar, with which, the parts ſhould conſtantly be covered, *cold* *.

DURING the time the lotion is applied, it does not ſeem proper (at leaſt it will not be convenient) to uſe any bandage over the napkin; and, if there is a great degree of tenſion, it may perhaps be ſuggeſted, that the uſe of ſplints in ſome caſes may be altogether unneceſſary; becauſe, under that circumſtance, the integuments being very tight, will by their preſſure ſecure the ſituation of the fractured bones. But if the limb is exempt from tumefaction, and ſplints are not uſed, the patient will be ſubject to the very ſevere ſhocks, which thoſe who experience theſe misfortunes ſo feelingly deſcribe. In either caſe it ſeems very proper to apply one ſplint under the limb,

* I have had an opportunity of ſeeing, in more than one inſtance, the effects of warm applications in ſuch caſes, and it was aſtoniſhing how much the tumour was increaſed by them.

which

which will form an even ſurface for it to reſt upon †. If it be thought unneceſſary to apply the upper ſplint in the day, it ſhould be always uſed at night; becauſe it is principally at that time the patient ſuffers thoſe very pernicious colliſions of the bone, which, from a ſtate of the moſt perfect eaſe, will often occaſion ſevere pains for ſeveral hours. Theſe ſhocks commonly happen ſoon after the patient has fallen aſleep; and from thence I ſuſpect, they ariſe from an attempt to turn the body, whereby the ſuperior part of the fractured bone is ſuddenly diſplaced: the uſe of ſplints therefore, during the night, cannot be diſpenſed with.

† The ſplints I uſe in compound fractures are the common deal ones, recommended by Mr. Pott; and they are made long enough to project ſomewhat beyond the extremities of the fractured bone. By keeping the joints above and below the injured part at reſt, they anſwer all the purpoſes that can be expected from ſplints, without making any improper preſſure upon the wound, or its circumjacent parts, which thoſe muſt ever be liable to that are contrived to fit the leg, and be in contact with a great part of its ſurface. They ſhould be lined with flannel, and well padded with combed wool.

The next ſtep, which is uſually taken in order to prevent tenſion, &c. is a recourſe to the lancet. But if the ſurgeon is called upon ſoon after the accident, he will commonly find his patient diſtreſſed in mind, his muſcles in a tremulous ſtate, his body cold, and his pulſe weak: it may, perhaps, therefore admit of a queſtion, whether bleeding ſhould take place at this period? With regard to my own practice, I never uſe the lancet under ſuch circumſtances; but defer it until either a painful throbbing in the limb, or an accelerated, hardened pulſe, indicates its propriety; and then, it ſhould ſeem, blood may be advantageouſly taken away, in as large a quantity as the nature of the ſymptoms require.

It is of very great importance to empty the inteſtinal canal as ſoon as poſſible, and this intention would be beſt anſwered by clyſters; but as the poſition the patient is obliged to be in, will not, in many caſes, admit of their uſe, ſome kind of opening medicines muſt be given by the mouth; and

and for this purpoſe a ſolution of manna and Rochelle ſalt may be as proper as any other. It ſhould be given and repeated until it produces the deſired effect; or, if it ſhould be ſlow in its operation, a few grains of calomel will probably ſucceed.

AFTER a proper application hath been made to the injured limb; when the patient has been bled (if it appears neceſſary) and his bowels have been opened: the next deſirable object will be to eaſe or mitigate the pain. In every caſe of this kind, pain ſhould be relieved with the moſt ſtudious care; for as inflammation occaſions pain, ſo pain, in its turn, increaſes inflammation: and thus the cauſe and effect are perpetually augmenting each other. In *one view*, therefore, the antiphlogiſtic plan ſeems admirably calculated to anſwer ſuch purpoſe; but this alone will not ſucceed, when the parts are in a very irritable ſtate, without the uſe of opium. At whatever time, or upon whatever occaſion, opium is given with an intention to remove pain, the

the doſe ſhould always be proportioned to the degree of irritation it is intended to counteract. When the nerves are violently affected with pain, it requires, in general, a much larger doſe of opium than is commonly given, either to obtain eaſe, or procure ſleep; without which the medicine cannot properly be called anodyne *. I believe it is a very common error to give opium upon theſe occaſions in too ſmall quantities to produce any good effect. It ſhould be given in a large doſe, and repeated until it hath anſwered the intention of the preſcriber, otherwiſe it would be much better not to adminiſter it at all †.

If the mode of practice here recommended is put in uſe early, it will very ſeldom happen that any conſiderable tenſion will take place; and if it ſhould, I

* "Anodyna vocant, quæ ſomno dolorem levant." Celſ. Lib. V. Cap. 25. p. 278.

† The doſe I frequently order is the following:

℞ Tinct. Theb. a gutt. XL ad LX.
Vin. antim. gutt. XXX.
Sp. mind. ℥ ſs.
Aq. font. ʒ vi. m. f. hauſtus, urgente dolore ſumendus.

am perſuaded a perſeverance in the ſame plan will remove it.

When the inflammatory tumefaction hath ſubſided, and the digeſtion of the wound taken place, the limb may be covered with the ceratum ſaponaceum, ſpread on linen, leaving an aperture for the wound, which ſhould then be dreſſed every day with a pledget of ſome ſoft digeſtive, and the whole ſecured with the foliated or many-tailed flannel bandage. To keep the bandage clean, and prevent the neceſſity of changing it, a piece of oil-cloth ſhould be placed betwixt it and the dreſſings, and the pledget over the wound may be covered likewiſe with a bolſter of tow, or linen, to abſorb the diſcharge.

I have before obſerved, that placing the limb upon its outward ſurface * is, in general,

* I once ſaw a very remarkable inſtance of the uſefulneſs of the relaxed poſition in a compound fracture, where, after the reduction of the bones, the leg at firſt was laid ſtraight. The ſurgeon concerned was ſurpriſed, when he removed the dreſſings, to perceive the ſuperior portion of the bone protruded through the wound, in as great

general, the beſt way of diſpoſing it; as, in that caſe, the greater part of the muſcles ſurrounding the fractured bones are, as much as they can be, relaxed: but I have found ſome inconvenience from it.

If the fracture happens in the ſuperior part of the leg, near the knee-joint, and the leg is much inflected, the rectus, crureus, the vaſtus externus, and internus muſcles act ſo ſtrongly upon the patella and its ligament, that the ſuperior fragment of the tibia connected with them will every day be found diſplaced, eſpecially if ſplints are uſed, which are calculated to ſecure the *leg* only. To obviate this inconvenience, there muſt either be a change of poſition in the limb, or (which is better) the parts may be conveniently ſecured by particular ſplints, which ſhall be deſcribed hereafter.

great a degree as at firſt. In the courſe of ten days it was reduced ſeveral times, and as often found diſplaced, until it was propoſed to lay the limb upon its exterior ſurface, in the relaxed poſition. This change of poſture *only*, without any extenſion, reduced the bone, and the cure was accompliſhed without any further difficulty, or ſubſequent diſplacement.

If the thigh is fractured, and placed upon its outward ſurface, if particular attention is not given that the patient inclines his body, and reſts upon the hip of the ſame ſide, when he gets up, a very conſiderable deformity will be experienced, and his foot and toes be turned outward. Let the fracture be what it may, if the limb is placed on its outſide, no pillows ſhould be uſed; and, as a plain ſurface muſt prove of advantage, the patient ſhould lie upon a mattreſs.

For more minute directions reſpecting the management of fractures, whether ſimple or compound, I refer the reader to Mr. Pott's * treatiſe, which (thoſe parts only excepted from which I have taken the liberty to diſſent) is by much the beſt I have ſeen upon the ſubject.

Having now deſcribed the method of treating compound fractures, which appears to me the moſt eligible, I ſhall ſubjoin a few hiſtories, wherein its application to particular caſes will be proved to have been attended with ſucceſs.

* Remarks on Fractures and Diſlocations.

An

An ACCOUNT of the CURE of a COMPOUND FRACTURE of the LEG, where, from the injury the parts received, amputation had been judged expedient.

CASE XXXIX. Oct. 9, 1776.

I WAS ſent for to Hawkeſbury, to aſſiſt Meſſieurs Bindley, Barber, and Welton, ſurgeons, in the amputation of a leg. The patient was a young man, of a robuſt and healthy habit of body. On the preceding day, by the breaking of a rope, he had the misfortune to fall from the height of ſixty feet, to the bottom of a coal-pit. From this accident the lower jaw was fractured, and general marks of contuſion were viſible in his face and head. The fibula of the *right* leg was fractured, and the tibia having been forced from its perpendicular bearing on the aſtragalus, was diſlocated. The *left* leg was literally ſhattered to pieces; the limb appeared half a foot ſhorter than the other, and there was a very large lacerated wound, through which the ſuperior por-

tion of the tibia protruded. Under this there were ſeveral portions of the bone, ſeparated from the main body, and ſome of them, by their points, had been driven into the muſcles. The tibialis anticus muſcle was tranſverſely torn, quite through its whole ſubſtance.

Upon the whole, the circumſtances of the caſe appeared ſo terrible to the gentlemen concerned, that the neceſſary apparatus for amputation was provided. I objected to the operation for many reaſons; but the argument which appeared to have moſt weight with them was, that the patient, from the effects of ſuch complicated miſchief, would probably die, and thereby bring diſgrace at leaſt upon the operation, if not upon the perſons concerned.

The irregular portion of the tibia, which projected, was ſawn off; the intervening looſe fragments were extracted; the wound was dreſſed with dry lint, and the limb placed in as eaſy a poſition as the circumſtances of the caſe would admit. The

pulſe

was kept down by bleeding; the inteſtinal canal was opened by lenient cathartics; and a ſtrict antiphlogiſtic plan purſued during the exiſtence of inflammatory ſymptoms. By the uſe of the bark, when they were removed, by abſtaining from all warm emollient and relaxing applications, and by the diligent attendance of Mr. Bindley, the patient not only recovered his health, but the uſe of his limb (which otherwiſe might have been ſacrificed to the *ſuppoſed neceſſity* of amputation) was preſerved.

In this caſe, although four inches of the whole ſubſtance of the tibia were removed, yet the limb became more ſerviceable than the other. I ſaw the patient the ſummer after the accident, and at that time he was uſing the cold-bath at Newnham, on account of a weakneſs which had continued from the diſlocation of the right ancle.

A COMPOUND FRACTURE of the LEG, *ſuppoſed* to require amputation from a violent hæmorrhage.

CASE XL. June 4, 1773. A Middle-aged man, riding on the full gallop, and turning the corner of the road betwixt Lutterworth and Market-harborough, came againſt the pole of a carriage with ſuch impetuoſity, that he was thrown to the ground. By the violence of the fall his leg was fractured, and the ſuperior portion of the tibia forcibly puſhed through his boot into the road. A large diſcharge of blood immediately enſued, and the man was conveyed to Lutterworth, and placed under the care of Mr. Jervis. Appearances were ſo unfavourable on the third day after the accident (the hæmorrhage ſtill continuing) that Mr. Jervis apprehended the amputation of the limb would have afforded the beſt chance of recovery.

AT this period I found the patient much reduced; the wound was plugged up with coagulable

coagulable lymph, through which, however, the blood ſtill found its way copiouſly; and there was ſo great an extravaſation betwixt the ſkin and the muſcles, as to render the whole limb very conſiderably tumefied.

In conſultation it was agreed that the leg ſhould be covered with cloths, well ſaturated with a ſolution of crude ſal armoniac in vinegar, applied *cold*; that he ſhould take the Peruvian bark, joined with nitre; and an anodyne be adminiſtered in the evening. From the time the cold and aſtringent application was made, the hæmorrhage ceaſed; the extravaſated blood was by degrees abſorbed; the tenſion abated; and all the bad ſymptoms diminiſhed. The patient afterward not only enjoyed perfect health, but the uſe of the fractured limb was happily reſtored.

A COMPOUND FRACTURE of the LEG, attended with very alarming appearances.

CASE XLI. March 29, 1776.

MR. W——, of Aſtley, in the county of Warwick, by the fall of a cow on the outſide of his left leg, had both the bones fractured near the middle; and through a ſmall wound, about half an inch from the internal edge of the tibia, a large ſtream of blood proceeded. Four hours after the accident happened, I found that a coagulum of blood had ſtopped up the external wound, and the divided veſſel had bled internally to ſuch a degree, that the leg was diſtended to a moſt enormous ſize. The ſkin was every where removed from the muſcles, by the vaſt quantity of blood which had inſinuated itſelf into the cellular membrane.

THE preſſure the parts ſuſtained prevented him from having any degree of pain; and he complained only of a numbneſs of the foot, which appeared of a dark purple

purple colour. A ſurgeon, who had been ſent for from Nuneaton, had bled the patient before my arrival. The curative intentions appeared to be, to promote the abſorption of the blood already extravaſated, and at the ſame time to prevent the wounded veſſel from pouring out any more. With a view to anſwer theſe purpoſes, the parts were fomented cold, with the extract of lead diluted in vinegar; the leg was placed upon its exterior ſurface, in the relaxed poſition; and Mr. Sharp's ſplints were employed to ſecure the ſituation of the extremities of the fractured bones. A ſolution of ſal Glauberi in water was given, and repeated at proper intervals, to procure ſtools.

On the enſuing day the tenſion was much diminiſhed, but the leg was covered with veſications. Some of them contained lymph only, while others had a bloody fluid, which appeared to have tranſuded through the cutis: the bliſters were all cut. The patient having ſome degree of fever, was ordered to take a ſaline draught

draught every four hours; and the ceratum ſaponaceum, ſpread on linen, was applied to the whole ſurface of the leg.

On the fifth day the limb was much reduced in its ſize, but the ſkin where the bliſters had been aſſumed a dark purple colour. At this time we entertained hopes that all danger from freſh hæmorrhage was over; and therefore ventured to foment the limb with the common fomentation *warm* *, to three quarts of which was added an ounce of crude ſal armoniac, diſſolved in diſtilled vinegar. The ceratum ſaponaceum was re-applied after the fomentation, and the ſaline draughts were continued, to each of which was added a ſcruple of the powder of bark.

On the ſeventh day appearances, in general, were favourable; and although the ſkin of the fractured limb ſtill had a ſuſ-

* In extravaſation of blood, after the uſe of *cold* applications, and when the proceſs of abſorption hath appeared to have been ſuſpended, I have ſometimes uſed warm ones with advantage.

picious

picious aſpect, yet there was an equable warmth throughout the whole, and the tenſion was greatly diminiſhed. At a certain hour every day a fever aroſe, which we imputed to the abſorption of extravaſated blood.

On the tenth day, whilſt we were uſing the warm fomentation, there happened a conſiderable hæmorrhage from the wound; we therefore ſubſtituted *cold* for warm applications; on the next day he bled again, but not in ſo large a quantity. Thirty drops of elixir vitrioli were then added to each doſe of the cortex, and he took frequently a tea-cupfull of the tinctura roſarum. On the twelfth day there was a large ſanious diſcharge from the wound, which continued the ſpace of a week. It decreaſed afterward; and the matter was prevented from lodging in the interſtices of the muſcles, by the application of proper compreſſes. The bark was continued until all appearance of danger was over: the patient gradually recovered a good ſtate of health, and the uſe of the fractured limb.

A COMPOUND FRACTURE of the FORE-ARM, combined with a diſlocation of the os humeri.

CASE XLII. Jan. 15, 1779. THE ſervant of —— Welſh, Eſq; of Dublin, galloping after his maſter's carriage, was thrown from his horſe, upon the London road, two miles from this city, with ſuch violence, that part of the bones of the fore-arm was forced through the ſleeve of his coat and ſurtout. He was brought to this town, and put under the care of Mr. Harrold and myſelf.

THE os humeri was diſlocated, and the head of the bone perceived to lie in the axilla. The fracture of the radius and ulna was attended with comminution, and there were two wounds of the ſkin, through one of which a portion of the extenſor carpi ulnaris muſcle was protruded, in a lacerated ſtate. The inferior wound was ſituated near the part where the ſuperior edge of the pronator quadratus is inſerted into the ulna.

THE

THE diſlocation was reduced by bending the fore-arm, and applying the extending force to the os humeri *only*. The arm, after being well fomented with the ſaturnine water of Goulard cold, was wrapped up in cloths wetted with the ſame, and particular directions were given to keep them in a moiſt ſtate, by pouring ſome of the lotion upon them frequently. Before the uſe of this, the patient's arm was in great pain, and ſwelling and inflammation were coming on; it was very pleaſing to ſee the good effects of the cold aſtringent application. By means of this, and an opiate in the evening, the patient ſlept ſeveral hours in the night, and the next morning complained of very little pain.

THE ſwelling was inconſiderable, and the ſkin of the arm very little diſcoloured: an opening medicine was ordered in the morning, and an anodyne in the evening. The ſame external application was continued; and a pledget ſpread with common digeſtive ointment applied to the wounds. Jan. 16.

Although

Although the opiate was by miſtake omitted, the patient ſlept very well in the courſe of this night, and on the ſucceeding day he had neither pain, fever, or indeed any particular complaint.

The lotion was applied conſtantly the firſt week, during which time all thoſe ſymptoms which are ſaid to attend compound fractures were prevented, and the wound digeſted well. On the eighth day, when all inflammatory danger was apprehended to be over, the cerat. ſaponac. was applied to the arm, and the ſituation of the fractured bones ſecured by the foliated flannel bandage and ſplints. At the expiration of fourteen days both the wounds were healed; and at the end of a month the patient was thought ſufficiently recovered to undertake a journey to Ireland.

In this caſe, twelve quarts of the ſaturnine lotion were employed the firſt week.

An

An ACCOUNT of a COMPOUND DISLOCATION of the ELBOW-JOINT.

CASE XLIII. Sept. 4, 1773.

JOSEPH TYSAL, playing at leap-frog, fell violently upon the palm of the right-hand, by which accident the elbow-joint was diſlocated. Examining the ſituation of the parts ſoon after the occurrence, I perceived the olecranon diſlocated backward and upwatd, behind the os humeri. There was a tranſverſe wound, more than two inches in length, on the inſide of the arm, through which the *internal condyle*, and part of the articulating ſurface of the *os humeri*, were protruded. The capſular ligament of the joint was lacerated, which, together with the tendon of the *biceps muſcle*, appeared externally through the lips of the wound.

HAVING placed an aſſiſtant, with his hands croſſing upon the ſuperior part of the arm, to preſerve a proper reſiſtance, I ordered another to make a gradual exten-

ſion at the inferior part of the fore-arm. When I thought a ſufficient force had been uſed in this direction, I ſuddenly bent the fore-arm inward and toward the breaſt, and the diſlocated bones were immediately reduced.

FROM the injury the parts had ſuſtained; from the laceration of the capſular ligament; from the protruſion of part of the articulating ſurface of the joint, and its expoſure to the air: I apprehended that an anchyloſis muſt have been the moſt favourable termination of the caſe. Upon the ſuppoſition, therefore, that this event would happen, and to prevent the patient's arm being totally uſeleſs to him in his employment as a weaver, after having dreſſed the wound ſuperficially with dry lint and ſticking-plaiſter, I bent the fore-arm, and placed it in a poſition in which it deſcribed a right angle with the os humeri. To guard againſt an inflammation, and conſequent ſuppuration in the joint, the patient was bled, ordered opening medicines, and an opiate at bed-time; the

arm was covered with cloths ſoaked in a ſolution of crude ſal armoniac in vinegar, cold. By theſe means he ſuffered as little, and was equally exempt from pain, as if the caſe had been a ſimple diſlocation. The external wound healed by (what ſurgeons call) the firſt intention, and the expected anchyloſis did not take place.

ALTHOUGH there was, for ſome time, a conſiderable interruption to the perfect flexure of the joint, yet in the courſe of twelve months the boy could work at the loom, and the injured arm was nearly as ſerviceable as the other.

I LATELY made an enquiry concerning this patient, and was informed that he recovered the perfect uſe of the diſlocated arm, and was then ſerving in the king's army in North America.

A FRACTURE * of the LEG, in which the epiphyſis was ſeparated from the tibia.

CASE XLIV. May 4, 1778.

A Surgeon of the army, met with the above accident by a fall from his horſe, in the park contiguous to this town. Before I ſaw him the caſe was ſuppoſed to have been a luxation, as there was a conſiderable external projection of the bones of the leg, juſt beneath the knee joint, probably occaſioned by his attempting to walk after he had received the injury. The parts were in great pain, and the irritation excited a conſiderable degree of fever.

By a ſlight preſſure on the outſide of the leg, the fractured tibia was reduced; the parts were covered with the ceratum ſaponaceum, ſuſtained by a foliated flannel

* Boerhaave has improperly arranged this caſe in the claſs of luxations, Aphoriſm CCCLX. Ægineta has well defined a luxation: "Elapſus articuli ex proprio "cavo in alienum, à quo motus arbitrarius impeditur." Lib. VI. Cap. III. pag. 101.

bandage,

bandage, moderately tight; the leg was placed upon its outſide, and a *little* inflected only, that the ligament of the patella might not be too much upon the ſtretch. A ſtrict antiphlogiſtic regimen was recommended, and an opiate given in the evening. The pain of the knee was ſo intenſe during the night, that the anodyne produced no effect. In the morning of the 5th the fever increaſed, and the leg, from the knee to the ancle, was extremely tenſe, painful, and diſcovered a great diſpoſition to inflammation. The ſkin was ſtained with extravaſated fluids, of various ſhades, from a brown yellow, to a livid complexion.

In this diſagreeable ſituation of things, fourteen ounces of blood were taken from the arm, an ounce of Rochelle ſalt was given ſoon afterward, and, when it began to operate, a ſaline draught with nitre was repeated every three hours: thirty-five drops of laudanum were given at night. The tight integuments then ſufficiently ſuſtaining the fractured bone, the flannel

apparatus was diſuſed. The parts were conſtantly bathed the whole day, ſometimes with the vegeto-mineral water of Goulard, and ſometimes with a diſcutient and anodyne fomentation, compoſed of a decoction of poppy-heads, to which was added ſome crude ſal armoniac diſſolved in vinegar. At night the ceratum ſaponaceum was again applied.

June 6 and 7. THE ſymptoms were much in the ſame ſtate, with a little variation in the colour of the ſkin, which was then become darker. The ſame plan was purſued, his bowels were very well opened by the Rochelle ſalt, and the quantity of thebaic tincture in the night draught was increaſed in proportion to the degree of pain.

— 8. THE febrile ſymptoms were almoſt gone, and the tenſion of the leg very much reduced.

— 10. HE continued to mend; but, notwithſtanding the opiate was not omitted in the evening, he had but little reſt, on account of

of the colliſion of the fractured bone. There was a neceſſity, therefore, of applying ſome apparatus that would ſecure the ſituation of the tibia, and at the ſame time prevent any motion in the knee-joint. Theſe purpoſes were extremely well anſwered by a particular kind of ſplints, contrived by Mr. William Sharp, for a ſimilar caſe *.

FROM this time there happened no particular circumſtance worth relating: the patient by degrees recovered the uſe of his leg; but there was, for ſome time, a conſiderable ſtiffneſs in the knee-joint.

* See Plate II.

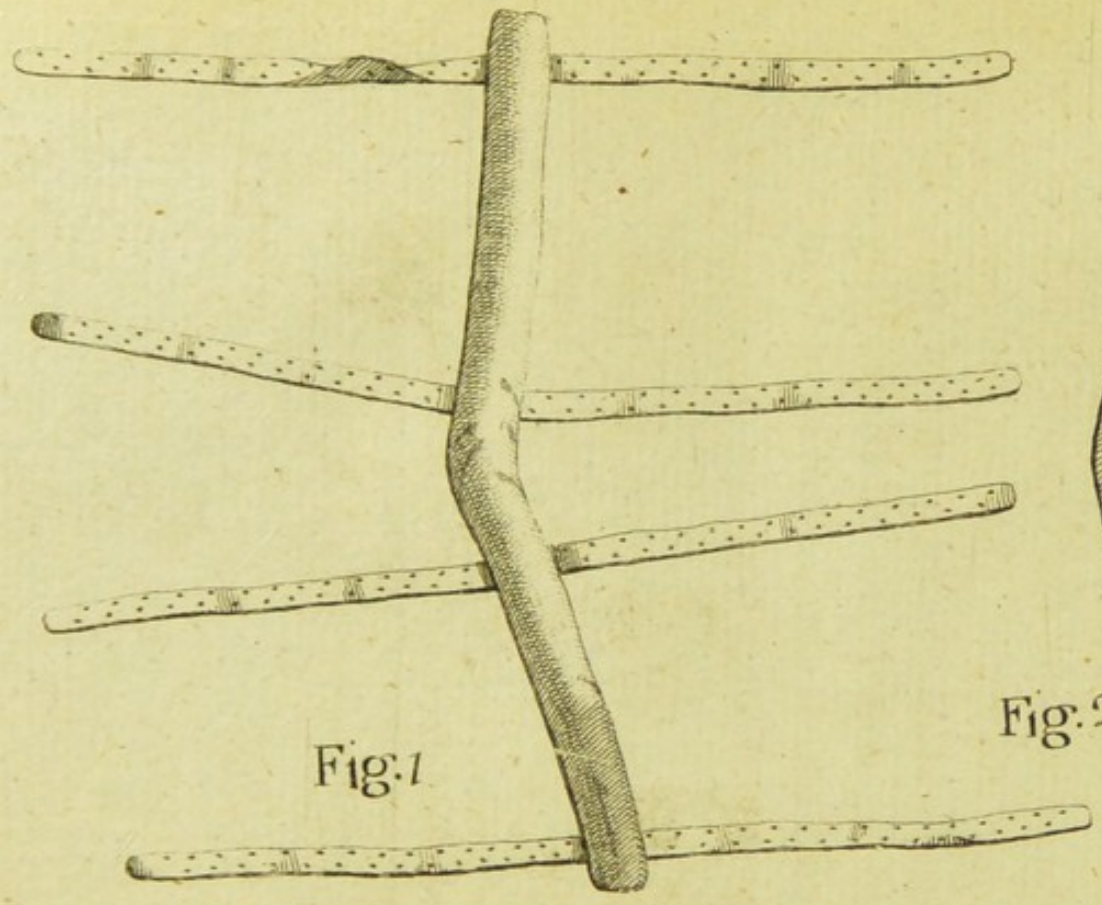


Fig. 1



Fig. 2

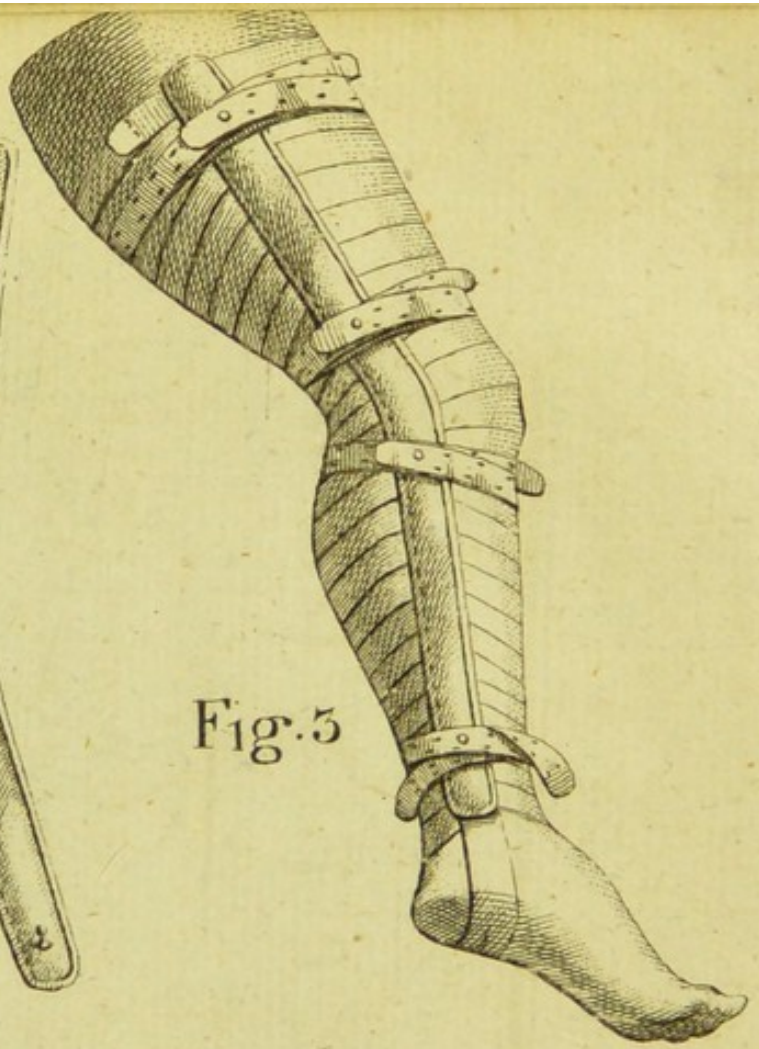


Fig. 3

APPENDIX.

Of the METHOD of CURING the BRONCHOCELE.

THE bronchocele is a preternatural enlargement of the *thyroid* gland. It does not appear that the ancients had any preciſe ideas of the nature of this diſeaſe, and of courſe the methods they have propoſed for its cure, muſt have been equally vague and uncertain.

CELSUS * confounds with the bronchocele, that ſpecies of encyſted tumour

* "At in cervice, inter cutem & aſperam arteriam, "tumor increſcit (βρογχοκήλην Græci vocant) quo, modo "caro hebes, modo humor aliquis, melli aquæve ſimilis, "includitur." Celſus, de Medic. Lib. VII. Cap. 13. p. 447.

called

called by ſurgeons meliceris, and recommends the application of a cauſtic for its cure; but adds, the method by exciſion is more expeditious.

ALBUCASIS ſeems to have embraced the ſame error, but is more cautious of the knife, and relates a caſe, where an ignorant operator, in attempting the exciſion of a bronchocele, divided the large veſſels of the neck, and killed the patient.

PAULUS ÆGINETA * deſcribes two ſpecies of bronchocele, one of which, he ſays, is occaſioned by fat, and the other, aneuriſmatic: for the relief of the firſt kind he adviſes the uſe of the knife.

WISEMAN and Freind † have confounded this diſeaſe with the ſcrophula; the latter expreſly declaring, that when the diſeaſe occupied the *thyroid gland*, it is not properly a bronchocele, but a ſtruma lolli. Wiſeman, on the other hand,

* Paul. Æginet. de Aſperæ Arteriæ Tumore, qui Bronchocele dicitur.

† Hiſtory of Phyſic.

deno-

denominates a tumour *bronchocele*, which was evidently ſtrumous, occupying part of the cheek, and extending round the root of the ear *.

THE moderns have not deſcribed this diſeaſe with the preciſion that might, in the preſent improved ſtate of ſurgery, have been expected. Heiſter, and others who have copied from him, have fallen into the error of Wiſeman and Freind, and have confounded the bronchocele with ſcrophulous ſwellings, ſituated in the lateral and anterior parts of the neck.

THERE cannot, certainly, be a more deſirable thing in the purſuit of medical or chirurgical knowledge, than to aſcertain with all poſſible exactneſs the real nature of diſeaſes; to diſtinguiſh them from each other with certainty; and to reduce the method of treating them to as great a degree of ſimplicity as may be. I can recollect but a few inſtances in which the bronchocele was accompanied with other

* Chirurg. Treatiſes, fol. Edit. p. 279.

ſcrophulous

ſcrophulous appearances. It is true, the ſcrophula has a great tendency to fix upon glands; but the thyroid gland differs in its ſtructure as much from thoſe that are affected by the ſcrophula, as the liver does from the kidneys; and there is juſt as much reaſon to think a man *muſt* have the jaundice, becauſe he has a nephritis, as to ſuppoſe the bronchocele muſt be ſtrumous, becauſe its ſeat is in the thyroid gland, and becauſe glands are found to be diſeaſed in the ſcrophula.

THE ſcrophulous virus is generally diſcovered to have produced its effects in the road of abſorption, and its ſeat, of conſequence, is moſtly in the *lymphatic glands*. The lymphatic ſyſtem, by the induſtry of modern anatomiſts, is now very well defined; by filling the tubes with quickſilver they are diſcoverable to the eye, and the lymphatic glands have been clearly demonſtrated. The thyroid gland differs eſſentially in its ſtructure from the lymphatics. The large proportion of artereal blood which

which this gland hath, renders it probable that it ſecretes ſome fluid, but its excretory ducts (if there are any) have never yet been diſcovered; and until the uſe of this part is better underſtood, the cauſe of the bronchocele may remain unknown.

VARIOUS conjectures, indeed, the apparent reſult of whim and caprice, have been formed concerning the cauſe of this diſeaſe. Thus the air and waters of a country, the drinking of very cold water, or that in which ſnow hath been diſſolved, ſtraining, or lifting great weights, have been, with great confidence, pronounced the cauſe of the bronchocele. Lifting weights muſt be the common lot of the inferior claſs of mankind in every country; and it is difficult to ſay why the Laplander, who drinks nothing but ſnow-water the greateſt part of the year, ſhould not be equally ſubject to the complaint as the inhabitants of the Alps and mountains of Tyrol, where the bronchocele is ſo common, that it is eſteemed a perſonal advantage.

tage *. Science in this country being now diveſted of theoretic chimeras, will not be ſatisfied with ſuch futile attempts to explain the cauſes of diſeaſes, but expects them to be better ſupported by truth and demonſtration.

Monsieur Girard, phyſician in ordinary to the king of France, mentions a ſpecies of bronchocele, which muſt have been very uncommon. It is, he ſays, occaſioned by a portion of the internal membrane of the trachea being protruded betwixt two of the cartilaginous rings of the windpipe, and forming a tumour in the

* " Il y a des villages entiers où perſonne n'en eſt exempt. On a dit que c'étoit une queſtion dans le pays, de ſavoir ſi c'eſt un défaut d'en avoir où de n'en avoir point, & dans le Tirol en effet, on prétend que cela paſſe pour ornement. Dans les lieux où tout le monde en a, les hommes & les femmes diſputent entr' eux de beauté, ſuivant la diſpoſition plus ou moins réguliere & avantageuſe du Goître qu'ils portent. Les Tiroliens traitent de *Cols de Grue* ceux de leurs voiſins, de même que les étrangers qui n'ont point de Goître. *Un Anglois*, voyageant dans ces contrées attira tous les regards par ſa figure ; mais on trouvoit qu'il lui manquoit un grand agrément : *le belle homme*, diſoit on, *s'il avoit un goître.*" Girard, Traite des Loupes, p. 409.

anterior

anterior part of the neck, ſoft, not diſcoloured, and without pain.

THERE is no doubt but the inhabitants of mountainous countries are more ſubject to the bronchocele than others; but there are exceptions to this general obſervation. In ſome parts of France the bronchocele (le goître) is endemic, particularly in Dauphiné and the Gévaudan. In the Gévaudan there are two little towns, at no great diſtance from each other, one of them is called St. Chely, and the other Malzieu. Malzieu is ſituated in a *valley*, ſurrounded by high mountains, and in this town moſt of the people have ſwelled necks; whereas at St. Chely, which ſtands in a high ſituation, the goître is unknown *.

THE bronchocele is to be met with at Paris and its environs, and there (as I believe at all other places) women are more ſubject to it than men; and Monſieur Girard having obſerved in France, as well

* Girard, du goître.

as

as ſome other countries, that the greater number of women who have the bronchocele are *married*, is induced to think the cauſe may be explained from circumſtances which take place in parturition. Admitting this to be a fact, he has explained it in a very ingenious manner *. But the women of St. Chely muſt be ſuppoſed to have the ſame difficulties in bringing forth their children as at Paris, and other places, and yet the bronchocele is

* " C'eſt toujours après une grande inſpiration que " les femmes en couche font les plus grands efforts. Les " poumons, remplis d'air, ſouffrent une grande compreſ- " ſion, ainſi que le diaphragme. Les muſcles du larynx " ſe contractent pour empêcher la ſortie de l'air, dont la " préſence eſt de la plus grande efficacité, pour que les " muſcles du bas-ventre exercent une puiſſance propor- " tionnée à la reſiſtance qu'ils ont à vaincre ; & il eſt " vraiſemblable que leur action l'emporte de beaucoup " ſur celle de la matrice pour l'expulſion de l'enfant. " C'eſt donc avec raiſon que les femmes, dans cet état, " retiennent le plus qu'elles peuvent leurs cris, pour fa- " voriſer cette action. Il en réſulte, d'un autre côté, " que l'air, chaſſé avec violence, mais arrêté avec la " même force par le retreciſſement de la glotte & du " goſier, gonfle & diſtend d'une part la trachée-artere, " de même que les bronches, & de l'autre intercepte la " circulation du ſang dans les parties voiſines, le peut " même faire extravaſer dans le tiſſu cellulaire."

unknown

unknown there; and indeed the fact, as far as I know, is, there are as many unmarried women who have this diſeaſe, as of thoſe who have experienced the pains of labour.

THE bronchocele is common in many parts of England, particularly in Derbyſhire; hence it is ſometimes called the Derby neck. It is alſo very prevalent in ſome diſtricts of Germany, the mountainous parts of Swiſſerland, at Turin, and the country adjacent the Po and the Doria.

I HAVE before obſerved, that the ancients had no certain ideas of the nature of the bronchocele, and therefore could not be ſuppoſed to recommend any method of curing it, which would bear the examination of rational enquiry. Celſus having confounded the bronchocele with a common encyſted tumour, and adviſed the uſe of the knife for its cure, appears to have led others into the ſame miſtake.

THE extirpation of the bronchocele by the knife, hath been attempted by Aquapendente, and recommended by Dionis. And we read in Palfin *, that a young lady of diſtinction having had a bronchocele extirpated, died under the operation. Mr. Gooch † tells us, " that he was " once prevailed upon to be preſent at the " extirpation of a bronchocele. The Surgeon was an intrepid operator, but before he had half finiſhed the buſineſs, " there was ſuch an effuſion of blood, as " obliged him to deſiſt, and turn his " whole attention to reſtraining the hæmorrhage; or, in the opinion of all preſent, the patient would have ſunk and " died under his hands. She died in leſs " than a week, and I was informed that " the blood was never totally ſtopped. " In another Caſe, where the operation " was performed againſt my opinion, by " one of the moſt dextrous operators in " London, a fatal hæmorrhage was very " near taking place. The young lady's

* Palfin Anatom. Tom. II. p. 313.
† Gooch's Med. & Chirurg. Obſ. p. 136.

" life

" life was preſerved, only by having a ſuc-
" ceſſion of perſons to keep a conſtant
" preſſure upon the bleeding veſſels day
" and night for near a week, with their
" fingers upon proper compreſſes, after
" the operator had been repeatedly diſap-
" pointed in the uſe of the needle and
" ligature."

When we reflect upon the ſituation of the thyroid * gland, and conſider its numerous arteries, which increaſe in diameter in proportion to the enlargement of the part, we ſhall not be ſurpriſed at the difficulties, that muſt attend its extirpation in a *diſeaſed* ſtate, and the danger there ever muſt be, of incurring a fatal hæmorrhage.

* " Les parties que cette humeur affecte, ſont entre-
" lacées d'une quantité immenſe de vaiſſeaux ſanguins.
" L'ouverture, principalement de l'artere laryngée ſupe-
" rieure, premiere branche de la carotide externe (artere
" fort groſſe, à proportion du petit volume de la glande
" thyroïde, à la quelle elle va ſe rendre,) jetteroit dans
" un péril éminent de mort, vu qu'il eſt ici très—difficile
" de lier les vaiſſeaux, ou de faire de fortes compreſſions
" pour appuyer l'action de l'agaric ou d'un cauſtique."
Girard du Goître, p. 433.

SOME obſervations have been communicated to the Royal Academy of Surgery at Paris, of the radical cure of the bronchocele having been obtained, by making an inciſion on each ſide the tumour, and then, by the introduction of a ſeton, to promote an internal ſuppuration. In particular caſes, where an external opening hath been made, Monſ. Louis, a Surgeon of the firſt eminence at Paris, affirms, that, if there is no reaſon (on account of a ſcirrhous hardneſs) to ſuppoſe the tumour will degenerate into a cancer, he attacks the complaint with the cauſtic ſtone; and when the eſchar ſeparates, by reiterated applications of the cauſtic, he puſhes on into the centre of the gland. This proceſs not only, he ſays, occaſions a deſtruction of the ſubſtance of the part, but, that afterwards, proper external reſolvent applications may be applied with advantage, which before the opening of the tumour, may have been uſed without the leaſt benefit. Monſ. Louis farther obſerves, that in ſome of theſe caſes, wonders may be done with butter of antimony, uſed with diſcretion.

cretion. From the ſituation and ſtructure of the thyroid gland, there can be little reaſon to imagine, that any topical application can be of uſe in the bronchocele. Whatever is thus applied, is abſorbed by the bibulous orifices of the lymphatics, which open upon the ſurface of the ſkin, and is either carried on with the lymph into the common courſe of circulation, or arreſted by the next lymphatic gland. Monſ. Girard * acquaints us, that he has ſometimes ſeen an incipient bronchocele diſperſed by gentle and long continued friction upon the part; and adviſes its uſe, whenever an internal proceſs is entered upon for a cure, which he thinks muſt be taken from the claſs of medicines that operate upon the urinary paſſages. He defends this opinion by analogical reaſoning, and partly by two or three uncommon caſes that he has met with. One of theſe is the caſe of a poor woman, who had a bronchocele for ſome time, of which ſhe was cured by a *diabetes*.

* Girard des Loupes, p. 429.

FROM the whole, we may be allowed to deduce the following corollaries,

1ſt, That an attempt to extirpate the bronchocele with the knife, can *never* be made without hazarding the patient's life:

2dly, That there can be but ſmall hopes of a cure from topical application: and,

3dly, That the reſolution of the tumour can only be expected by internal medicines.

MONS. DAPEYRON, a phyſician in Auvergne, has had great ſucceſs in the treatment of the bronchocele, from the diſſolvent and diuretic effects of the powder of calcined egg-ſhells. Three caſes upon this ſubject, were read with applauſe in the Royal Academy of Sciences at Montpelier, the 12th of January 1769; and they have been ſince inſerted in the Journal de Médecine *, of the month of March 1770.

* Vid. Journal de Médecine du mois de Mars 1770.

He

He prepares his patients for ſome days with mutton broth, in which the roots of madder have been boiled; then he gives a purge, after which he begins with the alcaline powder. Two ſcruples or a drachm of it, is mixed with three large ſpoonfuls of old red Port wine, and given every night and morning. By theſe means, the tumours diſappeared in leſs than forty days.

UPON another occaſion, Monſ. Dapeyron has aſſerted, that fifteen or twenty doſes of a drachm each, of the powder of calcined egg-ſhells, are ſufficient for the radical cure of the bronchocele. How far this method will ſucceed in ſimilar caſes, muſt be left to future experience to determine.

A SURGEON of reputation, who ſerved in the army of the Elector of Bavaria in the war before the laſt, had a remedy, by which he is ſaid to have cured the bronchocele in the ſpace of twelve days. The recipe is as follows:

Take—Sulphur one ounce.
Spunge, one drachm and a half.
Bits of new cloth of different colours, two handfuls.

The whole is to be put into a new and varniſhed earthen pot, and after being covered and luted, it is to be placed in an oven.

When the contents are calcined, they are to be powdered, and paſſed through a ſieve. The powder is to be divided into twelve parts; ſix of theſe are to be reſerved for internal uſe, and the other parts are to be mixed with a poultice of bread and milk, and applied to the tumour. Mr. Proſſer * alſo relates, that the bronchocele may be cured by the exhibition of a medicine twice a day, compoſed of millepedes, burnt ſpunge, and cinnabar of antimony. The patient is to be purged at intervals, with mercurial cathartic pills.

I might enumerate ſome other methods, that have, at various times, been

* Treatiſe on the Bronchocele.

put

put in practice for the cure of this troublesome diſeaſe; but as none of them have preſerved any degree of reputation, their inſertion would take up the Reader's time to no purpoſe. Indeed, it muſt be aſcribed to the total inefficacy of moſt of the remedies recommended for the cure of the thick neck, that many eminent Surgeons, with Mr. Gooch, have confeſſed, in their attempts to reſolve theſe ſwellings, they have generally been defeated *.

The moſt celebrated remedy for the cure of the bronchocele, is that which for many years hath been ſold at Coventry, and hitherto confined to the knowledge of a few perſons. The hiſtory of it is as follows.

It is now a conſiderable time ſince Dr. Bate lived at Coventry, and practiſed as a phyſician. He had a daughter, who married a Mr. Keeling, an apothecary of the town: after Miſs Bate was married to Mr. Keeling, ſhe was afflicted with a

* Gooch's Med. & Chirurg. Obſ. p. 138.

bron-

bronchocele, and applied to her father for his advice in the caſe, who gave her a preſcription which perfected her cure. After this event, Mr. Keeling adminiſtered the ſame medicines to other patients with ſuch ſucceſs, as ſoon procured him no ſmall degree of reputation. After his death, Mrs. Keeling kept the medicine a ſecret, but prepared and ſold it with ſo much advantage, that ſhe is ſaid to have gained more than three thouſand pounds by it. Mrs. Keeling has now been dead between twenty and thirty years. Mr. Lucas, who ſerved his apprenticeſhip with Mr. Keeling, and prepared the medicine for him, communicated the ſecret to Mr. Brockhurſt, who was likewiſe an apothecary at Coventry, and from him the diſcovery was made to Dr. Jones, a phyſician at this place, who has been dead about 16 years. After the deceaſe of Dr. Jones, the ſecret was divulged to two or three perſons. I cannot abſolutely determine, which of the two following receipts Dr. Bate gave his daughter; nor does it appear of great conſequence, becauſe, upon trial, they have

have both been found to ſucceed equally well, in the cure of the bronchocele.

NUMB. I.

THE day after the moon hath been in the full, the patient is to take a vomit. On the ſucceeding day a purge is to be adminiſtered. On the third night, going to bed, one of the following boluſes is to be placed in the mouth under the tongue, and being ſuffered to diſſolve gradually, is to be ſwallowed. This bole is to be repeated the ſix ſucceeding nights.

℞ Calcined ſpunge *,
Cork calcined,
Pumice-ſtone burnt, of each 10 grains,

to be ſeparately powdered, and made into a bole with ſyrup, honey, or mucilage.

ON each of the ſeven days the patient takes the preceding bole, the following powder is to be adminiſtered in the forenoon, in any proper vehicle.

* This was taken probably from Muſitanus.

℞ Flor.

℞ Flor. cham. pulv.
Rad. gentian. pulv.
Sum. centaur. min. pulv. āā. gr. v. M.

On the eighth day the purge is to be repeated. In the wane of the ſucceeding moon the ſame proceſs is to be entered into, and repeated a third time, unleſs the diſeaſe is cured before. The vomit is only to be taken before the firſt courſe of medicines.

NUMB. II.

℞ Spongiæ calcinat. ʒſs.
Mellis q. ſ. pro bolo.

The PREPARATION.

TIE the beſt ſpunge up hard with wet packthread, and calcine it in a crucible. Theſe boles are to be uſed as thoſe of the former receipt; the bitter powders are to be taken, and the ſame directions with regard to evacuations, obſerved in every reſpect as in NUMB. I.

A VERY eminent Surgeon, who hath had many opportunities of ſeeing the good effects

effects of both theſe preparations, aſſures me, that either of them will ſucceed with more certainty, if the patient takes a vomit and purge during the *increaſe* of the moon.

Some parts of theſe directions ſeem to bear the character of empiriciſm; but where no harm can poſſibly ariſe from, nor any inconvenience follow their uſe, it is to be wiſhed, that thoſe who think proper to give either of the preceding methods a trial, will do it in the manner recommended.

It ſeems highly probable, that the chief virtue of the bole conſiſts in the calcined ſpunge. It is at preſent a diſpute amongſt naturaliſts, whether ſpunge is a vegetable; or whether, like the coralines, it is of animal origin. It yields upon a chymical analyſis a larger quantity of volatile alcaline ſalt, than can be obtained from any animal ſubſtance, except the bags of the ſilk-worm; the caput mortuum icinerated, yields alſo a large proportion of fixed ſalt,

not

not an alcaline one, like that of vegetables, but chiefly of the marine kind *. Spunge is found in the ſea adhering to rocks, particularly in the Mediterranean, and about the iſlands of the Archipelago.

THE calcined ſpunge for either of our preparations, is carefully powdered in a glaſs or marble mortar: if a braſs one is uſed, the ſalts of ſpunge attract ſo much of the metal, as to acquire an emetic property.

IF the bronchocele is not very large, hard, or of long date; if the patient is a female, young, or not paſt thirty, I believe it will frequently give way to the treatment juſt deſcribed: but, if the tumour hath been of long continuance; if the patient is a man, or of either ſex paſt the meridian of life; I fear, that in direct oppoſition to the *Coventry*, or any other *receipt*, the bronchocele will ſtill remain one of the opprobria medicorum.

* Lewis's Mater. Medic. p. 550.

An

An ACCOUNT of a WOMAN, accidentally burnt to death at Coventry. In a Letter to Mr. WILLIAM SHARP. From the Philoſophical Tranſactions.

SIR,

THE following caſe, which has lately engaged the attention of every one in this part of the world, appears ſo very extraordinary, that I was determined to give you a minute account of its circumſtances; which will be the more agreeable to you, as you may depend upon the truth of every thing I ſhall relate to you concerning it.

MARY CLUES, of Gosford-ſtreet in this city, aged fifty-two years, had an indifferent character, and was much addicted to drinking. Since the death of her huſband, which happened about a year and a half ſince, her propenſity to this vice increaſed to ſuch a degree, that, I have been informed by ſeveral of her neighbours, ſhe has drank the quantity of four half

pints

pints of rum, undiluted with any other liquor, in a day. This practice was ſo familiar to her, that ſcarce a day has paſſed theſe laſt twelve months, but ſhe has ſwallowed from half a pint to a quart of rum or aniſeed-water. Her health gradually declined, and, from being a jolly well-looking woman, ſhe grew thinner, her complexion altered, and her ſkin became dry. About the beginning of February laſt, ſhe was attacked with the jaundice, and kept her bed. Although ſhe was now ſo helpleſs, as hardly to be able to do any thing for herſelf, ſhe continued her old cuſtom of dram-drinking, and generally ſmoaked a pipe every night. No one lived with her in the houſe. Her neighbours uſed in the day, frequently to come in, to ſee after her; and in the night commonly, tho' not always, a perſon ſat up with her; to whom ſhe hath often cried out, that ſhe ſaw the devil in ſome part of the room, who was come to take her away. Her bed-room was next the ſtreet, on the ground-floor, the walls of which were plaiſtered, and the floor made of bricks.

The

The chimney was ſmall, and there was a grate in it, which, from its ſize, could contain but a very ſmall quantity of fire. Her bedſtead ſtood parallel to, and at the diſtance of about three feet from the chimney. The bed's head was cloſe to the wall. On the other ſide the bed, oppoſite the chimney, was a window opening to the ſtreet. One curtain only belonged to the bed, which was hung on the ſide next the window, to prevent the light being troubleſome. She was accuſtomed to lie upon her ſide, cloſe to the edge of the bedſtead, next the fire; and on Sunday morning, March the 1ſt, tumbled upon the floor; where her helpleſs ſtate obliged her to lie ſome time, until Mary Hollyer, her next neighbour, came accidentally to ſee her. With ſome difficulty ſhe got her into bed. The ſame night, although ſhe was adviſed to it, ſhe refuſed to have any one to ſit up with her; and, at half paſt eleven, one Brooks, who was an occaſional attendant, left her as well as uſual, locked up her door, and went home. He had placed two bits of

coal quite backward upon the fire in the grate; and put a ſmall ruſh-light in a candleſtick, which was ſet in a chair near the head of the bed, but not on the ſide where the curtain was. At half after five the next morning, a ſmoak was obſerved to come out of the window in the ſtreet; and, upon breaking open the door, ſome flames were perceived in the room, which, with five or ſix buckets of water, were eaſily extinguiſhed. Betwixt the bed and fire-place, lay the remains of Mrs. Clues. The legs and one thigh were untouched. Except theſe parts, there were not the leaſt remains of any ſkin, muſcles, or *viſcera*. The bones of the ſkull, thorax, ſpine, and the upper extremities, were completely calcined, and covered with a whitiſh efflorescence. The ſkull lay near the head of the bed, the legs near the bottom, and the ſpine in a curved direction; ſo that ſhe appeared to have been burnt on her right ſide, with her back next the grate. The right *femur* was ſeparated from the *acetabulum* of the *iſchium*; the left was alſo ſeparated, and broken

broken off about three inches below the great *trochanter*. The connection of the *ſacrum* with the *oſſa innominata*, and the inferior *vertebræ* of the loins was deſtroyed. The intervening ligaments kept the *vertebræ* of the loins, back, and neck together, and the ſkull was ſtill reſting upon the atlas. When the flames were extinguiſhed, it appeared that very little damage had been done to the furniture of the room, and that the ſide of the bed next the fire had ſuffered moſt. The bedſtead was ſuperficially burnt, but the feather-bed, ſheets, blankets, &c. were not deſtroyed. The curtain on the other ſide the bed was untouched, and a deal door near the bed not in the leaſt injured. I was in the room about two hours after the miſchief was diſcovered, and obſerved the walls and every thing in the room were coloured black: there was a diſagreeable vapour, but nothing was much burnt, except Mrs. Clues, whoſe remains I ſaw in the ſtate juſt deſcribed. I took away one of the bones (the remains of the ſacrum) which you have incloſed with this

Letter. The only way that I can account for this phenomenon is, by ſuppoſing that ſhe again fell out of bed on Monday morning; that her linen was ſet on fire, either by the candle from the chair, or a coal falling from the grate; that her ſolids and fluids had been rendered inflammable, by the immenſe quantity of ſpirituous liquors ſhe had drank; and that ſhe was probably ſoon reduced to aſhes, as the room ſuffered very little.

THE END.

Practical Observations

UPON

AMPUTATION,

AND THE

AFTER-TREATMENT.

BY EDWARD ALANSON,

SURGEON to the LIVERPOOL INFIRMARY.

LONDON,

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MDCCLXXIX.

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To the Preſident, Treaſurer, and Truſtees of the Liverpool *Infirmary.*

GENTLEMEN,

I Eagerly embrace the Opportunity which the preſent Publication affords, to acknowledge the Honor you conferred upon me, by electing me to the Office with which I have, by your Partiality, been ſeveral Years intruſted; and to inform you, that this my Station has enabled me to make ſome Surgical Obſervations, which I have Reaſon to believe will prove (particularly at this Juncture) very beneficial to Mankind.

I beg Leave to preſent to you a Remark, which muſt give you Pleaſure. If in your public Infirmary the Objects are not only treated with great Humanity and Succeſs, but the Art of Surgery likewiſe improved, it plainly appears, that the Utility of

theſe Houſes is by no Means confined to the Objects they contain, but is extended to all Ranks, Nations and Ages.

You muſt have obſerved with Pleaſure, that neceſſary Unanimity which prevails amongſt the medical People within your Walls.

To you, Gentlemen, who have the Welfare of this Infirmary ſo conſtantly in View, theſe Sheets are addreſſed; with the fulleſt Aſſurances on my Part, that while I have Health, you may always command my utmoſt Attention, and in Teſtimony of that Reſpect,

I remain,

Your moſt obedient,

Baſnett Street,
1779.

humble Servant,

EDWARD ALANSON.

PREFACE.

WHEN we attempt to introduce any new and important Deviations, from the uſual Mode of Practice, into general Uſe, and particularly in a Point of ſuch Conſequence, as the directing almoſt a total Change in the Mode of performing and after-treating one of the principal Surgical Operations, the Public have a Right to be fully acquainted with the Author's Reaſons and Motives for ſuch Attempt; and ſuch Trials ſhould likewiſe previouſly have been made, as are ſufficient to convince, that what we recommend, will bear the Teſt of general Experience.

I have taken ſome Pains to inform myſelf what other Practitioners are doing in other Hoſpitals, and from ſuch unprejudiced Authority, as I can fully rely upon, I am convinced, that too

too little Skin is ſaved, the Muſcles are generally divided by a perpendicular circular Inciſion, no Union is attempted by the firſt Intention, the Parts are dreſſed with dry Lint, and by many the Arteries tied with the Needle, including Nerves, Veins, and the adjacent Parts.

Hence will more frequently ariſe Spaſms, briſk Symptomatic Fever, Hæmorrhage, large Diſcharge of Matter, Retraction of the Muſcles, and Exfoliation: the Treatment which it is the Intention of this little Eſſay to recommend, may be conſidered as a powerful Preventative of theſe diſagreeable Symptoms; and I am aſſured, our Cures are compleated in half the Time requiſite, under the common Treatment: Theſe are my Reaſons for addreſſing the Public upon this Subject.

I moſt earneſtly recommend the Treatment here deſcribed, to the Con-

Conſideration of the Army and Navy Surgeons; no doubt there are Men of Experience and Judgment in theſe Stations; but I am ſorry to obſerve, that I have ſeen ſome late Inſtances of their Treatment, and heard of others, where ſo little Attention has been directed to ſave a ſufficient Quantity of Skin, that the Bones have projected, and the Cures proved uncommonly tedious.

The Facts here deſcribed may be relied upon, the Practice recommended is the reſult of a conſiderable Experience, for nine Years, in a public Hoſpital, where the Treatment is inſpected by, and fully known to others. If I have expreſſed myſelf in ſuch a Manner, as to enable the Reader to put in Practice the Means recommended, I have fully attained what I aimed at; if I have made a Step towards the Improvement of Surgery, I ſhall be much pleaſed; an Art, that,

when

when practiſed with Humanity, Honor and Judgment, is an Ornament to human Nature, and for its Certainty in relieving many of the moſt diſtreſsful Accidents, to which all are liable, muſt ever be conſidered as of the utmoſt Importance to the Happineſs of Mankind.

ON

ON AMPUTATION, AND THE AFTER-TREATMENT.

PART I.

On the Mode of performing the Operation.

MY Deviations from the uſual Practice, conſiſt; Firſt, in the Mode of operating; and Secondly, in the After-treatment: I ſhall proceed to give as conciſe and clear an Account of both, as is in my Power.

Firſt, as to the Operation, we differ relative to the Application of the Tape, the Quantity of Skin ſaved, and the Manner of executing the Double Inciſion.

The Uſe of a Tape or circular Band conſidered.

After firſt viewing the Sentiments of the beſt modern Surgical Writers, and conſidering what I have to offer, I will leave the Reader to draw his own Concluſions.

" While one of the Aſſiſtants holds the Leg, you muſt roll a Slip of fine Rag Half an Inch broad, Three or Four Times round it, about Four or Five Inches below the inferior Extremity of the Patella: this being pinned on, is to ſerve as a Guide for the Knife, which without it, perhaps, would not be directed ſo dextrouſly." *Sharpe*'s *Operations*, p. 226.

" The Part is then fixed upon for making the Firſt Inciſion through the Integuments, Half an Inch below which the Tape is to be paſſed round the Limb, (making ſeveral Turns as tight as poſſible,) and to be pinned. It ſeems to me to be the Intention of many Operators, to apply this Tape only as a Guide for

for the Knife, as directed by Mr. *Sharpe*, and to cut either above or below it, as it may happen: with this Intention, they roll it round the Limb looſely. *Heiſter* indeed, in his Book of Surgery, recommends the Tape to be applied tight round the Limb, in order to keep the fleſhy Parts cloſe to the Bone, his Intention being to amputate, by carrying his Inciſion through the Integuments and Muſcles down to the Bone at once. He likewiſe ſays that the Amputation is to be made below the Tape, as does *Monro* in the *Medical Eſſays*. The *French* Surgeons, in their *Memoirs*, are likewiſe of the ſame Way of thinking. *Le Dran* does not apply the Tape for the Direction of the Knife, but to keep the Muſcles compact and cloſe to the Bone. I muſt here remark, that cutting above the Tape will prevent the Operator from being embarraſſed when he is to make his Second Inciſion, which is to go through the Muſcles to the Bone, as the Tape generally ſlips off, and is in the Way of the Knife, if the Firſt Inciſion is made below it. Another Advantage, which ariſes from pulling the Tape as

tight as poſſible in paſſing it round the Limb before it is pinned, is, that the Skin will be raiſed from the ſubjacent Muſcles, when the Aſſiſtant draws it up, which cannot be the Caſe, if the Inciſion is made below the Tape; but, by carrying the Knife a little above it, the Integuments will be divided without cutting into the Muſcles, the Patients ſaved from ſome Pain, and a Neatneſs given to the Operation." *Bromfield*'s *Chirurg. Obſerv.*

The laſt-named Author, having taken a very full View of the Subject, I have tranſcribed the whole Paſſage; and have been the more particular in this Reſpect, as it likewiſe contains the Sentiments of others. To make ſhort of the Matter, I dare venture to aſſert, that whether you cut above or below the Tape; whether you conſider it as a Director to the Knife, or as giving Steadineſs to the Parts; or with whatever apparent View you apply it, that it may be advantageouſly laid aſide; as the following Method appears upon Trial, in every Reſpect ſuperior.

The

The mental Sufferings of the Diſeaſed will ever be conſidered, by the humane Practitioner, as highly intitled to his Attention; and we cannot avoid obſerving, that after the Tourniquet is applied, every Moment's Delay detains the Patient in a moſt painful State of Mind, which the Application of the Tape greatly prolongs; therefore, if not attended with adequate ſuperior Advantages, here is ſufficient Reaſon for exploding its Uſe. Therefore, as ſoon as the Tourniquet is applied, let an Aſſiſtant graſp the Limb circularly with both Hands, and firmly draw the Skin and Muſcles upwards; the Operator now fixing his Eye upon the proper Part, will make the circular Inciſion through the Skin and adipoſe Membrane, with conſiderable Facility and Diſpatch, and the Knife will paſs much quicker, in conſequence of the tenſe State in which the Parts are ſupported; and the Operator's Attention not being confined to cut in the exact Direction of the Tape, will enable him to execute in Half the Time.

Hence it appears, that the Application of the Tape occaſions a conſiderable and anxious

State

State of Delay, previous to the circular Inciſion, and likewiſe is a great Obſtacle to the ſpeedy Execution of it. Now, as it is univerſally allowed, that the Diviſion of the Skin is the moſt painful Part of Inciſions in general, we are always directed to execute this Part of an Operation with Diſpatch. I may likewiſe obſerve, that the leading Objects are more fully kept in View, viz. the ſaving as much Skin and muſcular Subſtance, as will afterwards form a good Cuſhion upon the Extremity of the Bones; and this is promoted by the Method here recommended: Therefore, I think the Uſe of the Tape is exploded upon rational Grounds.

On the Double Incision.

THE Double Inciſion, as uſually adviſed and practiſed by all the beſt modern Surgical Writers, is, I believe, capable of conſiderable Improvement; as will evidently appear to every unprejudiced Perſon, that

that will take a candid View of the Subject: And this will be the moſt effectually accompliſhed, by conſidering the Precepts of the beſt Writers, and comparing them with the Reaſon, and Experience, I have to offer.

"The Ligature being made according to Cuſtom, with Mr. *Petit*'s Tourniquet to ſtop the Blood, and the Limb being ſupported by two Aſſiſtants, I made a circular Inciſion through the Skin and Muſcles, with the crooked Knife: Then ordering them to be drawn upwards, by the Aſſiſtant who embraced the ſuperior Part of the Arm, I began the circular Turn again with the Knife, even with the Wound, cutting a ſecond Time to the Bone, which I ſawed off even with the Fleſh." *Le Dran*'s *Surgery*.

"The Courſe of the Blood being ſtopped, you muſt begin your Inciſion juſt below the Linen Roller, on the under Part of the Limb, bringing your Knife towards you, which at one Sweep may cut more than the Semicircle; then beginning your ſecond

Wound

Wound on the upper Part, it muſt be continued from the one Extremity to the other of the firſt Wound, making them but one Line. Theſe Inciſions muſt be made quite through the Membrana Adipoſa, as far as the Muſcles, then taking off the Linen Roller, and an Aſſiſtant drawing back the Skin, as far as it will go, you make your Wound from the Edges of it when drawn back, through the Fleſh to the Bone, in the ſame Manner as you did through the Skin." *Sharpe*'s *Operations*, p. 227.

" As ſoon as the Tape is thus applied, the Tourniquet is to be ſcrewed tight: The circular Inciſion through the Integuments being made by the diſmembering Knife, if any little Parts of the Integuments ſtill adhere to the Muſcles, they ſhould be ſet at Liberty with the Point of it, ſo as that the Skin may ſlip eaſily over the Muſcles. The Aſſiſtant muſt then draw up the Skin as high as poſſible, which the Operator may aſſiſt with his Fingers. The Knife is then applied cloſe to the Edge of the Integuments thus drawn

drawn up, and carried quite through the Muſcles down to the Bone, in a circular Manner as before." *Bromfield*'s *Chirurg. Obſ.* Vol. I. p. 150.

Le Dran, after the circular Inciſion, directs the Skin and Muſcles to be drawn upwards; he then cuts through theMuſcles down to the Bone. *Sharpe*, after the circular Inciſion, directs an Aſſiſtant to draw back the Skin as far as it will go, and to make your Wound from the Edges of it, when drawn back, through the Muſcles down to the Bone. *Bromfield*'s Advice is more judicious, and agreeable to the Practice of the moſt eminent Operators of the preſent Day: His Words are, "After the circular Inciſion, if any little Parts of the Integuments ſtill adhere to the Muſcles, they ſhould be ſet at Liberty," *&c.* Now if we act agreeable to the Advice of the laſt named Author, it is extremely uncertain what Quantity of Skin we ſhall ſave; in ſome Subjects more, in others leſs; becauſe in ſome the cellular and ligamentous Attachments will yield more readily than in

 others.

others. However, it is certain not any of them ſave a ſufficient Quantity; that is, as much as will, after the Operation is finiſhed, fully cover the whole Surface of the Wound with the moſt perfect Eaſe; and upon this Circumſtance a ſpeedy Cure principally depends.

Bromfield's Advice is, "to draw up the Skin as high as poſſible," but gives us no exact Direction as to the Quantity of Skin we ought to preſerve. Directions "to draw the Skin upwards," "as far as it will go," "as high as poſſible," do not aſſign the Quantity proper to be ſaved; therefore, it remains for future Experience to decide, what Quantity ſhould be ſaved to produce the moſt ſpeedy Cure.

After you have made your Inciſion thro' the Skin and adipoſe Membrane, agreeable to the foregoing Directions, the Aſſiſtant ſtill continuing a ſteady ſupport of the Parts, ſeparate the cellular and ligamentous Attachments with the Point of your Knife, till as much Skin is drawn

drawn up, as will afterwards fully cover the whole Surface of the Wound, with the moſt perfect Eaſe. And that this may always be executed, I have fully experienced in a Variety of different Subjects.

Our next Deviation from the uſual Mode of operating, is in a different Diviſion of the Muſcles, in making the ſecond Inciſion. "The Knife is then applied cloſe to the Edge of the Integuments thus drawn up, and carried quite through the Muſcles down to the Bone in a circular Manner as before." *Sharpe.*

It would be uſeleſs to produce any other Quotation upon this Point, as the Direction is ſimilar to that of all the beſt Writers, and exactly what is practiſed by moſt Operators of the preſent Time. Altho' the Production of a ſpeedy Cure does not depend ſo fully upon this Part of the Operation, as the foregoing, the following Deviation is of conſiderable Importance; as will enable you to ſaw off the Bone, much higher than is uſually practiſed;

tiſed; and the Parts ſo divided, are much better adapted to cover the Bone, approximate, and unite.

Inſtead of applying the Knife cloſe to the Edge of the Integuments, and dividing the Muſcles in a circular Manner down to the Bone, let it be done as follows: We will ſuppoſe you are operating upon the Thigh; apply the Edge of your Knife, under the Edge of the ſupported Integuments, and cut obliquely thro' the Muſcles; upwards as to the Limb, and down to the Bone; ſo as to lay it bare, about three or four Fingers Breadth higher than you would by the uſual perpendicular circular Inciſion, and continue to divide the Parts all round the Limb, guiding the Knife in the ſame Direction: the ſpeedy Execution of this Inciſion will be much expedited, by the Aſſiſtant continuing a firm and ſteady Elevation of the Parts, as the Knife acts. With the Aſſiſtance of the Leather Retractor, as adviſed by *Gooch*, and *Bromfield*, you will now ſaw off the Bone higher than is uſually practiſed, which is a conſiderable Advantage,

vantage, and coincides with the original intention of the double Inciſion: viz. to prevent a Projection of the Bone, and form a ſmall Cicatrix.

A Stump thus formed in the Thigh, if you ſupport the Parts gently forwards, after the Operation; viewing the whole Surface of the Wound, may be ſaid in ſome Degree to reſemble a Cone, the Apex of which is the Extremity of the Bone: the Parts thus divided, are obviouſly the beſt calculated to prevent a Sugar-loaf Stump.

Having given a full Deſcription of the Deviations in the Mode of performing the Operation, I ſhould, in Proſecution of the propoſed Plan, immediately proceed to the Dreſſings; but will firſt beg Leave to make a few Remarks, which, altho' not new, yet are of the utmoſt Importance, and if not obſerved, may in ſome Degree fruſtrate our Plan of Operating and Dreſſing, by preventing what we have in View thro' the Whole, viz. a Union of the Parts by the firſt Intention.

Now

Now altho' this cannot be effected in a total Degree, yet it will take Place conſiderably; and more ſo, than thoſe who have not practiſed the Method, will perhaps at the firſt View conceive. It is of the utmoſt Conſequence, that the Veſſels ſhould not be taken up with the Needle and Ligature, in the old Method, where the Artery, Veins, Nerves, and ſome of the adjacent Parts, are all included: this muſt ever be productive of larger Inflammation, Tenſion, and conſequent Suppuration, beſides the violent Spaſms, which are the more immediate Conſequence: to which may be added, the firm Hold given to the Ligatures, which frequently renders their Separation very tedious: all theſe are obvious Obſtructions to the deſired Union. When the Arteries are drawn out with the Tenaculum, and tied as naked as poſſible, it will be attended with very little Pain at the Time, and as little ſubſequent Trouble, or Interruption to the ſpeedy union of the Parts. As to the comparative Security from Hæmorrhage, it is almoſt ſuperfluous to add my Teſtimony, after what has been advanced, by ſeveral Modern Writers of the

firſt

firſt Note: however, I ſhall take this Opportunity to obſerve, that the Tenaculum has been uſed in our Hoſpital ſeveral Years, and in my Opinion merits every Recommendation given by its moſt ſanguine Advocates.



PART

PART II.

On the Treatment after the Operation.

WE will firſt take a View of the Directions given, by the beſt Surgical Writers, upon this Subject. "You muſt apply looſe dry Lint to the Wound; or in caſe the ſmall Veſſels bleed plentifully, you may throw a Handful of Flour amongſt the Lint, which will contribute to the more effectual ſtopping up their Orifices: before you lay on the Pledgit, you muſt bind the Stump, and begin to roll from the lower Part of the Thigh, down to the Extremity of the Stump. The Uſe of this Roller is to keep the Skin forwards, which, notwithſtanding the Steps already taken to prevent its falling back, would in ſome Meaſure do ſo, unleſs ſuſtained in this Manner." *Sharpe*, p. 230.

"As Pain is a dreadful Symptom indeed, and productive of much Miſchief even after an Operation is perfectly well performed, the utmoſt Attention is required, to prevent or remove

remove it; and for this Conſideration ſtrait circular Bandage ſhould be avoided, to which, from the Interruption of the Circulation of the Blood, may juſtly be aſcribed not only Pain, but many of the moſt threatening conſequential Symptoms. A very little Reflection will ſufficiently convince us of the Abſurdity of this Practice, and that, inſtead of preventing, it tends directly to increaſe the Hæmorrhage, as has been demonſtrated by Profeſſor *Monro*, one of the greateſt Men of the Age. Soft Lint, evenly applied, a Plaiſter or Pledget ſpread with Unguent. Tripharm. Cerat. alb. or ſomething of this Nature, confined with Strips of common Plaiſter, as has been directed, and a knitted Woollen Cap, will be found Dreſſing and Bandage ſufficient, in whatever Limb Amputation is performed; which readily yielding to the Diſtenſion of the Veſſels, upon the increaſed Power and Velocity of the Blood, will allow a more free and uninterrupted Reflux; conſequently leſs Pain, Fever, and Inflammation will enſue, and a quicker Digeſtion of the Wound, without ſo much offenſive Gleet as

I have obſerved. Hence we may reaſonably infer, that the Patient's Life will be leſs expoſed to Danger, if ſtrait Bandage be omitted in Amputation." *Gooche*'s *Surgery*, Vol. II. p. 335.

Bromfield, in his *Surgery*, Vol. I. p. 172. after having deſcribed the Operation, adds, that to reap the Advantage of the double Inciſion, the Skin ſhould be brought forward by an Aſſiſtant, and retained with a circular Roller; but immediately gives us the following Paſſage, which is a direct Contradiction to the foregoing; and leaves the Reader in doubt, whether the Reſult of the Author's extenſive Experience is in Favor of the immediate Application of the circular Bandage, or not: we are firſt adviſed to uſe it, and then told that People are too ſolicitous in bringing the Skin forwards early, expecting it to fix immediately, but I will give you the whole Paſſage in his own Words. "I think, in general, we are rather too ſolicitous in bringing the Skin forwards early after an Amputation, expecting it is to fix imme-

immediately; but I have frequently ſeen Miſchief done by the tightneſs of the Roller, when applied with this View, and Abſceſſes have been the Conſequence. When the Roller is applied with this Intention below the Knee, ſtill greater Caution is neceſſary, as the Edges of the ſawn End of the Tibia, by the Preſſure of the Bandage, have made their Way through the Integuments; therefore, we ſhould always, in thin People, lay a Compreſs of Tow or Cloth on each Side of the Tibia, ſufficiently thick to prevent the Roller from preſſing too tight on the Bone, when we come to paſs its Circles round the lower Edge of the Stump, and when the Skin is well ſupported by the laſt Circle of the Roller, we ſhould pin the End there."

Hence you ſee, that whether a circular Bandage ſhould be applied immediately after the Operation, or you are to wait, until the inflammatory State of the Parts is abated, by a kindly Digeſtion of the Wound, are Points, which remain very much undecided by Practitioners of the firſt Rank. If you apply a

circular

circular Linen Roller, ſufficiently tight to detain the Skin forwards, as it will not yield to the ſubſequent inflammatory Tenſion of the Parts, it will conſequently often occaſion all the diſagreeable Symptoms related by the foregoing judicious Authors.

In the Year 1770, I fully and attentively conſidered all I had ſeen and read upon this Subject. I had obſerved, that notwithſtanding the Advantage of the double Inciſion, as uſually practiſed, Exfoliation of the Bone, a tedious Cure, and in the Thigh particularly, Retraction of the Muſcles, and a Sugar-loaf Stump, were too often the Conſequence; and this, even when the Buſineſs was conducted by Men of deſervedly the firſt Eminence in the Kingdom. If we do not apply the Roller until Digeſtion is formed, it clearly appears from Experience, that it comes too late to prevent theſe Evils, or anſwer any important Purpoſe. When the Part, to ſome Diſtance from the Surface of the Stump, have all been in a State of Inflammation, the cellular Membrane, or connecting

necting Medium, which in a State of Health, (that is immediately after the Operation,) is capable of conſiderable Elongation, is now ſo altered, by the Inflammation it has undergone, the Suppuration, and conſequent Diſſolution of its Texture, to which may be added, the new formed Adheſions, to which all membranous Parts in an inflammatory State are peculiarly liable, that it is deprived of its yielding Power. As a Proof of this, attempt to draw the Skin forwards, after the inflammatory Stage, and you will find the cellular Membrane ſcarcely yield at all, and this more particularly near the Extremity of the Stump, where the Inflammation has been the moſt conſiderable; hence at this Part, during your Attempt, the Edge of the Skin tucks in upon the Surface of the Wound, and the cellular Membrane will give Way only gradually, by being firmly retained in this Poſture, with the Aſſiſtance of a firm circular Bandage. Therefore the Surgeon will be much diſappointed, if he expects to bring the Skin forwards in any conſiderable Degree, by applying his Bandage at this Period;

Period; and the Patient will ſuffer Pain during its Application, and for ſome Time after, occaſioned by the adherent Parts being ſupported upon the Stretch.

The following Inferences are fairly deducible from the foregoing Conſiderations. 1. That the Adheſion, in conſequence of the Inflammation, is a moſt urgent Reaſon, why the Skin ought to be brought forwards immediately after the Operation, that it may become fixed by that Adheſion. 2. That if this could be effected, by Means that would not increaſe the inflammatory Tenſion, and the other diſagreeable conſequent Symptoms, a great Point would be gained. 3. That a Bandage capable of ſupporting the Parts, and eaſily yielding to the ſubſequent inflammatory Tenſion, appears to be the Deſideratum.

I now reflected, that in ſome very painful Caſes of fractured Ribs, the Parts are firmly ſupported by a Flannel Bandage, and that this eaſily adapts itſelf to the alternate Motions

tions of the Cheſt, being of a ſoft, yielding, elaſtic Nature: and hence it appeared fairly deducible, that a Bandage made of the ſame Materials, is the beſt calculated for a uſeful circular one after Amputation. I had at this Time a Patient at the Hoſpital, with a White Swelling in the Knee, who came from the Country to have the Limb amputated. Being a young Operator, and hence more particularly deſirous of Succeſs, I was led to the foregoing Reflections, which ended in a Determination to uſe the Flannel circular Bandage immediately after the Operation, and to watch it attentively, that if it occaſioned more Pain than uſual, it might be immediately removed.

The circular Inciſion was made as near as poſſible to the diſeaſed Parts, thro' the Skin and Membrana Adipoſa, down to the Muſcles, the Parts being firmly retracted, the cellular and membranous Attachments yielded ſo conſiderably, that rather more Skin was ſaved than uſual, the Muſcles were divided by

by a perpendicular circular Inciſion, and the Bone, as is common, with the Saw.

At this Time I was not aware of the Propriety of ſaving as much Skin as will afterwards cover the whole Surface of the Wound, and conſequently did not divide the cellular and membranous Attachments in that free Manner, which I now ſo urgently recommend. Upon ſlackening the Tourniquet a Number of Veſſels diſcharged, the muſcular Branches appeared uncommonly large, and it was thought neceſſary to tie thirteen Arteries at the Time of the Operation. The Skin being now brought forwards over the Extremity of the Stump, and retained there by an Aſſiſtant, a circular Roller made of the fineſt Swan-ſkin Flannel, was paſſed round the Body, and carried two or three Times round the upper Part of the Thigh, where it formed a ſufficient Baſis for the Support of the Skin and Muſcles; it was then brought forwards in a circular Direction, till it arrived near the Extremity of the Stump. Although the Roller was not drawn tight,

tight, it appeared to ſupport the Parts ſufficiently, and very much to my Satisfaction: I then applied dry Lint upon the Bone, and Surface of the Muſcles, but the Edge of the Wound was dreſſed with Pledgets, ſpread with a ſoft digeſtive Ointment. The Operation was performed at eleven o'Clock in the Morning, and the Patient continued as eaſy as uſual, till five in the Afternoon; the Stump then bled ſo faſt, that it was neceſſary to remove the Dreſſings; two Arteries diſcharged very faſt, which had not appeared before; they were drawn out with the Tenaculum, and tied. I was much hurt with the Sufferings of the poor Patient; when the Lint, which had formed a firm Adheſion with the Surface of the Sore, was ſeparated, he declared that he felt more from this, than any Part of the Amputation. After having tied ſo many Veſſels, I conſidered him as in very little Danger of a returning Hæmorrhage, and therefore re-applied the Bandage, and inſtead of the dry Lint, placed the Skin over the Surface of the Wound, as far as it would

go, and dreſſed the whole with digeſtive Pledgets.

Upon the fourth Day after the Operation, I changed the Dreſſings, which all ſeparated with the moſt perfect Eaſe; the Diſcharge was very ſmall, and the Skin was over the Wound, exactly as I had left it, and the whole in a very kind State reſpecting inflammatory Tenſion. In ſhort, the Skin ſoon formed ſuch Adheſions, as fixed it where it was firſt placed, the Diſcharge was uncommonly moderate thro' the whole Cure, and by continuing the Bandage to ſupport the Parts, with ſoft gentle Dreſſings, the Stump perfectly healed in twenty Days. The Cicatrix was in the Centre of the Stump, and ſo ſmall as to be perfectly covered with a Shilling; and as the old Skin formed ſo conſiderable a Portion of the Extremity of the Stump, and there had been ſo ſmall a Waſte of the adipoſe and cellular Parts, in conſequence of the ſmall Suppuration, the whole looked very plump and full, and formed the beſt Cuſhion to walk upon I had ever ſeen.

The

The Linen circular Bandage, as recommended and uſed by many, immediately after the Operation, had been laid aſide in this Hoſpital, till Digeſtion, and an Abatement of the inflammatory Symptoms had taken Place, and this Practice was agreeable to the Opinion of a very experienced Practitioner, for whoſe Judgment I had a great Reſpect: ſo that it was with Difficulty I could reconcile myſelf to a Trial of the Flannel, immediately after the Operation. However, after this Trial, I began to think the Practice of Surgeons erroneous, in not attempting to bring the Skin forwards immediately after the Operation, that Adheſions might take Place: and likewiſe, that the Application of dry Lint opened and dilated the Surface of the Wound, and cauſed great Irritation; and conſequently, firſt, large ſerous Diſcharges, and afterwards, great Suppurations: that this was going contrary to Nature, who is the moſt ſucceſsful in reſtoring diſeaſed Parts, when the leaſt interrupted by Art. Therefore from this Time, I always applied the circular Bandage, and never teized the Wound with dry Lint,

ſeldom applying any Dreſſing, but the digeſtive Pledgets, except when ſmall Veſſels bled, which were not ſo large as to require the Ligature: I commonly reſtrained theſe with light Doſſils of Lint, dipped in Ol. Olivar. et Sp. Tereb. ā. p. æ. which always ſeparated at the firſt Dreſſing.

Meſſrs. *Park* and *Lyon*, my Colleagues at the Infirmary, immediately purſued this Plan, and to their Accuracy and Attention, the Public are indebted for a more extenſive Trial of the Bandage, and ſome of the ſubſequent Hints.

In Mr. *Bromfield*'s Book of Surgery, you will find the following Paſſage, "The proper Dreſſing is dry Lint to the Bone, then a circular Piece of old Holland, to lie within the Skin on the Muſcles, which is of great Service, as the reſt of the Dreſſings will come off eaſily, when this is taken hold of; dry Lint ſhould be applied on this Piece of Linen, to fill up the Cavities in the Stump; and in Caſe the ſmall Veſſels ſhould weep, a little

a little Flour may be thrown on the Bit of Cloth, on the next Layer of Lint, which may alſo be aſſiſted in its Compreſſion, by applying a ſoft Bolſter of Tow on the Lint. Small Pledgets of the digeſtive Ointment ſpread on Lint, ſhould be made Uſe of to the Edges of the Stump, which will prevent the ſticking of the Dreſſings."

The Interpoſition of a Piece of old Holland, is certainly a rational, and judicious Improvement: but if the Cavities are to be filled up, and Flour, with Compreſſion, added, great Irritation and Dilatation of the Wound, will certainly be the Conſequence.

Dry Lint appears to be a neat and convenient Dreſſing for freſh Wounds, as it has a Power, particularly when aſſiſted with gentle Preſſure, of ſpeedily ſuppreſſing the bleeding from all the ſmall Veſſels; but I ſhall confine myſelf to a few Obſervations upon its Effects as a Dreſſing after Amputation; from which the Reader may draw his own Concluſions, as to the Propriety of applying it in other

other Caſes, where the Parts have been recently divided.

Whether the Skin is brought forwards, and retained by a circular Bandage or otherwiſe, the Application of dry Lint will always be a conſiderable Hindrance to a ſpeedy Cure; for altho' it does not poſſeſs an innate ſtimulant Quality, yet it acts as ſuch in a great Degree, when conſidered in a mechanical View: It is the moſt proper Application we have to keep the Parts open, for when wet with the Diſcharge from the Wound, it is expanded by the retained Moiſture like a Sponge; and hence, as it adheres to, and is within the Wound, will conſequently occaſion a Dilatation of its whole Surface. Hence you may eaſily judge what will be the Conſequence of this Dilatation when counteracted by an external circular Bandage; and how Pain, Inflammation, and large ſerous Diſcharges are occaſioned by filling the Cavity of an Abſceſs with dry Lint, after you have opened it by Inciſion. As the Lint adheres and then expands when applied to the

the Extremity of a Stump, hence will ariſe Spaſms, from the Nerves being irritated; and from the ſame Cauſe acting upon the Extremity of the Veſſels, we can account for the large ſerous Diſcharges from the whole Surface, and often a violent Hæmorrhage from the larger Veſſels. That this is the real State of the Matter, I am as well convinced as I poſſibly can be by attentive Obſervation.

We will ſuppoſe all to go on as well as uſual, till the Third or Fourth Day from the Time of the Operation; you will then find the whole Surface of the Wound conſiderably enlarged, the Edge of it thickened and inflamed, and a large ſerous offenſive Diſcharge. You are not able to ſeparate much of the Lint, which has formed ſo firm an Adheſion as a large Suppuration only, continued for ſeveral Days, can eaſily remove: I am well convinced that moſt of the Matter, which forms in Caſes where the Parts are ſo treated, is in Conſequence of the Irritation of theſe Dreſſings, with which the

Wound

Wound is ſo injudiciouſly ſtuffed, and loaded by many Practitioners. As the Matter, which remains in the adherent Lint from Day to Day, muſt conſequently increaſe in Acrimony, hence by its Stimulus, not only the Wound, but the whole Syſtem is diſordered, and often a previous Hectic nouriſhed by what is abſorbed, and its topical Influence upon the Bone is ſuch, as to make Exfoliation no uncommon Conſequence of ſuch Treatment.

Notwithſtanding the Advantage of the double Inciſion, and the Treatment of the Parts, as now uſually practiſed; a great Diſcharge, Exfoliation, a large Cicatrix, and a Sugar-Loaf Stump are often the Conſequence of Amputation.

That this is not an ideal Picture, but a real Deſcription of what the Author has frequently ſeen, during his Attention for ſeveral Years, to Patients treated in this Manner, thoſe who continue ſuch Treatment will readily believe.

I will

I will now bring into one View our eſtabliſhed Mode of performing the Operation of Amputation on the Thigh, and the After-treatment, as practiſed in the *Liverpool Infirmary*.

Apply the Tourniquet as uſual, and let an Aſſiſtant draw up the Skin and Muſcles, by firmly graſping the Limb with both Hands, the Operator then makes the circular Inciſion as quick as poſſible through the Skin, and Membrana Adipoſa, down to the Muſcles: He next ſeparates the cellular and membranous Attachments with the Edge of his Knife, till as much Skin is drawn back as will afterwards cover the Surface of the Stump with the moſt perfect Eaſe. The Aſſiſtant ſtill firmly ſupporting the Parts as before, apply the Edge of your Knife under the Edge of the retracted Integuments, and cut obliquely through the Muſcles upwards as to the Limb, and down to the Bone; or, in other Words, cut in ſuch a Direction, as to lay the Bone bare about two or three Fingers Breadth higher than is uſually done

by the common perpendicular circular Inciſion, and continue to divide, or dig, out the Muſcles all round the Limb, by guiding the Knife in the ſame Direction. The Part where the Bone is to be laid bare, whether two, three, or four Fingers Breadth higher than the Edge of the retracted Integuments, or in other Words, the Quantity of muſcular Subſtance to be digged out, in making the double Inciſion, muſt be regulated by conſidering the Length of the Limb, and the Quantity of Skin that has been previouſly ſaved, by dividing the membranous Attachments. The Quantity of Skin ſaved, and muſcular Subſtance taken out, muſt be in ſuch an exact Proportion to each other, as that by a Removal of both, the whole Surface of the Wound will afterwards be eaſily covered, and the Length of the Limb not more ſhortened than is neceſſary to obtain this End. The Bone being now bare all round, is to be divided, as uſual, with the Saw, and as high up as poſſible, which will be more eaſily executed, if the Retractor, recommended by *Gooch* and *Bromfield*, is firſt applied,

applied, for the Support and Defence of the ſoft Parts.

After the Removal of the Limb, let each bleeding Artery be gently drawn out with the Tenaculum, and tied with a common Ligature as naked as poſſible. The whole Surface of the Wound is now to be well cleaned with a Sponge and warm Water, as no doubt any Coagula remaining upon its Surface, or about theInterſtices of the Muſcles, would be a conſiderable Obſtruction to that deſired Union, which we have always in view through the whole Plan. Let the Skin and Muſcles be gently brought forwards; then fix the Flannel circular Roller round the Body, and carry it two or three Times round the upper Part of the Thigh, where it will form a ſufficient Baſis, that will greatly add to the Support of the Skin and Muſcles; then carry it forwards in a circular Direction till it arrives ſufficiently near the Extremity of the Stump, where it is to be faſtened as uſual. You are now to place the Skin and Muſcles over the Extremity of the Bone, in ſuch a Direction,

that the Wound ſhall appear only as a Line, drawn down the Face of the Stump, terminating with an Angle, above and below, from the latter of which the Ligatures are to be left out, it being the moſt convenient and dependent part. The Skin is eaſily ſecured in this Poſture, by long Slips of Linen, or Lint, about two Fingers Breadth, ſpread with Cerate, or any ſoft cooling Ointment, theſe are to be brought from Side to Side acroſs the Face of the Stump; then apply over them a little ſoft Lint, with a Tow Pledget, and compreſs of Linen, the whole to be retained with a light Linen Roller *.

It is the uſual Cuſtom, to raiſe the End of the Stump from the Surface of the Bed, with Pillows; which appears to me very injudicious, when done to the Height commonly practiſed, as it draws the Poſterior Muſcles off the Face of the Stump. I find the beſt Direction is to raiſe the Stump about half a Hand's Breadth from the Surface of the Bed.

* Mr. *Lyon* firſt placed the Skin in this Direction, in an Amputation of the Thigh, and dreſſed with a dry Linen croſs Cloth, applied from Side to Side, next the Face of the Stump.

When

When the whole of the Treatment has been agreeable to the foregoing Directions, the Parts are generally ſo free from Spaſms, that the Uſe of Opium is not requiſite; the Symptomatic Fever will likewiſe be equally moderate; and upon the third or fourth Day, when you change the Dreſſings, you will always find that the Diſcharge has been ſo ſmall, as ſcarcely to have run through them: hence it is not often neceſſary to change the circular Bandage, at the firſt or ſecond Dreſſing; I rather wiſh to avoid it, till the Adheſions are more compleat.

By a Continuance of the above ſimple Treatment, varied as Appearances indicate, the Cures have been always compleated in leſs Time than uſual. In the Thigh the Stump has frequently healed in nineteen Days, ſo perfectly as to require no further dreſſing.

My laſt Amputation was on a Man about 44 Years old, in the Middle of the fore Arm, to remove carious carpal, and metacarpal Bones: the Operation was done July 10, 1779.

1779, and on the 24th of the ſame Month the Wound was perfectly healed, and the Patient diſcharged the Hoſpital on the 27th, the Cicatrix only a ſimple Line acroſs the Face of the Stump from Side to Side, and his general Health ſo perfectly reſtored, that he walked Home from the Hoſpital (the Afternoon of the Day of his Diſcharge) which is 13 Miles diſtant.

The earlieſt unfavourable Symptoms ſubſequent to Amputation, are Spaſms, and Hæmorrhage: as I ſhould be highly blameable to arrogate any Merit that is not ſolely due to the Method I have recommended, it is but juſt to obſerve, that the Abatement of violent Spaſms is principally due to the Veſſels being drawn out and tied alone with the Tenaculum, as introduced into Practice by Mr. *Bromfield*, who moſt highly deſerves the Thanks of every Well-wiſher to Surgery for ſo uſeful and important an Improvement. I would rather have the Merit of this ſingle Improvement, than the Vanity of being the Author of all the ſpeculative and theoretical Volumes ever publiſhed.

How-

However, I may fairly obſerve, that the Spaſms are certainly in ſome Degree prevented by an Excluſion of all extraneous Dreſſings.

Further, as ſtuffing the Parts full of, or even dreſſing with dry Lint, promotes Spaſm, and dilates the whole Surface of the Wound, it muſt conſequently conduce to produce Hæmorrhage, and upon this Point I ſpeak ſolely from Experience: I have attended for the Space of ſeven Years to Amputations, where the Parts were treated with Doſſils of dry Lint and Flour, and a ſubſequent Hæmorrhage was frequently the Conſequence: and I can now moſt ſolemnly aver, that for the laſt nine Years I have treated the Parts nearly agreeable to theſe Directions, and that I have not ſeen a ſingle Caſe of Hæmorrhage, ſubſequent to Amputation, neither have I heard of any where the Parts have been ſo treated.

The Hæmorrhage ſubſequent to Amputation, may not improperly be divided into two different

different Kinds, deduced from the Period of Time at which each occur, and their conſequent Danger. The firſt I would call that which follows the Operation, within the Space of twenty-four Hours, and is, I believe, often occaſioned by dilating the Wound with expanding Dreſſings. This is a very diſtreſſing Symptom both to the humane Operator, and Patient, as it requires a Removal of the Dreſſings, which have now formed a conſiderable Adheſion to the whole Surface of the Wound, and the ſeparating them from the Extremities of the Nerves is more painful than any Part of an Amputation: and likewiſe the neceſſary Ligature upon Parts in the higheſt Degree of Irritation is a very diſagreeable Buſineſs to execute, and moſt painful to ſuffer: however, this Kind of Hæmorrhage is ſeldom fatal, as we are commonly upon the Watch, and prepared to relieve it. The ſecond Kind I would diſtinguiſh to be that which happens after the above Period; and a moſt alarming Symptom it commonly proves, and has frequently ended fatally before it has been diſcovered, and conſequently before any Remedy

dy could be applied. It moſt frequently occurs, many Days after the Operation, when Digeſtion and Granulation are fully formed, and all Danger of this Kind is reaſonably ſuppoſed to be over. In one Caſe where I attended, it happened three Weeks after the Operation. When the Skin is not placed over the Surface of the Wound, but, inſtead of this judicious Practice, the Wound is dilated with dry Lint, Nature ever active to relieve herſelf, forms a conſiderable Digeſtion, and conſequent Granulation upon the whole Surface, by which the Dreſſings are ſeparated and caſt off. In ſome Habits theſe Granulations do not prove a ſufficient Support to the Extremity of an Artery, they are not able to reſiſt the Impetus of the circulating Fluid, which conſequently burſts forth, and frequently exhauſts the Patient before he is either aware of his Situation, or any Help can be obtained. I have known this Hæmorrhage happen when all the Ligatures have been caſt off, and a Month after the Operation, when the Stump was half healed. Vid. two

fatal Caſes of this Hæmorrhage in *Bromfield's Surg. Obſ.* Vol. I. p. 307.

As I have not either ſeen or heard of one of theſe Caſes, where the Parts have been treated as here recommended, I have Reaſon to believe it will prove a very effectual Preventative, and every unprejudiced Judge will be immediately convinced, that the Extremities of the Veſſels are more effectually ſupported by the Skin applied over the whole Surface of the Wound, and the conſequent Union, than by keeping the Parts largely open, and procuring a Digeſtion, and in ſome Habits, a ſoft ſpongy Granulation over their Extremities.

The next train of Symptoms ſubſequent to Amputation, and the uſual Treatment, are a large Diſcharge of Matter, Exfoliation, and Retraction of the Skin and Muſcles, and conſequently, what is called a Sugar-loaf Stump.

The Dilatation and Irritation of the Wound, occaſioned by its being ſtuffed with dry

dry Lint, the high Degree of inflammatory Tenſion, and large ſerous Diſcharge, are always conſequently followed by a proportionably large Diſcharge of Matter, and this is promoted by what is retained in the Lint, ſtill adherent to the Surface of the Wound. Its topical Effect here is not the Whole of the Evil, it becomes more acriminous, and is frequently abſorbed into the Habit, in a State more prejudicial to the whole Syſtem, and theſe Circumſtances make greatly againſt the Patient's recovery, particularly where the general Health has previouſly been greatly reduced, and the Amputation performed, to cut off the Seat of Abſorbtion from Parts diſeaſed by Caries and large Diſcharges, attended with Hectic, Cough, and other Symptoms of diſeaſed Lungs.

The Application of dry Lint upon the Extremity of the Bone, with the conſequent Retention of acrid Matter, and Expoſure to the Influence of the Air, I conſider as the principal Cauſes of Exfoliation, which is no unfrequent Conſequence of ſuch Treat-

ment. Sometimes only ſmall Spiculæ ſeparate, but oftener the Edge or Rim, all round the Extremity of the Bone. I have ſeen very large Portions of the Thigh Bone ſeparate, in one Caſe nearly its whole Subſtance, and four Inches in Length. When the Pieces are ſmall, and the Extremity of the Bone fully covered with Granulations, as they paſs through, they produce pricking Pains in the Part, ſometimes ſo violent as to diſturb the Patient's Reſt, attended with great Soreneſs, Inflammation, and increaſed Diſcharge; in others they paſs without producing the leaſt Inconvenience.

Since I have practiſed the Method of operating and dreſſing here recommended, I have not had the ſmalleſt Exfoliation, nor ever ſeen any Part of the Extremity of the Bone after the Operation; for by dividing the Muſcles as adviſed, and bringing the Whole of the ſoft Parts forwards, the Bone is immediately concealed, and never gives the leaſt Interruption to the Progreſs of the Cure.

Like-

Likewiſe, as the Cicatrix is ſo ſmall, *viz.* only a ſimple Line drawn acroſs the Face of the Stump, the Parts are ſooner capable of bearing the requiſite Preſſure from the Uſe of a wooden Leg, and are not ſo liable to break out again, as in thoſe Caſes where the Operation has been practiſed in the uſual Manner, in which there is a larger Generation of new Fleſh and Skin, which will remain tender for a much longer Space of Time.



PART

PART III.

On the Amputation of the Arm, at the Articulation with the Scapula.

IF you examine the Writings of the beſt Surgical Authors, you will find that but few, even in the greateſt run of Practice, have amputated the Arm at its Articulation with the Scapula; and likewiſe be convinced that but little ſatisfactory Intelligence is to be obtained on this Subject, if we accept Mr. *Bromfield*'s Information, which highly merits an attentive peruſal.

Opportunities muſt have occurred, at all Times, and at all Ages, unfortunate diſeaſed Subjects, with Caries in the Joint, and external Injuries from Gun-ſhot, compound Fractures, and Wounds of the large Blood-veſſels, muſt have rendered the Neceſſity of operating as frequent as at preſent. Hence it may reaſonably be inferred, that either a Dread of the Danger and Difficulty attending the Operation, or a Want of Judgment in ſe-

lecting

lecting thoſe Caſes that required it, may be conſidered as the Cauſes why it was ſo ſeldom performed. And hence we may plainly diſcover why ſo ſmall a Progreſs has been made towards rendering this Operation any thing like compleat: ſo that this Honor ſeems to have been reſerved for Mr. *Bromfield*, a well known Author and Practitioner of the preſent Day. He is the only Author who has reduced the Operation to a regular Plan, and this not from Speculation, but actual Expe-rience, the only true Source of ſolid Improvement.

However, it muſt be juſtly obſerved, that his Patients were all ſimilar, viz. thoſe whoſe original Diſeaſe was Abſceſs, or Caries, in the Neighbourhood of the Joint. He obſerves, as to the Operation, that he "had but little Encouragement to do it at firſt, from thoſe who had ſeen it performed repeatedly in the Army, where the Joint of the Shoulder had been greatly injured by Gun-ſhot, and Amputation at the Joint was the only Chance for preſerving Life: for though the

Opera-

Operations were ſeemingly well performed, and every thing went on to all Appearance well for near three Weeks, yet I am told the Patients all died," p. 209. It is much to be lamented, that the Mode of operating, and the unfortunate Progreſs of theſe Caſes, have not been particularly noted, and faithfully communicated to the Public, as it is from ſuch a Record of Facts only that any real Improvements can reaſonably be expected. Where the Hiſtory of them is totally loſt Poſterity reap no Improvement, nor are we able to diſtinguiſh whether theſe fatal Events were owing to a Want of Improvement in operating, or depended upon the dangerous Nature of the Injuries abſtractedly.

It has however been my Lot to amputate the Arm at its Articulation with the Scapula, in a very unpromiſing Caſe of Gun-ſhot Wound, with Succeſs: others may have done the ſame, but an accurate Hiſtory of ſuch an Event is not to be found in the Records of ſurgical Facts.

As the State of the Parts to be divided in the Operation, were different from thoſe in Mr. *Bromfield*'s Patients, I thought myſelf juſtified in deviating in the Mode of operating.

Dan. Catling, a middle-ſized, ſtrong, healthy Man, is the Subject of the following Hiſtory. On March the 4th, 1774, he was ramming a Cartridge down the Mouth of a Cannon that had been juſt fired; ſome Part of the Wadding yet alive in the Breech of the Gun, let off the new Charge, and having his right Arm oppoſite to the Mouth of the Gun, it blew him from aboard the Veſſel into the River. He was taken out but half alive, and brought to the Infirmary. Upon Examination it appeared, that the right Arm was carried off, high up, juſt below the the inſertion of the deltoid Muſcle, theremaining Bone and muſcular Subſtance were ſo much injured, that in Conſultation it was determined to amputate at the Articulation with the Scapula. The Skin was free from Laceration about the Joint, and even over the

remaining injured Bone and Muſcles; but conſiderable Extravaſation appeared in the cellular Subſtance, upon the Pectoralis Major, Scapula, Clavicle, and adjacent Parts: the Eye-brows and Laſhes were burnt off, and the Integuments upon the whole Face had ſuffered conſiderably: the Eyes were cloſed with the ſwelling of the Lids, the Pulſe and Breathing tolerably good, but the Patient in an urgent State of Stupor, unleſs when conſiderably rouſed: in ſhort he appeared the moſt miſerable Object I had ever ſeen: his Face, the State of the Arm and adjacent Parts, the Stupor, and conſequent Shock upon the whole Habit, rendered him a very unpromiſing Subject to operate upon, and yet there was no Alternative: the Pulſe and Breathing were the only favourable Symptoms. The Operation muſt be done with the Diſadvantage of Candle-light, and I had but little Time to form my Plan. I had read Mr. *Bromfield*'s Account of his Operations very lately, and it then occurred to me, whether (in caſe of Gun-ſhot, or compound Fracture, with a wounded Artery, requiring this

this Operation, where the Motion of the Joint was free,) you could not reduce the Operation to a more ſimple form, as follows: Cut thro' the Skin and adipoſe Membrane, round the Arm, ſufficiently below the Acromion, then go obliquely upwards, thro' the deltoid and poſterior Muſcles up to the Joint, then go forwards, and after dividing the Tendon of the Pectoralis Major, and adjacent Parts, ſeparate and tie the Artery, which may be kept out of the Way by the Fingers of an Aſſiſtant, and the Head of the Bone taken out: if this cannot be eaſily executed for want of Room, the Parts muſt be divided in Front from the Acromion, but this laſt Step I would make an Act of Neceſſity. If this Scheme is practicable, the Operation will be rendered more ſimple, no Sutures required, and I would have, if poſſible, as much Skin ſaved as will afterwards cover the whole Surface of the Wound, and no Dreſſings applied within the Edges of the Skin, convinced that the Cure would be more ſpeedily compleated by this Mode of Operation: and by leaving the Cure of the Wound more to Nature, and

not obſtructing her Operations by the Intruſion of Dreſſings: in ſhort, I ſhould expect the Progreſs of the Cure would be in ſome Degree ſimilar to our Succeſs in common Amputations, where the Parts are treated in a ſimilar Manner.

The Patient was placed upon a Table of a convenient Height, and the Shoulder brought off the Side, ſufficiently to give Room for the Hand and Knife; and a proper Preſſure made upon the ſubclavian Artery, by the Fingers of a judicious Aſſiſtant; a circular Inciſion was then made about a Hand's Breadth below the Acromion, and carried thro' the Skin and Membrana Adipoſa, round the Arm; the deltoid and poſterior Muſcles were then divided obliquely up to the capſular Ligament; this was much facilitated by an Aſſiſtant drawing up the Skin with his Fingers. I then divided the Tendon of the Biceps and capſular Ligament, upon the anterior and poſterior Part of the Joint: an Artery then diſcharged ſo freely, that we were convinced the Preſſure upon the Subclavian was not effectual, altho' judiciouſly made: there-

therefore I tied this Veſſel, with the Aſſiſtance of the Tenaculum, and determined to finiſh the Operation in the following Manner: To divide the Tendon of the Pectoralis Major, the capſular Ligament all round, and the reſt of the Parts, except the Artery, Veins, Nerves, and cellular Subſtance immediately adjacent; and as it was very difficult to diſtinguiſh theſe Parts ſo accurately, by ſo obſcure a Light, as to be able to tie the Blood Veſſels, and cut the Nerves higher up, I included the Whole in a temporary Ligature, held juſt tight enough to prevent Hæmorrhage: below this the Parts were divided, which finiſhed the Operation, that is, ſeparated the Limb: then the Artery and Veins were drawn out together with the Tenaculum, and included in the ſame Ligature, the temporary one was now removed.

The muſcular and cellular Subſtance, when divided, thro' the whole Operation had a very unfavourable Appearance, being loaded with extravaſated Blood; therefore, I took out as much

much of the Whole as I could, and the ſame Indiſpoſition about the Clavicle will perhaps account for the Preſſure upon the Artery not being ſufficient to reſtrain the Hæmorrhage: indeed, the Parts divided in the Operation appeared ſo bruiſed, that I thought a Gangrene would almoſt certainly follow.

A conſiderable Quantity of Skin was ſaved, ſo that when it was placed over the Muſcles, and Acetabulum Scapulæ, the Wound had the Appearance of little more than a Line drawn from Side to Side, acroſs the Face of the Stump, and the Ligatures were left out at the Angle next the Cheſt: long, narrow Slips of Lint, ſpread with a ſoft cooling Ointment, were applied longitudinally, from below upwards, ſo as to approximate the Lips of the Wound, and aſſiſted by two long Pieces of ſticking Plaiſter, the Whole ſupported with a Tow Pledget, Compreſs, and a light Flannel Roller. Directions were given that the Patient ſhould take Broth, gentle Cordials, and Anodynes occaſionally.

The

The next Day I was ſurpriſed to find the Patient ſo well: he was reſtored to his Senſes, the ſymptomatic Fever moderate, but complained greatly of the Soreneſs upon the Face, eaſy about the Shoulder, had taken Drinks freely, and what appeared very ſurpriſing, he had not the leaſt Recollection of the Accident that had happened, nor of his having undergone an Operation. Ordered to have the Face conſtantly Moiſt with Linen-compreſſes dipped in the ſaturnine Water, that Stools ſhould be procured by Clyſters, that an antiphlogiſtic Plan of Diet and Medicine be rigidly uſed, and Anodynes occaſionally.

It would be tedious and unintereſting, to recite the minute Appearance of each Dreſſing: therefore, let it ſuffice to obſerve, than on the ninth Day, he was in every Reſpect as well as I could reaſonably expect: the Wound had a favourable Appearance, the Skin remained fixed, nearly in the State it was placed after the Operation; and the Diſcharge was a ſmall Quantity of Matter, mixed with a thin ſynovial Fluid: the extravaſated Blood

in

in the neighbouring Parts was abſorbed daily, and the Face recovered likewiſe; the Patient was able to ſit up moſt Part of the Day, and the Ligatures ſeparated as ſoon as in a common Amputation. On the tenth Day he complained of Cold and Heat alternately, ſaid he was ill, altho' he could not well tell what to complain of, his Indiſpoſition was ſo ſlight. On the eleventh he appeared languid, the Countenance ſunk, the Skin moiſt, cold, and clammy, the Wound pale and flabby, more diſpoſed to open, and had gleeted largely. Whether theſe diſagreeable Changes were owing to his living in the Air of the Infirmary, which at this Time was tainted by offenſive Diſcharges from ſeveral ſpreading putrid Sores, and a full Houſe, or to a Want of a more generous Regimen than he had as yet been allowed, I was rather at a Loſs to determime. It had been often obſerved in this Houſe, that our Sailors, and induſtrious Mechanics, whoſe Stations habit them to hard Labour, and the conſtant Uſe of ſtrong Liquors, if they become the Subjects of compound Fractures, Amputation, or any important

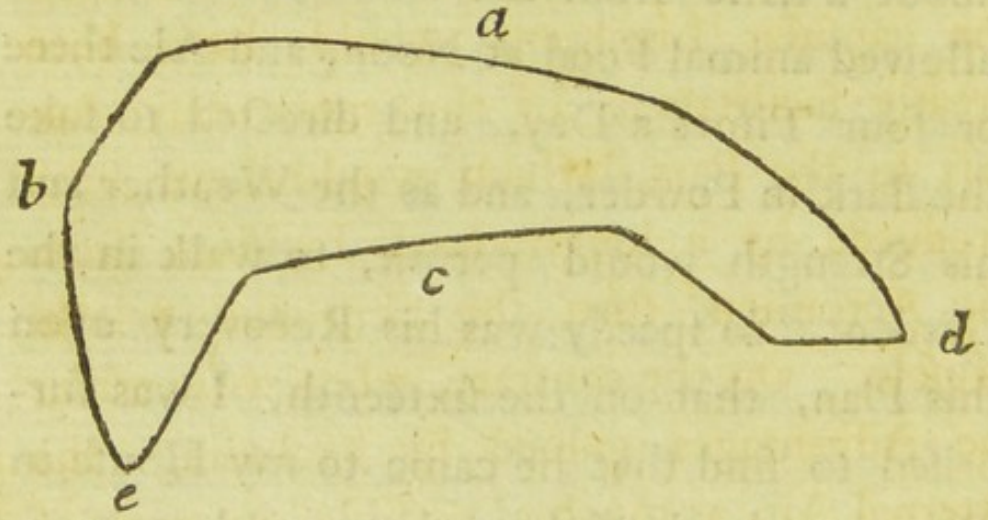
ſurgical

ſurgical Injury, attended with large Sores, they will not long be healthy under an antiphlogiſtic Plan. Their Sores will certainly grow worſe, and ſo will the State of their general Health, and theſe Evils are only to be remedied by an Indulgence in their former Habits. Free Air, Wine, Rum and Water mixed, Ale, animal Food in moderate Quantities, with the Bark, and Cordials, are the only Remedies.

To obviate the Cauſe of foul Air, or the Want of a more tonic Regimen, I removed my Patient the next Day to the Park Coffee-houſe, an elevated, open, airy Situation, about a Mile from the Town; and he was allowed animal Food at Noon, and Ale three or four Times a Day, and directed to take the Bark in Powder, and as the Weather and his Strength would permit, to walk in the Garden. So ſpeedy was his Recovery upon this Plan, that on the ſixteenth, I was ſurpriſed to find that he came to my Houſe in Town, to be dreſſed, and returned again on Foot, which was in all about four Miles.

Both his general Health, and the Wound, improved daily: at the end of a Month from the Day of operating, the Wound was healed, except a ſmall Opening, that would admit only the Head of a Probe, which paſſed up towards the Acetabulum Scapulæ, and diſcharged a ſynovial Fluid in ſmall Quantities, and did not totally cloſe for the Space of a Month longer, ſince which Time it has remained totally healed.

The Dreſſings were always applied as at the firſt, all external, and with a View to approximate the Edges of the Wound, which when healed, the Cicatrix was exactly the Size here repreſented.



a The Part next the Acromion, *b* next the Cheſt, *c* the Axilla, *d* the Angle next the Back, *e* the Angle where the Ligatures were left out.

I do

I do not mean to caſt the leaſt diſreſpectful Reflection upon Mr. *Bromfield*'s Plan of operating and dreſſing: on the contrary, I think myſelf greatly obliged to him, for the Information I have received from his uſeful Publication upon this Subject: my Patient's Caſe, and thoſe that he operated upon, differed materially, and conſequently each may, with Propriety, admit of a different Treatment.

It would be miſleading the Public, not to confeſs, that altho' I accompliſhed my Point, with only a circular Inciſion, yet it was executed with ſome Difficulty; for the Diviſion of the capſular Ligament would have been greatly facilitated, by the more eaſy Acceſs to the Part, which would have been produced by a longitudinal Inciſion, from the Acromion, thro' the Skin and deltoid Muſcle. On the contrary, when we conſider the Advantages gained by excluding the external Air, as much as poſſible, in many of the moſt important ſurgical Caſes, for Inſtance in compound Fractures, in opening large

deep ſeated Abſceſſes by a Seton, the radical Cure of the Hydrocele by Seton, the ſpeedy Cures made by placing the Skin over the whole Surface of the Wound after Amputation, and the favourable Termination of *Dan. Catling*'s Caſe; theſe Reflections will make us anxious to finiſh the Operation, where it can be done with tolerable Eaſe, without the longitudinal Inciſion along the deltoid, by which the Air would find more eaſy Acceſs into the Cavity of the Wound, and Acetabulum Scapulæ. Perhaps the free Acceſs of Air into the Joint, may reaſonably be conſidered as one Cauſe of the Exfoliation of the Cartilage, but a more powerful one is the Application of dry Lint within the Acetabulum Scapulæ; which, by forming an Adheſion, and conſequently a Retention of Matter upon the Part from Day to Day, will, I am of Opinion, more certainly occaſion an Exfoliation of the Cartilage, in this Inſtance, than it does of the Bone after Amputation.

Mr. *Bromfield* lays it down as a general Rule, that the Cartilage will exfoliate in every

ry Inſtance: Pag. 244, ſpeaking of *Heiſter*'s Advice, to attempt a Union by the firſt Intention; he adds, "but he has forgot, that in Caſe the Head of the Scapula is ſound, that the Cartilage will prevent the Union, till it is exfoliated:" and from this Opinion he regulates his Practice: and p. 254, directs you to "pare off the Cartilage, and apply dry Lint to the Bone, and let it remain till it drops off; and probably the Granulations will then ſhew themſelves ſprouting from the Bone." This may be a neceſſary and judicious Practice, where Matter has previouſly lodged in the Joint, and occaſioned ſuch an Alteration in the Texture of the Parts, that Exfoliation of Bone or Cartilage will conſequently follow: But that in recent Injuries, the Cartilage will not always exfoliate, my Patient's Caſe furniſhes a Proof, and if inſtead of dreſſing the Wound to the Bottom with dry Lint, the Skin is placed as I have directed, and the Dreſſings all applied exterior to the Wound, the Exfoliation of Bone or Cartilage will be frequently prevented; and Nature, not teized and interrupted by Art, will do Wonders in

ſpeedily

ſpeedily filling up and contracting the Wound. As I was neceſſitated to operate by Candle-light, I could not diſtinguiſh the minute Parts ſo exactly as would have rendered the Progreſs thro' the Operation more pleaſing to me; therefore, altho' the Artery was left long, agreeable to Mr. *Bromfield*'s Direction, I durſt not divide the Nerves higher: yet the Evils which ſuch Treatment is intended to obviate, was effectually prevented, by the Plan of dreſſing the Wound, the Nerves being covered by the old Skin.

The Patient is now in the moſt perfect Health, which he has enjoyed ever ſince the Wound healed; he is employed at the Cuſtom Houſe in this Town, and capable of going thro' the neceſſary Fatigue of his Station, by which he earns a comfortable Livelihood.

POSTSCRIPT.

SINCE the foregoing Sheets were finiſhed, I have heard of one Inſtance, where Hæmorrhage followed our Treatment; but it was from the whole Surface of the Stump: and I am now in Conſultation upon a ſimilar Caſe, after an Amputation in the fore Arm, occaſioned by a compleat Sphacelus of the Hand after a compound Fracture above the Wriſt: as this Kind of Hæmorrhage is a conſequence of a peculiarly diſeaſed State of the whole Syſtem, it cannot be certainly prevented by a topical Treatment of the Wound.

I am now of Opinion, that, in general, it is the moſt judicious, to place the Skin ſo as to form the Line acroſs the Face of the Stump, from Side to Side, the Diſcharge is ſo ſmall, that a depending Drain is not a neceſſary Object: the Ligatures are the moſt conveniently left out at the inner Angle, in the Arm and Thigh, on account of the Vicinity of the great Artery, in the fore Arm and Leg, they may be left out at either Angle. The Patient ſhould be directed to keep out of Bed every Day after the firſt Dreſſing, as long as his Strength will permit, which will conſiderably reſtore and preſerve his general

neral Health; the uſual Mode of confining the Patient to Bed will ſometimes produce or continue hectic Fever, Debility, Diarrhœa, &c.

Thoſe who have had this Plan of Treatment deſcribed to them, object to it, upon a Suppoſition that the Ligatures will be troubleſome, and get fixed in the Part; however, Experience is the beſt Guide in theſe Matters; the Ligatures, when made as here directed, have always ſufficiently ſecured the Veſſels, ſeparated eaſily and ſpeedily, nor have I ſeen one Inſtance, where the Cures have been protracted by them.

I am far from thinking that the Operation and After-treatment, will not yet admit of further Improvements, in the Hands of the judicious and candid Practitioner; however, if he has the Succeſs, upon a Trial of the Means here recommended, that has attended their Uſe under my Obſervation, I hope it will appear, that I have not either miſapplied my Time, or miſlead the Public.

THE END.