A disquisition of the stone and gravel, together with strictures on the gout, when combined with those disorders / by S. Perry.

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A DISQUISITION

OF THE

STONE AND GRAVEL;

WITH

STRICTURES ON THE GOUT,

WHEN COMBINED WITH THOSE DISORDERS.

BY S. PERRY, SURGEON.

"PLUS VIDENT OCULI QUAM OCULUS."

THE EIGHTH EDITION,

CORRECTED AND ENLARGED, BY THE AUTHOR.

LONDON:

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TO THE

ROYAL COLLEGE OF PHYSICIANS,

LONDON.

GENTLEMEN,

IT is uſual for authors to inſcribe their writings to ſome diſtinguiſhed perſon or ſociety, from whom they expect protection againſt the malevolent criticiſms of the world: now as I am fully perſuaded there can be no patronage more powerful than yours, and no opinion more unbiaſſed, I cheerfully ſubmit the merit or demerit of this little performance to your tribunal, being at the ſame time conſcious that, without your approbation, the commendation of others will have no great weight.

As the doctrine reſpecting the cauſe of the ſtone is new, I am certain it will undergo various teſts, which, in a manner, will ſubject it to cenſure or approbation, according to the prejudices of ſome, or ingenuouſneſs of others; if, therefore, from a candid examination, it ſhould meet with your countenance and ſupport, I ſhall have nothing to fear from the cavils of individuals.

In reſpect to that part, which treats of the diſcovery of a *cure* for the *ſtone*, I flatter myſelf the world will do me the juſtice to view it in its proper light, particularly as I have not dealt in *conjectures*, but in *matters of fact*.——Hitherto LITHOTOMY has been neceſſarily called in, becauſe no real or ſafe cure of the ſtone has been found deſerving to be relied on: when, therefore, the following truths ſhall be known to you, it is not to be doubted but your humanity will, as

far as the ſubject may come under your influence, withhold *that* operation, while a cure is to be had in a ſafer and eaſier way.

The advantage that may accrue to the author from your patronage, which he has ſo flatteringly experienced, from ſome of your moſt reſpectable members, is ſuch as will ſerve to diſtinguiſh him from an *empiric*, under which appellation the favourers of any *arcanum* are likely to fall, and with which perſons, I am ſorry to ſay, the world (particularly London) too much abounds.

I flatter myſelf it is unneceſſary to ſay more, than to aſſure you, that no one has a greater veneration and reſpect for the profeſſion than,

Gentlemen,

Your moſt obedient humble ſervant,

THE AUTHOR.

Argyll-ſtreet, London.

PREFACE.

IN the whole liſt of diſeaſes to which the human frame is ſubject, none is more dreadful in its conſequences to the patient than the *ſtone*; as it frequently attacks the moſt robuſt conſtitution, in which caſe, the inflammatory ſymptoms are carried to a high degree, making the patient ſuffer, at once, both pain and impriſonment.

The *ſtone* has been long deemed the *opprobrium medicorum*, and the *knife* the only reſource. It is not conjectured what proportion have fallen who have ſubmitted to the operation; but, to the honour and credit of our ſurgeons, it muſt be allowed, that lithotomy in no country was ever more ſkilfully performed than in this; notwithſtanding which, if we conſider the number of perſons who are excluded even from that ſad alternative, by an inacceſſible ſeat of the diſeaſe, as well as by age or bad conſtitution, the diſcovery will be thought of the higheſt importance to ſociety. Nothing is ſaid of the ſeaſon of the year, which, with all the above conſiderations, ſhould conſpire to give the operator and patient well founded hopes of a recovery.

So much for the operation; which, ſuppoſing it to have been ſucceſsfully performed, and that no part of the broken ſtone has eluded the ſcoop in its extraction, what will the ſympathizing mind feel in reflecting, that the caſe is not like amputating an agonizing limb, which can never give pain again? the ſurgeon cannot here inſure his patient an hour from a new-commenced concretion. As the fluids remain in the ſame unaltered ſtate which gave out the earthy particles for forming a ſtone before, it may rather be conſidered a fortunate exemption if the ſufferer eſcapes another attack,

in which caſe his diſtreſs cannot fail to be aggravated by the cicatrix of the former wound.

Now, although it is not poſitively aſſerted that the ſubſequent remedy will do more than remove the diſeaſe when preſent, yet no one will object to the probability of its preventing a return, when he conſiders the nature of the medicine's operation.

If we remove a diſeaſe, by ſeparating or deſtroying the principles on which that diſeaſe is formed, the cure will undoubtedly be more permanent than when the effects, as in the operation, are taken away only: *ſublata cauſa tollitur effectus.*

Nothing is ſo difficult to be ſubdued as opinions formed on common prejudices. There are, no doubt, at this time, perſons who deny the poſſibility of diſſolving a ſtone in the bladder or kidneys, arguing, that whatever menſtruum diſſolves a body of a texture ſo hard, muſt of courſe deſtroy thoſe veſſels through which it is conveyed. It is not thought neceſſary to obſerve how far ſuch perſons diſcover their ignorance of the anatomy and œconomy of the human body by ſuch a mode of reaſoning;—they do not even acknowledge that well-known property in many medicines of acting *ſpecifically:* are there not medicines which ſtrongly affect the laſt ſecretion of the body, without being felt in any manner by the ſtomach, though that firſt receives them? as in the caſe of cantharides. If mercury be rubbed into the ſoles of the feet, will not its active properties be firſt found in the glands near the region of the head, particularly in the ſaliva? Many other inſtances of the like nature might be urged in ſupport of this.

It is however certain, that a cure for the ſtone is not to be found among the medicines which operate by a corroſive power only; there muſt be an affinity between the diſſolver and diſſolved—a *ſpecifical* and *local* operation on the urine, or the ſtone itſelf, otherwiſe we ſhould have nothing to do but give *aqua fortis, oil of vitriol, volatile ſpirits of ſal ammoniac, &c.* for either of thoſe will deſtroy the adheſive principle of the ſtone, and might therefore, upon that foundation, be called *lithontriptic.*

In attempting to convince perſons theoretically of the poſſibility of diſſolving a ſtone in the human body, it will be neceſſary

ceſſary they admit the two following poſtulata: firſt, that there are principles to form a ſtone in the urine of every perſon, but that a particular diſpoſition of the veſſels through which that fluid is ſecerned, is neceſſary to prompt the urine to run into ſuch concretions: ſecondly, that the conveying an extraneous body into the urinary bladder, as will hereafter be ſhewn, may ſupply the place of that diſpoſition of the veſſels to form ſuch concretions. Theſe premiſes being admitted, then it muſt be obvious, that if we can deprive the urine of that property of running into concretion, although we do not change the diſpoſition of the veſſels themſelves, we prevent the accretion of ſtone. That a ſtone already formed cannot retain its coheſion where the urine is deprived of its principles, the moſt incredulous will be convinced, by the reaſoning to which thoſe premiſes lead; but, leſt the inſiſting on theſe premiſes, or data, might be deemed begging the queſtion, proofs of their juſtneſs will be given in ſeveral inſtances; but, ſhould all this be inſufficient, and if a ſceptical reader is not to be ſubdued by argument, an end will be put to the conteſt by that inſurmountable weapon, *proof*, which cannot fail to make proſelytes of all thoſe who have heretofore been impreſſed with notions of the inſolubility of human calculi.

A

DISQUISITION

OF THE

STONE AND GRAVEL, &c.

CHAP. I.

SECT. I.

BEFORE we treat of the cauſe of the ſtone and its concomitant ſymptoms, it may not be thought improper by ſome readers to give a ſhort anatomical deſcription of the parts more immediately concerned in this diſeaſe, as it will enable them better to comprehend their own ſufferings, as well as what follows in this little tract.

Of the Kidneys.—An human body contains two kidneys, both placed in the poſterior part of the lower cavity of the abdomen. The right is ſeated under the great lobe of the liver, the left nearly between the ſpleen and muſculus lumbaris; both under the meſentery or duplicature of the peritonæum.

In the human ſyſtem, the right kidney is ſomewhat lower than the left; but in quadrupeds, the left is generally the loweſt.

The kidneys have each two membranes, (the exterior of which joins them to the loins and diaphragm) and they are faſtened to the bladder by the ureters. They are of a glandulous ſubſtance, interſperſed with an infinite number of ſmall pipes or canals, and in figure much reſemble the bean called a *kidney bean*.

They receive their blood-veſſels from the vena cava and aorta, by the renal veins and arteries, as they are properly called, whoſe numberleſs ramifications extend through the whole ſubſtance of the kidneys, terminating in glands of a globular form, which compoſe

the cortical part of the kidney, about half an inch thick, and of a liver colour.

From each of theſe glands iſſue the *tubuli belliniani*, which extend themſelves towards the pelvis, or internal cavity of the kidneys, and form the papillæ; adjoining to which is the canal called fiſtula membranacea, through which the urine is conveyed, that it may be diſcharged by the ureters into the bladder.

The blood, remaining after the ſecretion of urine, is remitted to the heart by the minute capillary veins, which ariſe from the extremities of the arterial branches, being incloſed in the ſame capſular with the artery that terminates at the cava.

There are a multiplicity of muſcular fibres in the ſtructure of the kidneys, which demonſtrate, that they are of other uſes than that of ſecreting the urine; viz. for aſſiſting in the ejection or expulſion of any concreted ſubſtance that may be lodged in them.

§ 2. *Of the Ureters.*—There are alſo two ureters which pierce the ſubſtance of the kidneys, and convey the urine from their cavity into the bladder, generally of the ſize of a gooſe-quill, are membranous and fiſtulous, and of unequal diameter; and though they are capable of great dilatation, yet obſtructions in them frequently happen, which are of infinite conſequence to the patient, occaſioning ſuppreſſion of urine, &c. &c.

§ 3. *Of the Bladder.*—The bladder is compoſed of three muſcular membranes; the exterior common from the peritonæum, the other two, proper to themſelves. The middle one is made up of carnous fibres, longitudinal and circular; by the action of the longitudinal, the fund of the bladder is preſſed forward towards the os pubis, from the lower part of which they ariſe, as well as from the fore part of the proſtatæ; while the circular ones, by leſſening their dimenſions, excite and procure the diſcharge of the urine.

The inward membrane is nervous, and of an exquiſite feeling: hence is accounted for the violence of the inflammation when the urine is become acrimonious by having been too long retained.

The bladder would be ſubject to many more accidents, were it not defended on all ſides by a vaſt number of glands, which continually emit a mucus that ſerves to counteract the ſalt of the urine. When this natural mucus is deficient, a diſeaſe of another nature is produced, which is beſt remedied by taking freely of balſams and mucilages to ſupply its want.

The bladder is a kind of reſervoir which receives the urine of the kidneys, that it may not be evacuated continually, and againſt the will.

The urethra is an excretory duct, tender, like the inward membrane of the bladder, and lined in the ſame manner, with glands which emit a viſcous mucus that defends its paſſage from being excoriated by the urine.

Both

Both the bladder and urethra derive their veins and arteries from the epigaſtric and iliac nerves, and from the pelvis of the abdomen; and, by communication or ſympathy, are often equally affected in an acute inflammatory diſeaſe.

As from the unnatural temperature or ill condition of the urine, proceed the various diſeaſes of inflammation, &c. we ſhall treat briefly of its conſtituent principles, that its nature may be better underſtood in explaining ſome of the ſymptoms of theſe diſorders.

§ 4. *Of the Urine.*—That the urine is an elementary fluid, or rather made up of elements, is evidently demonſtrated by the frequent experiments made on it by chymiſts, from which they extract an inſipid lymph, a volatile ſpirit, an acid ſaline matter, ſome oil, and a fixed earth.

There is a ſingular property in the urine, which is, that many medicines impregnate it in the bladder before the ſtomach, which firſt receives them, is at all affected by their operation.

We find that a bliſter will induce a dyſury and inflammation of the neck of the bladder, by rendering the urine acrid with its ſalt, when perhaps no other part feels any inconvenience. Paint, by its effluvium, will produce the like in a milder degree, and give the urine, when firſt made, the fragrance of violets, and yet neither of theſe articles affect the blood or its circulation.

This peculiar property of the urine was a ſuggeſting motive for my enquiries concerning a remedy for the ſtone, upon the principle of a *ſpecific* operation.

This is all which need be ſaid in delineation of thoſe parts to which the diſeaſe I am treating is confined; and ſo much is really requiſite, ſince it will enable thoſe who are affected with it the better to conceive its nature, and the more accurately to deſcribe its ſeat and ſymptoms when they apply for relief.

CHAP. II.

§ 1. *Of the Gravel.*—When we have conſidered the nature of the fluids of the human body, and that their circulations and progreſſive motions may be retarded, as well as accelerated, by various means and accidents, no wonder that their heterogeneous parts ſhould tend to ſeparate, or that the urine ſhould depoſit, in the part where it reſts, an earthy ſediment, which it never fails to do when out of the body.

Heat being maintained by motion, it is evident, that when that motion is impeded, the fluids will grow cooler, and the urine more liable to let fall its earthy part.

For the actual cauſe of the *gravel*, the reader is referred to chap. III. ſect. 4, which treats of the cauſe of the ſtone, ſince both are, in fact, the ſame diſeaſe in different degrees; and the ſame means which produce the former do evidently bring on the latter.

§ 2. *Of the Symptoms of the Gravel in the Kidneys.*—The ſymptoms of the gravel are various, according to the degree of violence of the diſorder itſelf; but the moſt common are a dull obtuſe pain in the kidneys, or in that part of the loins where they are attached. Sometimes the pain is acute, accompanied with bloody water, which, if retained any time in the bladder, becomes of a darker or coffee colour. A nauſea and vomiting will likewiſe be excited; frequently a total ſuppreſſion of urine from ſpaſms induced by the irritation of the particles of gravel in the kidneys, and the pain will often extend itſelf along the ureters to the bladder; in which caſe an uneaſineſs is felt in the ſide, particularly after a full meal, or much exerciſe, or from any diſtortion of the body, riding on horſe-back, &c.

The pleura is frequently a ſufferer from its proximity to the ſeat of the diſorder, and the patient feels a pain in his ſide in reſpiration; and it is no uncommon caſe to find a pain even in the top of the ſhoulder by a nervous ſympathy.

The kidneys, as well as all other organical parts, are ſubject to inflammation, reſolution, and ſuppuration; which laſt is not abſolutely incurable, as it may ſometimes be remedied by balſams that deterge and diſpoſe to heal. Balſams of capivi, turpentine, &c. are of ſervice here; likewiſe drinking freely of mucilaginous drinks, as barley-water, marſh-mallow tea, and ſuch like.

That ſpecies of rheumatiſm, called lumbago, has been frequently miſtaken for a nephritic complaint; but the former may be diſtinguiſhed from the latter in this, that the patient may induce a pain by bending his body forwards, the muſcles being put on the ſtretch; on the contrary, if it be the gravel, his pain will neither be increaſed nor diminiſhed thereby.

§ 3. *Of the Symptoms of the Gravel in the Bladder.*—The ſame complaints, with a little variation, will affect a perſon when the gravel is in the bladder. At times a ſtrangury is the conſequence of the ſtimulus of the earthy particles againſt the ſides of the bladder, to which it is liable, from the fineneſs and number of its nervous branches.

It is neceſſary to be particularly attentive to the cure of the gravel, as by that means the formation of a ſtone may be prevented.

The ſymptoms of gravel in the bladder are the ſame, throughout, as thoſe of the ſtone of the ſame part, only in a milder degree.

§ 4. *Of the Cure of the Gravel in both Bladder and Kidneys.*—Since (as it will be ſhewn hereafter) the gravel and ſtone are not only produced by the ſame cauſe, but are, in fact, the ſame diſeaſe, in different ſtages or degrees, the cure of the former muſt of courſe be much involved in that of the latter; with this difference, however, that in the gravel we may venture to give diuretics and ſtimulants, which we cannot with ſafety adminiſter in the ſtone, inaſmuch

inaſmuch as all ſtimulants do miſchief where the calculus is too large to be expelled. Every one's reaſon muſt inform him, that if the concretion, in ſuch a ſtate, be driven forward, the conſequence muſt be a laceration in the part, and perhaps a ſubſequent ulcer, or dangerous hæmorrhage of blood.

This circumſtance happened within my obſervation, ſome time ago, in a man to whom I was called a ſhort time before he died. As he had been incapable of anſwering any queſtions (the loſs of blood having thrown him into a deliquium) it was requeſted, upon his death, that he might be opened; when it appeared, that a piece of ſtone, about four grains in weight, had lacerated the left ureter, and brought on the diſcharge of blood which had proved fatal: for when it had inſinuated itſelf into the ureter, it became a *ſtimulus*, and induced ſuch convulſive twitches and contractions in the part, as brought on his haſty diſſolution.

A caſe, in ſome reſpects ſimilar to this, occurred to a private ſoldier in the regiment to which I was ſurgeon laſt war: he made ſlight complaints of the gravel at times, but had never neglected his duty on that account. Being at exerciſe on a field-day, and in the act of grounding his firelock, he was ſenſible of ſomething ſlipping into his right ureter, and upon his riſing again in taking up arms, the ſudden jerk of his body in that motion gave him the moſt poignant agony, and he fell out of the rank, and was carried to the hoſpital, where he paſſed near three pints of almoſt pure blood: he continued to make diſcoloured, or coffee water, for many days afterwards, and as he was of an indifferent habit of body, the wound degenerated into an ulcer, and killed him, in ſpite of all medicine, and even though the ſtone which occaſioned the miſchief was voided.

Stimulating diuretics are, nevertheleſs, very ſerviceable in the moſt ſimple ſtate of the gravel, when the bladder, by its laxity and inertneſs, has ſuffered the urine to ſeparate and depoſit its earthy part therein, in the form of ſand. The common diuretics of the ſhops, and ſuch as have been moſt frequently uſed in the gravel, are the *ſpiritus nitri dulcis*, *ſal diureticus*, *lime-water*, and all *terebinthinate preparations*.

Although the ſymptoms of the gravel are different according to the ſeat of the diſeaſe, yet the cure ſhould be undertaken in the ſame way, whether it be in the kidneys or bladder: I would recommend a doſe of Rochelle ſalts and manna as a purge to precede the other remedies; ſweet ſpirit of nitre is a moſt agreeable diuretic, and is attended with none of thoſe conſequences to which ſoap, lime-water, and turpentine are.

Notwithſtanding bloody urine is ranked among the ſymptoms of the gravel in the kidneys, yet it is always to be doubted whether it be not rather the conſequence of a ſtone; in which caſe, I would adviſe every one to avoid ſtimulating diuretics or forcing medicines; for although ſuch ſymptom may ſometimes be produced by looſe

gravel,

gravel, yet, nineteen times in twenty, it is really that of a ſtone. Indeed at all times the ſymptoms, whether of ſtone or gravel in the kidneys, run ſo much into each other, that it requires a very minute attention to diſcriminate them. It is a conſolation, however, to the afflicted in thoſe caſes to know, that although the means we might purſue in curing the gravel would be highly improper in the ſtone, yet theſe experiments have ſuggeſted to us, that the ſame medicine which can cure the ſtone, muſt be equally efficacious in the gravel; for there cannot be a more lamentable ſtate than a man under the doubt and perplexity which of two diſeaſes he is ſuffering under, when the treatment of the one muſt be diametrically oppoſite to that of the other.

The regimen of the gravel, whether in the kidneys or bladder, ſhould be adapted to the urgency of the complaints. A cooling diet is always proper; and if the urine be hot and high coloured, plentiful draughts of balſamic liquors ſhould be taken; ſuch as veal broth, barley water, marſh-mallow tea, ſyrup of capillaire, or orgeat. It will alſo be neceſſary to attend minutely to the ſediment in the urine, whether it be of an earthy or ſlimy kind; if of the latter, it indicates great irritation, conſequently violent motion ſhould be avoided; and large draughts of the above diluting liquors taken every three or four hours 'till it abate.

Let it be obſerved, that exerciſe is always to be recommended where the gravel is evacuated without pain; but if irritations, diſcoloured water, or pain, be attendant on the diſcharge, a quieſcent ſtate is to be enjoined, and the body kept cool.

CHAP. III.

§ 1. *Of the Stone.*—The ſtone, generally termed *calculus* by medical men, is found by a chymical analyſis, or decompoſition, to conſiſt (as well as urine) of an earth, air, oil, and volatile ſalt; and that theſe are capable of forming bodies of the hardeſt texture, by attraction and adheſion, is clearly proved in the making of glaſs, which is a combination of earth (or ſand) and ſalt, with fixed air. The human *calculi* are of very different degrees of denſity and coheſion; ſome being ſo looſe and friable as to crumble to pieces between the fingers, while others have been taken from the body, of ſuch a compact and flinty nature, as to ſtrike fire in colliſion with ſteel; from which it is eaſy to conceive, that the violence of the ſymptoms of the ſtone in a ſufferer under this diſeaſe muſt be various in degree and continuance.

It is no wonder that ſtones often form in the kidneys, ſince the diſpoſition of the urine will naturally ſhew itſelf as ſoon as it is ſeparated from the blood; that is, the ſtony particles having as ſtrong an endeavour to unite with one another in the kidneys as in

the bladder, will, in conſequence of meeting firſt there, be moſt likely to produce gravel and ſtone in that part.

It is not poſſible to ſay how large ſtones would grow in the body, provided the patient could live under the torture. They would undoubtedly continue to encreaſe as long as the bladder could perform its office. We know there have been ſome cut out of the bladder ſo large, as to meaſure eleven inches round, weighing 17 ounces, or more: and in the Hôſpital de la Charité is a ſtone which weighed, when firſt extracted, 51 ounces.—But all ſtones become conſiderably lighter when expoſed to the open air.

§ 2. *Of the Cauſes hitherto aſſigned of the Stone.*—Chymiſts, and many natural philoſophers, as Sir Iſaac Newton, &c. have analyzed or decompoſed the human calculus, with a view to diſcover the certain cauſe thereof; they have found it to conſiſt of thoſe principles already deſcribed in the preceding ſection: now although the different authors could not but agree as to the nature of the ſeparate principles which compoſe the ſtone, yet almoſt all of them have entertained different opinions of the cauſe of the firſt accretion, or giving out the *nucleus* of the ſtone.

It may probably be thought preſumptuous in me to attempt to account for *that*, which the labours of ſo many men, eminent for their learning and ſagacity, have called up and exerciſed in vain. After reciting my adopted motto, "*Plus vident oculi quam oculus*," I will nevertheleſs acknowledge myſelf indebted to the reſult of their reſearches for many particulars, which otherwiſe might never have occurred to me. The immortal Hervey, who diſcovered the circulation of the blood, left ſtill enough to be done by his ſucceſſors, in applying it to phyſic and anatomy: and although the ancient phyſicians were unacquainted with that part of the animal œconomy, yet, in point of learning, it may be ſaid they were at leaſt equal to our moderns, and that they laid the foundation of many ſyſtematic edifices which embelliſh and adorn the preſent phyſical age.

This ſhews the weakneſs of giving up a purſuit, becauſe it has been fruitleſsly undertaken by one or many *great* men. Some of the firſt phyſicians aſſerted, that the operation of many medicines, in particular *mercury*, was indefinable; and yet I am inclined to believe there are but few, at this time, who do not know on what *its* ſpecific qualities depend.

Without any further apology, then, for oppoſing the opinion of my learned predeceſſors, I ſhall appeal to the judicious and candid how far I have removed the epithet *occult* from the real cauſes of the ſtone.

The firſt who treated of this diſeaſe attributed the cauſe of it to an error in the non-naturals, particularly an improper choice of food; to which was added, the too free uſe of crude unfermented liquors. This doctrine, however, cannot poſſibly hold good, ſince

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we ſee all ranks of people, the ſober as well as the luxurious, partake of the diſeaſe. *Climate* was then imputed to be the cauſe of the ſtone; which can by no means be allowed, as we find in hot as well as in cold countries the ſtone exerts an equal influence. It has alſo been conſidered as analogous to the tartar in wine, and that it was produced by a too free uſe of that liquor: but in countries where wine is little drunk, the ſtone is a common diſorder; nay, perſons never taſting that liquor, have nevertheleſs been tortured with this malady. A petrifying quality in the fluid we drink has afforded ſtrong conjectures of creating the calculus; to ſupport which opinion, *Paris* is mentioned as a place where that diſeaſe abounds, from the quantity of ſtone contained in the river Seine: but from a ſtrict enquiry about this matter, I am fully convinced that there is not an over proportional number to London cut in Paris; and the greater part of thoſe ſufferers come from towns and villages where the Seine has no communication.

To ſatisfy myſelf how far an attention to the water we drink might conduce to prevent the ſtone, or retard its growth, I ſet about making the following experiments:

I cauſed a tin kettle to be made in the common form, except that the cover was raiſed, by means of a jetting open rim, to the height of one inch, and being of a larger diameter than the kettle itſelf, it entirely kept out any duſt that might accidentally fall down the chimney, while its conſtruction as readily ſuffered the water to evaporate. I then ſet a common alembic to work, in which I diſtilled ſeveral hundred gallons of New River water, and ſupplied the evaporating kettle from the worm as it ran off. The head of the ſtill had a ſwan neck, and being ſlowly worked, nothing but the fluid in its pureſt ſtate could be drawn off. After thirty-ſix hours operation, I ſuffered the kettle to run dry, and examining it carefully, I found a conſiderable portion of ſaburra or earth, after the manner of the fur or cruſt adhering to a tea-kettle.

And further to prove the impoſſibility of obtaining a *ſtrictly* elementary, or rather homogeneous fluid, I made an experiment with ſnow-water in a ſmaller degree, but ſufficient to diſcover that it alſo yields a cruſt after a continued evaporation. This led me to conclude, that there is no proſpect of obtaining a pure water that does not contain a portion of earth; and I am fully perſuaded, that if the evaporated fluid had been again condenſed, and made the ſubject of a third coction, there would ſtill have been collected ſome particles of earth. In a reiterated diſtillation, I ſuffered the water, after it had been drawn off, to ſtand covered over three days, and boiling it the ſame time as before, a greater quantity of ſaburra was collected; by which I conceive, that the primary particles of earth had time to attract each other, and conſequently, by increaſing their ſpecific gravity, were leſs liable to be carried off in the effluvium or vapour. Now, although we ſhould conſtruct a ſtill with a neck of ever ſuch a height, that much more of the groſſer earth might

might be detained in the bottom, (for I forgot to mention that a great deal more ſaburra was found in the ſtill than in the kettle, although the water was at firſt apparently clear) yet that would not be likely to do more than catch the particles in a collected ſtate; for it is obvious that the primary particles of ſtone are many times lighter than quickſilver; and yet that ponderous body can be ſo rarefied as to be borne up by a very ſubtile æther, or fine vapour. It is therefore plain, that although you might diſtil water until you could no longer diſcover viſible ſtony particles in it, that would not prove there were none in it; on the contrary, it will be found, that after water has been ſtrained, filtered, and diſtilled, *as it were*, through ſome of the fineſt veſſels of a human body, (which are a thouſand times more exquiſite and elaborate than any *art* can invent) I ſay, that after all this, it will be found to contain theſe primary particles of ſtone.

Some time after I had made the foregoing experiments, I was informed that a gentleman of Lincolnſhire had been cut for the ſtone, and in hopes of avoiding that cruel perſecution again, had furniſhed himſelf with a ſtill, through which he had drawn, for four years, every drop of water he uſed; not only to drink, but even to prepare his victuals in; and yet he was unhappily ſeized with the diſorder a ſecond time in his kidneys. Many other perſons have been led to drink only diſtilled water, from a notion of its being entirely freed from its earthy particles; which project, indeed, has, at firſt view, a great deal of plauſibility in its favour.

§ 3. *Inferences drawn from the laſt Section.*—Seeing, then, that we cannot, by any known operation, free water from a certain portion of earth contained in it, we muſt conclude that it poſſeſſes the *eſſential matter* of the diſeaſe; nevertheleſs, it cannot be ſaid to be the diſeaſe itſelf, becauſe thouſands continue in health who drink water without reſtraint.

Thus much being premiſed, to ſhew that no one of thoſe cauſes of the ſtone hitherto aſſigned is the *true* one, and that it is not in our power to prevent the diſeaſe from falling to the lot of ſome among us, it remains for me to declare what, in my opinion, is that *true cauſe*.

In order to underſtand this ſubject more perfectly, it is neceſſary to deſcribe by what means the fluids we drink are conveyed to the blood; from which it will appear, that although a man ſhould ſwallow a quantity of ſand or powdered ſtone in his drink, he would be no more liable to have a calculus form in his body, than if he had taken the fluid in its natural ſtate.

The chyle, or any other fluid, is conveyed to the blood from the ſtomach, by means of ſmall lacteal tubes or pipes. Nothing can paſs from the mouth, or, more properly, from the ſtomach to the blood, but by means of theſe concoctive ſtrainers, which are the ſmalleſt in an animal body. If this was not the caſe, ſuch particles

cles of matter might be admitted into the blood as could never be diſcharged again, which would conſequently be productive of the moſt inveterate obſtructions. It is equally certain, that the abſorbent veſſels or recipient lymphatics, which are ſpread over the ſurface of the ſkin, are ſmaller than the interior ones, otherwiſe the ſame mortal obſtructions would enſue. Now it is evident, in fact, from microſcopic obſervations, that the largeſt blood globules do not exceed $\frac{1}{2000}$ part of an inch in diameter; it is alſo well known, that the diameter of a particle, viſible to the naked eye, muſt not be leſs than the $\frac{1}{100}$ part of an inch, whence it follows, that the magnitude of one of theſe large blood globules, is leſs than the largeſt viſible particle in the proportion of 8000 to 1; and, therefore, ſhould theſe blood globules, without any further attenuation or diviſion, be ſuppoſed to paſs the glandular ſecretories, they muſt come off in an extremely thin attenuated effluvium or vapour, the particles of which would be 8000 times leſs than any ſenſible or viſible particles: but it is certain, that the diameters of the largeſt ſecretory duct, or glandular ſtrainers, muſt be leſs than the leaſt of the blood globules, otherwiſe theſe blood globules themſelves would paſs thoſe ſtrainers, and be thrown off in bloody ſecretions, which we know cannot happen in a natural ſtate of the fluids and ſolids.

How much leſs the ſmaller globules are than theſe already taken notice of, cannot eaſily be aſcertained, ſince they are imperceptible, even by the beſt microſcopes.

It is a fact that Lieuenhoek and others have diſcovered an infinity of theſe ſecretory and excretory veſſels, the diameters of which do not exceed $\frac{1}{8000}$ of an inch, and conſequently a fluid cannot paſs and repaſs them, until it has been ſo far rarefied and volatilized, as that its largeſt particles ſhall be leſs than any viſible or ſenſible particles, in the proportion of 512,000,000 to 1.

This great rarefaction of the fluids in their circulation, or imiſſion to and emiſſion from the blood, may ſeem ſtrange to ſome, and yet it is certain, that fluids are capable of being rarefied or effluviated into any aſſignable degree of tenuity. To make this familiar to us, let us but conſider, how far the moſt denſe and ſolid ſubſtances, as thoſe of metals, may be divided or attenuated by the help of art. Doctor Halley has proved (ſee Philoſophical Tranſactions) that one ſingle grain of gold is ſufficient to overlay or gild ninety-eight yards of wire; and has alſo ſhewn that the thickneſs of theſe *lamellæ* does not exceed $\frac{1}{124000}$ of an inch, which is leſs than the diameter of one of theſe ſmall excretory tubes before taken notice of.

Now, from what has been advanced, it is obvious, that nothing can paſs the lacteals, and be taken into the circulation, but in the form of a fine attenuated vapour; therefore all the powdered oyſter and egg-ſhells, and other inſoluble ingredients, in the compoſition of ſeveral reputed lithontriptics, ſince they cannot be abſorbed by the lacteals, can in no way materially affect the urine. This account

count of the œconomy of the ſecretions of the human body may to many ſeem very wonderful; but it is a fact, that all the boles, calcined earths, and minerals, commonly preſcribed as alteratives of the blood, cannot poſſibly reach that fluid. If it be aſked why impurities of the blood are often removed by cinnabar and other preparations of antimony if they are not abſorbed with the chyle, I anſwer, that by deterging the *primæ viæ* and viſcera, and cleanſing the orifices of thoſe veſſels in their paſſage through the body, ſuch veſſels are enabled to convey a larger portion of chyle into the maſs; and, conſequently, the diſeaſe is gradually overcome by nature's throwing off through the excretories, in proportion to the additional abſorption, and thus ſuch medicaments prove to be alterative.

Notwithſtanding the ſurpriſing ſmallneſs of theſe veſſels, we need not wonder how a body ſo large as that of a man ſhould receive ſufficient acceſſions and recruits thereby, when we conſider the vaſt infinity of them, and that the ſtomach and ſmaller viſcera are capable of abſorbing and carrying to the blood by their means, ſeveral gallons in twenty-four hours. Nor is it poſſible to ſay what quantity of urine the kidneys are qualified to ſecrete from the blood in that time; but, I have (in a caſe where poiſon was ſuſpected to be received into the blood) ſo ſupplied a man with diluting liquors, that he made ſeventeen quarts of urine in one night's time, the greater part of which, from its ſhort ſtay in the body, came away quite limpid and taſteleſs. Thus much I judged neceſſary to ſay on this ſubject, as it proves incontrovertibly (contrary to the general opinion) that the ſtone is not occaſioned by an improper diet:—neither can the blood, in any degree, be ſaid to circulate or convey any concreted ſtony particles to the kidneys; for it has been ſhewn before, that the glands of the kidneys are ſmaller than the lacteals themſelves; ſuch concretions, therefore, if in the blood, could not paſs, but would, in accumulation, occaſion diſorders, more immediately fatal than that of which we are treating.

From the very great difficulty of eſtabliſhing any new opinion, which militates againſt a generally received one, I think it neceſſary to relate the particulars of the following experiments, which, as they may be repeated by any indifferent perſon, will be likely to exempt me from the imputation of ſubſtituting hypotheſes for facts.

Experiment I. I took a fragment of a human calculus of five grains weight, and put it in the urinal of a perſon who never had had the leaſt complaint of the gravel or ſtone, and whoſe water was perfectly pure and tranſparent:—after continuing it thus for ſeven days I weighed it, and found but little alteration; but conſidering that the motion of the urine on the ſtone might diſlodge any ſaburra that ſhould looſely adhere to it, and thereby fruſtrate the experiment, I removed it into another veſſel, and poured the urine gently into it after it was made; by this means it was ſuffered to be more at reſt. At the end of twelve days I again weighed it and found it had gained

gained more than half a grain. I could obſerve, by the help of a glaſs, that the accretion was principally on the rougheſt ſide, which was that broken from the compleat ſtone. The ſame experiment I repeated with the urine of a child, and found the ſame effects in almoſt an equal degree.

Experiment II. A gentleman applied to me to be cured of a ſtone in the bladder; but as he had at that time another diſorder upon him, which required an immediate attendance to, I forbore during a fortnight, to preſcribe to the ſtone, but deſired that his urine, during that time, might be poured upon a bit of calculus of exactly eight grains weight; now although its ſurface was larger than the firſt fragment, yet, at the end of that time, it was not increaſed in the ſmalleſt ſenſible degree. I was not however perfectly ſatisfied with this experiment, ſuſpecting that the medicines he was taking might have prevented his urine from giving out its ſhare of earth; to clear up this point, I got the urine of two perſons, under the ſame courſe of medicines, in Bartholomew's hoſpital, into which I immerged a piece of calculus as before; at the end of only nine days it was increaſed nearly half a grain, from which it is demonſtrably plain, it was not any thing in his courſe of medicine that withheld the urine from reſolving into that earth, which ſhould have increaſed the piece of calculus, as in the former experiment.

The inference to be drawn from the above is, that the ſtone already formed in this perſon's bladder attracted the earthy particles from the urine as ſoon as that fluid came into the bladder: I was further confirmed in this, by his telling me that for ſeveral years previous to his attack of the ſtone he had voided urine, at times very thick and muddy, or ſandy; but that, ſince he had diſcovered he had a ſtone formed, his urine had been at all times clear, and free from all ſand or grit; nay, that it was bright as amber, except when he had taken any violent exerciſe, after which it would be loaded with mucus, or tinged with blood.

After I had made theſe experiments, and the concluſions from them, I read Dr. Prieſtley on fixed air, with the attention ſo juſtly due to the writer. Had thoſe volumes fallen into my hands before, I might have ſaved myſelf much labour in diſcovering that we cannot prevent the ſtony atoms from making their way into the urine; ſince that ingenious author proves that earth can be ſuſpended in air, and even rendered reſpirable. We may therefore be perfectly aſſured that no human art can withhold the ſtony matter from the urine; how far the particles may be retarded from running into coheſion is the ſubject of a very material enquiry.

§ 4. *Of the real Cauſe of the Stone.*—The firſt experiment with the evaporating kettle convinces us that water cannot, by any human operation, be freed from a certain portion of earthy particles, which are in themſelves ſo light as to be carried over the helm of a

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ſtill with the vapour; and that this is not only ſo in fact, but conſiſtent with reaſon, is evident in the diſtillation of quickſilver, which although ſpecifically twenty times heavier than the hardeſt marble, is ſuſceptible of that diffuſion.

Theſe earthy particles, for the ſake of perſpicuity, ſhall hereafter be diſtinguiſhed by the name of *primary particles of ſtone*; and that theſe ſame particles are the only ones capable of forming a ſtone in the human body, is proved by what has been already ſaid on the nature of the veſſels which convey the chyle into the blood.

The firſt experiment in the laſt ſection as clearly proves the urine of all perſons partakes of thoſe primary particles of ſtone which are contained in the fluids we drink; the only conſideration, therefore, which remains, is, what firſt induces the concurrence of thoſe primary particles ſo as to become a nucleus of the ſtone; for from the ſecond experiment of the ſame ſection we find, that when once a nucleus exiſts in the body, it collects, by its attractive power, the particles about its ſurface, and accumulates into a ſtone.

By the œconomy of our frames it is required we ſhould drink a certain quantity of fluid to aſſiſt in aſſimilating our food, and to convey the nouriſhment of it to the blood, further to be diſtributed for the growth and ſtrength of the whole body; now as it has been proved that water, in its pureſt ſtate, ſtill contains an infinite number of thoſe primary particles of ſtone, it is evident that we are liable, every hour we live, to be attacked with this diſeaſe. For it is plain, that the ſerum of the blood, which yields the urine, contains thoſe ſame primary particles of ſtone; they having been conveyed thither with the chyle. The coheſion of thoſe particles, however, never takes place till they are carried with the urine to the kidneys; the reaſon of which is, that the particles are kept farther aſunder while circulating in the common maſs, and conſequently out of the power of attraction of each other. The globules of blood, by their ſpherical figure, muſt alſo have a conſiderable ſhare in preventing the particles from entering into contact with one another. No ſooner then has the ſecretion taken place in the kidneys, and the urine concentrated as it were, than the corpuſcles are brought nearer to each other, and thus begin their attraction and coheſion. In like manner is the chryſtalization of ſalts obtained, which, however, never takes place till the fluid is, by evaporation, condenſed to a certain degree, nor does this work begin before the liquor, in which the ſalt is ſuſpended, begins to cool.

But the moſt powerful impediment to the attraction and coheſion of thoſe ſtony particles, while with the blood, is the continued circulation of this fluid; ſince, ſhould they accidentally be brought into contact, the force with which they would be moved would deſtroy the attractive and coheſive power, and ſtir up a repellent one. That this is actually the caſe in both principles may be illuſtrated by the experiment of two ſmall globules of quickſilver, which though ſtrongly inclined to take up each other in the moment of contact, yet

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driven together with a force equal to the blood's circulation, they would loſe their attractive power. This is not only the caſe with coheſive attraction, but it holds good alſo in the other kinds, whether magnetic or electric; for if the propelling force be too great, repulſion is the natural conſequence.

Thus a ſufficient reaſon is given why a calculous concretion never can take place in the blood, as life would be extinguiſhed before the circulation could be leſſened to a degree ſufficient to ſuffer a coheſion. No ſooner, then, has the ſecretion taken place in the kidneys, and, conſequently, the fluid concentrated in which the ſtony atoms float, than theſe atoms or corpuſcles are brought nearer to each other, and begin and continue their attraction; and as ſoon as two of theſe particles ſhall have met in contact, their power of attraction is augmented (ſuch power being in proportion to the ſurface of the attracting bodies) till at length, from their increaſed ſpecific gravity, they precipitate to the bottom of the fluid, in the ſhape of ſand or gravel; and this is the ſtate of the diſorder which ſhould be denominated *the gravel.*

The circulation of the blood through the kidneys, as well as the liver, is naturally languid, rendering them equally liable to obſtruction. The jaundice is the conſequence of the latter, as the ſtone is of the former.

Now although the concretion, as has been already ſhewn, begins as ſoon as the urine is in the pelvis of the kidney, yet it may not arrive to ſuch a degree as to bring on even the gravel there; but the urine, ſtill more diſpoſed and prepared for further concretion, may, and does frequently, compleat the miſchief in the bladder.—Should this organ alſo be preternaturally feeble, as well as the kidney, a ſtone will undoubtedly be formed in a very rapid degree; for as ſoon as a conjunction or conglomeration of the particles is increaſed to any material bulk, it not only acquires a multiplied power of coheſion, but likewiſe attracts from greater diſtances; ſo that other aggregate particles will be taken up in its accumulation.—This is manifeſted in thoſe congeries of ſmall ſtones, called grape-ſtones, the interior piece of which is always larger than thoſe around it. It is very common, indeed, to find ſeveral ſtones in the bladder, becauſe, as they are generated in the kidneys, they may be thrown over into the ureters ſo large, that they cannot be further taken up in the way of attraction; for in this caſe another power, viz. gravity is oppoſed to it.

The phænomenon of the ſtone's accumulation I have traced through its various and progreſſive gradations, and particularly pointed out that which deſerves and requires the appellation of *gravel.* The duration of the diſeaſe at this ſtage depends, as has been before obſerved, on the irritability or inertneſs of the kidneys and bladder; for under the former circumſtance a perſon may eſcape the ſtone a long time, by evacuating the ſaburra freely with the urine; but, on the other hand, ſhould there be any debility in thoſe organs, it is next to impoſſible but a ſtone and its accompanying

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train of evils enſue—it is therefore clear that gravel and ſtone are the ſame diſeaſe in nature and principle, and are only differently denominated according to the degree in which its progreſs is marked, conſequently thoſe perſons who ſuppoſe them different in their qualities, and that, becauſe they have ſpontaneouſly diſcharged gravel with their urine, without any inconvenience, they are not likely to have the ſtone, deceive themſelves, and will probably be unhappily convinced, too late, to the contrary.

To ſum up and bring, therefore, into a more familiar point of view, the cauſe of the accretion of ſtone, it muſt be conſidered, that as ſoon as the urine has been ſecreted from the blood, and that fluid got into the kidneys, the work of lapidification begins; for it may be concluded the urine always circulates primary particles of ſtone. Now in the continual change of place of thoſe particles floating in the urine, no wonder that they are brought near or into contact with each other, and agreeable to another univerſal principle in nature, attract one another; it can therefore be no longer a myſtery that ſome perſons ſhould eſcape the ſtone and others not, any more than that ſome conſtitutions ſhould perfect the work of the ſtomach's digeſtion or ſanguification ſooner than others, or retain the fœces longer; for proportionate to the time the urine remains in the body after its ſeparation from the ſerum of the blood, is the hazard of contracting the diſorder we are treating of. Exerciſe, above all things, promotes every ſecretion of the body, and is therefore the beſt and moſt natural defence againſt the ſtone. Volition too will have its effect in the excitation to urine.

Thus we ſee intenſe ſtudy diverts the influence of the *vis excretionis*, whereby the urine and all other excrementitious matter is retained longer than its due time, and diſeaſe may be reaſonably expected: this doctrine needs no farther confirmation than to inſtance the number of Judges, Clergymen, and others, of a ſedentary life, who are afflicted with urinary and biliary obſtructions and concretions, and more particularly perſons of the firſt claſs; for from their avocations they are often obliged to oppoſe the *vis reſiſtendi* to the calls of nature, which cannot but do violence to her functions.

Having, in the cleareſt manner I am able, elucidated the work of lapidification, I am not willing to leave the ſubject without offering my opinion of the reaſons why a ſtone accumulates ſo much faſter in one perſon than another. That animal ſalt is a neceſſary ingredient in the compoſition of a ſtone has been before manifeſted, and I am as fully perſuaded that the growth of a ſtone is determined by the quantity it meets with in the urine. It is equally ſatisfactory to me, that the quantity of ammoniacal ſalt is proportional to the longer or ſhorter time the urine remains in the body; for a pint of urine, newly ſecerned from the ſerum of the blood, will not contain a fifth part of the ſalt in it, the ſame quantity will, which has been longer ſecreted. This is ſufficiently evident in a profluvium of urine, where it ſcarcely participates of the ſaline matter at all: thus it is

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demonſtrably plain that it is conſiderably in our power to check the redundancy of this ſalt by our manner of living, though we could not totally prevent it, or live without it in due quantity. If children abounded with this ſal animalis, in an equal degree with adults, the ſtone would be their inevitable lot, from the ſupineneſs of their poſture in urining; but providence has given them a deſire for, and appropriated them that ſort of food which will not yield that ſalt, but in a ſmall degree; this ſalubrious aliment is milk, it being formed from chyle, in which the principal part of its ſalts are left behind.

The cauſes of the ſtone being ſo plainly demonſtrated, it becomes a queſtion, deſerving conſideration, whether no preventative means can be adopted with reaſonable hopes of ſucceſs, eſpecially in thoſe perſons' caſes who devote themſelves to ſtudy, and are unavoidably obliged to neglect, often for many hours, the excitations of nature; to which I anſwer, that to thoſe who are conſiderate enough to think of the danger they are expoſed to, a proſpect of aſſurance from this diſeaſe is held out to them, by a ſafe and ſimple expedient.—If the fœces are retained too long in the body, do we not, by laxatives or cathartics, ſtimulate the inteſtines to reject them? Bile (ſo neceſſary to our health and exiſtence, in a due proportion) is often redundant, and thereby occaſions a diſeaſe; do we not then by deobſtruents ſtimulate the liver and biliary ducts to procure its expulſion? and ought we not to be equally ſolicitous to purge the kidneys and urinary canal, when their contents have been too long detained from paſſing off. The preventional medicine in queſtion muſt, then, it is plain, poſſeſs diuretic qualities, yet it ought not to be of that claſs which is generally preſcribed when the gravel is already formed. The vague operation of ſome reputed diuretics, and the failure in the effect of others, have much diſcouraged this part of practice, and provoked ſome profeſſors to declare that no reliance can be had on any medicine of that claſs: I hope, however, to clear this part of the medicinal art from ſuch a general cenſure, by a very ſimple preſcription, but of infallible effect—it is neither more nor leſs than this.

When a perſon has been too long withheld from an evacuation of urine, or through a ſpontaneous inertia of the ſecretories that fluid is too languidly ſecerned, from an attendance in the cabinet, court of juſtice, place of worſhip, &c. and that paralyſis of the bladder, ſtony concretion, or other diſorder, may be apprehended as the conſequence of it, he is, when he gets home or into a warm room, to order a baſon, or four or five cups of ſtrong green tea to be made, which he has no ſooner drank warm than he is to ſwallow a ſmall glaſs of rum, and repoſe in a chair or a bed; theſe means will not fail to produce a neceſſary and plentiful diſcharge of urine, and take away all apprehenſions of the evils alluded to, as well as the danger of fever, œdematous ſwelling of the legs, and a train of evils which often ſucceed the tranſudation of the urine through the

the bladder, and which paſſage the water will certainly ſeek when deprived of its natural one. The above caution, however artleſs in appearance, will, I am fully perſuaded, if attended to, be the means of exempting many from the ravages of one of the moſt cruel diſorders that torment mankind.

I flatter myſelf my readers will now be ſatisfied of the real cauſe of the ſtone, which has given riſe to ſo many hypotheſes; and that I have incontrovertibly expounded the myſtery of the *nucleus* of the ſtone, that hitherto inexplicable and undefined production, it being found neither more nor leſs than the conjunction of two of thoſe fixed or primary particles of ſtone; thoſe two, when combined, attracting a third; thoſe three taking up a fourth; and ſo on, *ad infinitum*—how many thouſands of theſe may be neceſſary to make up a particle, viſible to the naked eye, cannot be aſcertained; but it is certain that theſe atoms or corpuſcles muſt be infinitely ſmall, otherwiſe ſo many perſons could not eſcape the diſeaſe, ſince I have proved all have them in their urine.

To illuſtrate the diſpoſition of the urine to form the ſtone, by a nucleus, it may be obſerved, that any extraneous ſubſtance being accidentally introduced into and left in the bladder, will infallibly generate one, notwithſtanding the perſon, prior to the accident, had never had the leaſt indication whatever of the gravel.

In St. Thomas's hoſpital the point of an ill-prepared bougie broke into the bladder of a patient, and generated a ſtone.—In Guy's hoſpital a bit of leaden probe did the ſame. A drop of blood will become the *nidus* of thoſe earthy particles, and cauſe a ſtone. From theſe circumſtances it appears, that all extravaſations of blood are dangerous.

THE CASE OF MR. C**P**N.—Mr. C———n, clerk to an eminent banker of this city, in the year 1774, contracted a diſorder, which, in the end, obliged him to ſuffer the frequent introduction of a bougie. This he did for a conſiderable time, when, accidentally, one fell into his hands ſo ill prepared that about half an inch of the point broke off, and lodged itſelf in the bladder, having paſſed the ſphincter in its introduction. The accident being immediately diſcovered, he was a good deal alarmed, inſomuch that he inſtantly applied to one of the ſurgeons of St. George's hoſpital for advice, who conſoled him by ſaying, "That as the preparation "of the bougie was compoſed only of linen cloth and an unctuous "ſubſtance, no extraordinary pain was likely to enſue from the "circumſtance. The plaiſter part, he ſaid, would be daily waſted, "and the cloth, conforming itſelf to the paſſage, might, therefore, "at one time or other be waſhed out with the urine; for that ſince "Mr. C. never had any the ſmalleſt complaint of the ſtone or "gravel, or the leaſt appearance of ſaburra in his urine, he would, "in all probability, eſcape a diſorder of that nature."

After this advice Mr. C. perſevered as uſual for two months in

the uſe of the bougie, at the end of which time he left it off entirely, and remained in the ſame ſtate for about eighteen or twenty weeks. Soon after the lapſe of this period, finding himſelf indiſpoſed, he came to conſult me upon his caſe, which was as follows: For ſome time he had ſuffered an uneaſineſs at the neck of the bladder, and on that part where the waiſtband of the breeches compreſſes;—he had alſo a frequent deſire to make water; and felt an acute pain about the time he had done making it, and even for a few ſeconds after; and was troubled with an itching or titillation at the nut of the penis. From theſe indications I immediately pronounced the exiſtence of a ſtone in his bladder, and then I was informed of what I have related in reſpect to the broken bougie. Now, though I entertained no doubt of deſtroying the concrete formed upon the piece of the bougie, yet I told him that the *ſolvent* (an account of which ſee hereafter) could take no effect on the rag itſelf; I was conſcious, however, that by diſlodging the concreted ſaburra, the ſaline part of the urine would act ſtrongly upon the rag, and its attrition would in time wear it gradually away; and the more to enſure ſucceſs from this method of procedure, I adviſed him, even after the ſtony part ſhould be deſtroyed and evacuated, ſtill to take *ſolvent* enough to keep the urine from giving out the principles of a ſtone, ſo that the rag would be kept always bare for the urine to act upon it. Mr. C———n ſcrupulouſly followed my advice; the conſequence of which was, that in five weeks the pain he had complained of left him entirely; and in as many more the ſand ceaſed to come away, and there was every aſſurance of the piece of bougie being reduced to its natural ſtate. After this he continued to take now and then a doſe of the *ſolvent*, till at length he began to believe that the rag itſelf was worn to pieces, as he had often diſcovered part of it in his urine. Thus was he induced to leave off the medicine entirely; but he was ſoon convinced that there ſtill remained ſome part of the fragment of the bougie in his bladder; for the ſame complaints and pain were again revived, though in a ſlighter degree, and, for the ſecond time, he was obliged to have recourſe to the *ſolvent*, which operated exactly the ſame as before.—Indeed the certainty of his being liable to the ſame attack while any the leaſt part of the extraneous body lay in the bladder, determined him to omit on no account the uſe of the remedy till he ſhould be perfectly aſſured of its being totally waſted away. For this purpoſe he took regularly three bottles more, which having brought him back to the ſtate of eaſe he wiſhed for, he then only took a doſe now and then, but did not leave it off totally for eight months, at the end of which period he had actually every reaſon to believe the whole of the rag was expelled the bladder: happily for him he was not miſtaken in his conjecture; for although it is ſo many years ſince he took any of the *ſolvent*, he has had no complaint of the ſame nature.

I was conſulted about twelve months ago by Mr. *Dixon*, clerk in the Secretary of War's office, for a complaint as follows: He had

had had a ſtone in the bladder about eight years before that time, for which he had been cut, and great pains were taken with the ſcoop to prevent any pieces of calculus from remaining behind, ſo as to form a new concretion: the excruciating pain he had undergone before the operation had a good deal impaired his conſtitution, but nevertheleſs the wound appeared to heal, and he was free from any great uneaſineſs for two years, when the cicatrix of the wound burſt open, and a fiſtula was the conſequence, through which the urine made its way out of the bladder: topical remedies were applied to the ſuperficial wound, and it was by thoſe means again healed up; the conſequence of which was, that inſtead of a fiſtula it became a ſinus, where the urine lodged and gave out its ſaburra for a beginning concretion of ſtone, as it could no longer find a paſſage on account of the new cicatrix; for it may juſtly be conceived that the eruption of that part where the inciſion had been made into the bladder, took place when the ſurface of the wound broke open, and of courſe there was an entire perforation into the bladder: indeed a leaden probe, I was informed, had been more than once introduced therein through the ſinus—the continued ſupply of earthy matter from the urine ſoon aſſumed the form of a ſtone, and it might be felt with the finger, by preſſing it on that part where the gorget had entered in operating for the ſtone: all this while the patient was not much alarmed, as he could walk with indifferent eaſe, and in moſt reſpects was in tolerable good health—but in this way he did not long remain, for the ſtone encreaſed rapidly in ſize, ſo as to diſtend the part to a conſiderable degree, and at length forced its way through the teguments of the muſcles, where it formed a bed for itſelf—in this pitiable condition, Mr. Dixon contemplated in ſilence, 'till in fact he could not walk but with torture; for the prominence occaſioned by the encreaſed dimenſions of the ſtone, prevented him from putting one leg before the other, and the ſtone had taken its direction chiefly near the ſcrotum. My advice was aſked by him at this period of the diſeaſe, with the circumſtance of the ſtone having burſt open the cicatrix again; in ſhort, ſcarce any water came from him but through this cavity. I examined him with the greateſt attention, from which I ſuſpected the concretion adhered, or that it had extended itſelf in the direction of the fibres of the fleſh, for it was as immoveable as a fixed bone. But for this reaſon I ſhould have immediately adviſed the cutting it out, ſince there could be no chance of its being diſſolved in any reaſonable time, as it appeared to be larger than a duck's egg; beſides which, there was another unfavourable conſideration—the urine, though impregnated with the ſolvent, could only trickle by a part of the ſtone's ſurface, not entirely ſurround it: however, as ſomething was to be done, and the inciſion could not be ſafely ventured on at that time, I propoſed to give him the ſolvent by way of ſtopping the further accretion to the ſtone, as well as to try if its outward coat might not be ſmoothed, and his pain thereby abated; not without

further hope, from the ſame power of the medicine, that the ſtone might be leſſened in dimenſion, and a diſcovery effected whether it attached or not to the fleſh which ſurrounded it. Theſe views were accompliſhed to a degree beyond expectation; for in ten or twelve weeks the pain was mitigated in a great meaſure, and the ſtone might plainly be perceived to move, by puſhing contrary ways with the fore finger of each hand. When he was aſſured, as well as myſelf, that the ſtone was not immoveably fixed in the receſs it had made, he eagerly preſſed me to the operation, by which he might be more ſuddenly rid of a ſource of continued miſery: his complexion and emaciated condition convinced me that his habit was in a very indifferent ſtate, and therefore I directed him to live better than he had done, to take a glaſs or two of wine with his dinner, and a doſe of tincture of bark twice a day for a month, at the end of which time I would, if he continued in the ſame mind, perform the operation, there being no proſpect of ſpeedily diſſolving the ſtone by the medicine. During this month, in which he had lived more generouſly than before, he acquired better ſpirits, and a day was fixed for cutting the ſtone out of its bed, on which operation he was fervently bent. I had, by his knowledge and conſent, appointed for aſſiſtant a ſurgeon with whom I had formerly diſſected, and whoſe opinion I held in great eſteem: I had the ſatisfaction of finding him agreed with me about the ſafety of the operation, and accordingly I ſet about it, when I extracted a ſtone of an exceeding hard and denſe texture, weighing three ounces two drams avoirdupois; its form in a great meaſure reſembled a longitudinal ſection of a pincuſhion, with one of the horns running towards the anus, and the other up the ſinus into the bladder; this form obliged me to enlarge the orifice I had firſt made for its extraction—a ſuture ſecured the only arterial branch that was divided, and all appeared favourable.—I viſited him for three weeks, with every reaſon to expect his recovery. At this time I was ſeized with a tertian fever, and under the neceſſity of removing into a dry air in the country, during which time he fell into a low way and died —the wound, which was originally about three inches in length, had healed to about two, but had never yielded any well-digeſted pus throughout, ſo that I apprehend the attenuated ſtate of the blood and juices had occaſioned the diſſolution of the ſuffering gentleman. I deſired Mr. Morſe (in whoſe poſſeſſion the ſtone is) to allow me to take an exact drawing of it, as it may be deemed a great curioſity.

Mr. Jamiſon conſulted me in a caſe of the gravel, which he had had for a conſiderable time to an extreme degree, inſomuch, that he was no longer able to walk or ride with the leaſt eaſe, and complained of exquiſite pain in his loins, and in the neck of the bladder, with almoſt an entire ſtoppage in making water. Although I was convinced his caſe was gravel only, I gave him no other medicine than the ſolvent, with a view to check the diſpoſition of the

the urine to run into thoſe concretions. In a ſhort time he began to void prodigious quantities of globular pieces of gravel, ſcarce ever urining without being able to collect half a tea-ſpoonful. The pain at the neck of the bladder abated, in proportion as the gravel was voided; but he never ceaſed to complain of a weakneſs and uneaſy ſenſation about the loins and kidneys. He continued free from pain at the neck of the bladder for the ſpace of about four months, but theſe above-mentioned continued, and the gravel began to form again, occaſioning the ſame complaints as at firſt. This ſecond attack was treated in every reſpect like the firſt, during which he paſſed ſuch amazing quantities of looſe red pieces of gravel, as would aſtoniſh the moſt credulous. The cauſe of ſuch an haſty and abundant collection of gravel I conſidered as deſerving particular attention. I found it to be almoſt univerſally in one coloured ſpherical piece, and this gave me reaſon to ſuſpect that each ſeparate globe might have a nucleus different from the mere junction of the primary particles. I was conſcious that an oppreſſive weakneſs of the loins augmented the pain of which he complained, for he had this when the gravel was ſuppoſed to have all paſſed; and that although he had never made what might have been called bloody urine, yet a ſediment was often obſerved at the bottom of it, which had every appearance of fine blood globules, that had loſt their bright colour by lying in the urine. I therefore began to conſider, that although, in a natural ſtate of the kidneys, the blood globules are prevented from paſſing the ſecretory glands, yet, ſhould any of thoſe glands be extraordinarily relaxed, ſome of the fine globules might paſs through them with the urine, and inſtantly become nuclei, for thoſe ſmall grains of ſtone. I was the more inclined to this belief, by conſidering that the reticular gland or membrane of the eye, when relaxed by cold, a blow, or other injury, often ſuffers an extravaſation of the finer blood globules, which gives riſe to the *blood-ſhotten eye*. To ſatisfy myſelf, however, concerning theſe conjectures, I carefully divided ſeveral of the round pieces of gravel; after which, with a good microſcope, I was able to diſtinguiſh a cavity in the center of them, with an appearance that left me not a ſhadow of doubt of globules of blood being the nidi, or rather nuclei of the concretions.——*Frêre Côme*, the noted lithotomiſt of Paris, has made the ſame remark:—and indeed it would have been difficult in any other manner to account for the myriads of pieces of gravel which formed in ſo ſhort a time.

The concluſion naturally to be deduced from this is, that if in place of ſo many globules of blood, detached at once, they had all been collected in one maſs or drop, inſtead of the formation of ſo many grains of ſand, there would have been, perhaps, a ſingle ſtone, which muſt have increaſed in a conſiderable degree, ſince it would have been ſupplied from that abundance of particles which were neceſſarily diſtributed to ſo many ſeparate nuclei.

§ 5. *Of the Stone in Children.*—From the early age in which many children have been attacked with this diſeaſe, ſome authors have been erroneouſly induced to pronounce it hereditary.

Authors who have alledged the cauſe of the ſtone to be a too free uſe of malt liquors, and thoſe who imputed it to an error of the non-naturals, were obliged to pronounce the ſtone in children hereditary, otherwiſe they would have contradicted themſelves; becauſe ſtones have been cut out of the bladder of children which had but juſt been weaned from the breaſt. Infants, in this ſtate, being attacked with the ſtone, are proofs of thoſe primary particles of ſtone being inſeparable from every fluid we drink.—When we conſider the many glands the milk (with which the child is fed) is ſtrained through, in the mother or nurſe, ere it reaches the child's mouth, and the many different fermentations and depurations it has undergone, and yet find it to be the vehicle of earth, what can we expect from the filtrations and diſtillations of water? It is really wonderful, but it is equally true, that a ſtone as large as an almond has been extracted from a child of two years of age, who had lived entirely on a milk diet.—The concretion in ſuch young ſubjects muſt be conſiderably expedited by the ſupine poſition they are chiefly in; the bladder being not ſo likely to empty itſelf in an horizontal, as in an erect poſture.

§ 6. *Of the Symptoms of the Stone.*—It has already been ſhewn, that the gravel and ſtone are the ſame diſeaſe in a different degree, conſequently, what is only the gravel now, may, in a ſhort time, be the ſtone. The only line of diſcrimination between them is, that while the collected particles are ſtill ſmall enough to paſs from the kidneys to the bladder, and from the bladder through the penis, without preternaturally diſtending the ureters or urethra, the diſeaſe may be called the gravel; but as ſoon as the calculi have acquired a ſize too large to be admitted through thoſe tubes naturally, the caſe can only properly be called the ſtone. It is no longer called gravel, when the piece or pieces of calculi are to be felt by introducing the *ſound* into the bladder, though it does not follow that the ſtone ſhall always be found by that inſtrument; for it may be ſo ſmall, as that its reſiſtance to the inſtrument ſhall not be felt by the niceſt finger. It may alſo, by the particular ſtructure of the neck of the bladder in ſome perſons, lie ſo concealed, as to elude the ſearch of the moſt experienced operator; hence the reaſon why, at ſome times, it may be felt by the catheter, at other times not; however, the ſounding will be likely to afford ſatisfaction, and may, in moſt caſes, be ſaid to be neceſſary, except when the ſtone is of ſuch a ſize, and the ſymptoms ſo indicative, as to leave no room to doubt of the exiſting diſorder.

It has been ſaid, that in very rare caſes, bloody water may be occaſioned by the gravel only; in *this* diſeaſe, however, it will be a leading ſymptom, attending a too violent motion of the body, as

riding

riding on horſeback, or in a coach on rough roads, and in uneaſy carriages.—Too much walking, or any ſudden diſtortion of the body will bring it on; and whenever this happens, the patient may certainly conclude that he is unfit for exerciſe, but of the mildeſt kind; and although the laceration may not be diſcovered during the motion, yet it is unſafe. Ulcers generally follow repeated excoriations of the internal coat of the kidneys and bladder. The cauſe of an ulcer ſhould more particularly be avoided, as it renders the diſorder much more difficult of cure; and if it happens in a perſon of a bad habit of body, it generally drags him to the grave; the ſtone ſerving to augment the dire effects by its continued friction and irritation againſt the defenceleſs corroded veſſels. By its ſtimulus alſo about the neck and ſphincter of the bladder, it will occaſion frequent irritations and calls to make water in ſmall quantities; and as it advances in ſize, a pain will be felt in the neck of the bladder the moment the urine is made, and about the end of making. By a kind of ſympathy, a pain is felt alſo at the *glans penis*, or nut of the yard, the moment the urine is made; and if the ſtone be rough, the pain will be exquiſite, by the contraction of the neck of the bladder. If this contraction round it be ſudden in the emiſſion of the urine, there will be alſo felt an uneaſy ſenſation in the *anus*, occaſioned by the contiguity of the rectum to the neck of the bladder, and a teneſmus will enſue. The ſtone will often be carried to the neck of the bladder by the efflux of the urine, and ſuddenly ſtop its courſe, 'till, by a change of poſture of the body, or by the natural contractile power of the ligaments of the bladder, it be drawn back.—If, after the firſt flow of urine, there ſhould be a ſecond urgency to make it by drops, the pain will be immoderate, and of longer continuance, and the whole paſſage will be ſo heated and inflamed, that the ſenſation of the patient is deſcribed in no better way than by imagining the points of ſwords, or other pricking and ſharp inſtruments, are forcing their way through it. In general, it will be found that the urine may be made eaſier lying on the back, or on the ſide, and on any curvature of the body, than in an erect poſture.—When the ſtone has acquired a conſiderable ſize, it will be ſenſibly felt by turning haſtily in bed, from ſide to ſide: its gravity will occaſion a pain in that part neareſt the os pubis, and even the ſcrotum and teſticles themſelves.

There are no pathognomonic ſigns of the ſtone, but theſe are the common ones of it in the bladder; ſome or all of which attend the diſeaſe in its different ſtages; but it is plain, that if the ſtone be but ſmall and ſmooth withal, the ſymptoms and pain will be milder than if *large* and *rough*.—If the ſtone attack a perſon of a feveriſh habit, he will be frequently liable to violent fits of it, attended with ſuch ſtrangurious pain as will occaſion an almoſt inceſſant deſire to make water, and that by drops only. It will alſo bring on raging thirſt, and even delirium. Theſe are ſymptoms that muſt

be palliated by balſamics, the warm bath, and, if the habit be plethoric, *veneſection*, repeated as occaſion may require: cooling laxatives are alſo proper, as manna and oil, with barley-water and emulſions of almonds. A perſon of a warm temperature ſhould abſtain from all inflammatory things, keep his body rather looſe than otherwiſe, and particularly avoid violent exerciſe of every kind.

If the caſe be that of the ſtone in both bladder and kidneys, he will, beſides the foregoing ſymptoms, be liable to the following ones, which are peculiar to the diſeaſe when in the kidneys, viz. a dull obtuſe pain in the region of the loins where the kidneys are attached, together with a ſenſe of heat and uneaſineſs after motion; an unpleaſant weight and preſſure in the part after a full meal, which will often occaſion a nauſea, and even a vomiting; in general the patient will conceive an averſion to exerciſe from the uneaſineſs that accompanies it.—The ſtone, when ſeated in the kidneys (as well as if in the bladder), is liable to lacerate the ſmaller blood veſſels, and occaſion a diſcoloured or bloody water, which, if made freſh after the extravaſation, will be florid; but if retained ſome time in the body it will acquire the colour of coffee-grounds.—Inflammation will alſo be frequently excited in the kidneys, which will impede the ſecretion of the urine; and if it happen to *both* at one time will be dangerous.

The wiſdom of Providence is peculiarly conſpicuous in the proviſion made againſt the conſequences of this dreadful diſeaſe, by furniſhing the human body with two kidneys, ſince it is now proved that one would be ſufficient to ſecrete the urine from the blood.

Though the ſtone in the kidneys may be more difficult to cure, from its not being ſurrounded with the urine, yet it is not ſo immediately dangerous; ſince a kidney has been found entirely blocked up with the ſtone, inſomuch that, when taken out, its configuration was like the trunk of a tree, with the branches ſevered a little diſtance from it. This ſhape it had taken from the great diſtenſion the pelvis of the kidney had ſuſtained during the growth of the ſtone.

The late Duke of Northumberland was ſuppoſed to be in this ſtate with reſpect to one of his kidneys.

CHAP. IV.

Of the different Degree of Denſity in Stones.—It has been ſhewn in the inſtances of ſections of ſtones, that they are not only liable to be very different in their textures and colours, but that the various laminæ of the ſame ſtone will be of different degrees of cohesion.—This accounts for the irregularity of the diſcharge of earth during the operation of the ſolvent, as the *outſide* laminæ may be leſs firm and

and coheſive, conſequently the ſolution or ſeparation of its parts will be more quickly brought about.

The *ſecond* may be denſer, and therefore it will not be operated upon ſo ſoon; the *third* may again be like the firſt. This being the caſe, it is worthy our conſideration what is the occaſion of this change in the habit, effecting the formation of a *harder* or *looſer* compoſed ſtone. According to our ſucceſs herein, we may be able to lay down a rule or regimen for thoſe who are either under the influence of a *preſent* diſeaſe, or are fearful of an attack.

I believe no one who has read the preceding part of this treatiſe will be unconvinced that the ſame earthy particles are conveyed to the urine of every perſon whatever, in an equal degree to the quantity of fluid received in the body.

To account, therefore, for the difference in the colour and denſity of the ſame ſtone, it behoves us to conſider that there are *two* kinds of primary particles; the one ſpherical or globular, the other of an oblong figure, inclining to be flat; now as it is highly probable alſo, that the ſmalleſt particles ſeen by the very beſt microſcopes are ſtill manifold aggregates of thoſe ſimple particles, we can do no more than judge of the *firſt* figure by the ſhape they aſſume in the ſtate they are firſt viſible. The harder ſtones, as cryſtal, &c. are found to be made of fine *ſtriæ* or *lamellæ*, nearly equal to each other; when, therefore, theſe lamellæ meet or enter into contact (from what cauſe ſoever) in a ſufficient quantity, the conformity of their ſeparate figures determines the arrangement equally in the whole, and leaves the homogeneous body tranſparent, by reaſon of its admitting a free paſſage to the rays of light equally every way.

Thus we may account for ſtones of the earth being opaque and porous, in proportion as their component particles approach nearer to a globular figure. If a ſtone be made up of both kinds of particles it will be of a mixed nature, neither tranſparent nor fully opaque. Stones of the human body, however, never approach near to a tranſparency, owing to the quantity of fixed ſalt contained in them; for ſalt tends to increaſe opacity, unleſs it has undergone a heat ſufficient to *vitrify* it. The particles of all kinds of ſand, when viewed through a microſcope, appear pellucid; ſo that the colour of human ſtones being lighter or darker ſeems to depend upon the quantity of ammoniacal ſalt contained in the urine, which ſerves to fill up the interſtices between each lamellæ. The cloſer and firmer the coheſion of thoſe particles is, the lighter is the colour of the ſtone, and *vice verſa*.

If we conſider the nature of light, and the manner in which the rays are refracted by ſaline bodies, conformable to Sir Iſaac Newton's experiments, we may eaſily enough account for the variety of colour of ſtones, according as they abound more or leſs with ſalt—hence the reaſon why a ſtone, or one or more laminæ of a ſtone, are different in colour from the reſt. It is not, however, to be

underſtood, that the ſaline part of the ſtone has no other than the *mediate* property of giving tranſparency or opacity to ſtones, according as it more or leſs abounds. It abſorbs air, either fixed or rarefied, more than all other bodies. Now if a ſtone contains a greater quantity of fixed air, its particles will be kept farther aſunder; conſequently the rays of light cannot paſs freely out of one particle into the other, but are in part refracted by the air, which is a denſer medium than light. From the ſame cauſe the moſt tranſparent and brilliant glaſs becomes opaque when reduced to powder, by the component particles of it being ſeparated from each other and made to admit the air between them, which cannot be excluded again but by the operation of fire.

To proſecute this matter to the utmoſt extent would be to run through the different doctrines of light and air, and, conſequently, ſwell this tract beyond its intended compaſs. I ſhall content myſelf for the preſent with collecting from theſe experiments what regimen will be moſt compatible for thoſe who take the ſolvent, with a view of diſſolving the ſtone. This requires a two-fold conſideration; the firſt, what is conſiſtent with the diſeaſe itſelf, the next, what is leaſt likely to fruſtrate the operation of the medicine intended for its cure.

In order to be more particularly ſucceſsful herein, I made a number of experiments of the nature of thoſe in chapter vii. with a mixture of ſolvent and different juices of animal and vegetable ſubſtances, kept in a proper degree of heat, in which were infuſed different pieces of a calculus of equal weight and of an uniform conſiſtence throughout, which was cut from a boy of eight years of age. This was made choice of as preferable to one taken from a man, the laminæ of which might differ in coheſion from the variety in his manner of living.

It may be aſked in this place, how it comes to paſs that ſince the urine is inceſſantly charged with the ſtony particles, the concretion goes on ſo ſlowly at one time and ſo rapidly at another.—To which I anſwer, that a variety of circumſtances may concur in one perſon, or at one time, to bring about an haſty accumulation, and which, in others, may only operate in part.—Firſt, for inſtance, ſhould a ſtone be already formed in the body, and the urine retained a conſiderable time, there is no doubt but the earthy corpuſcles will be more generally attracted by the ſtone.

Another cauſe of the various degrees of growth of ſtones may be deduced from the following obſervation. Although there is at all times an aptitude in the primary particles to enter into coheſion, yet there muſt be an interpoſing medium, which medium is proved to be a ſaline ſubſtance; now that this ſaline ſubſtance is to be found in greater abundance at one time in the urine than at another is a fact, and therefore the corpuſcles of ſtone may be more or leſs furniſhed with this neceſſary medium, according to the ſtate of the conſtitution.

I have

I have remarked, that ſcorbutic habits generate ſtones quicker than others. This may ſuggeſt to ſome a plauſible reaſon for living in ſuch a manner as to prevent the fluids from affording this animal ſalt in any abundance; but when we conſider that a certain quantity of it is neceſſary to the due concoction of the fluids, we might, by following the dictates of this reaſoning in too ſcrupulous a manner, deſtroy the action of the fluids upon the ſolids, and bring on leucophlegmatias, dropſies, and other diſorders more immediately alarming in their nature.

Laſtly, ſince the primary particles of ſtone are different in their figures, if the firſt junction of them be of the nature of the lamellæ before-mentioned, the nucleus, or firſt foundation, will be of the harder kind throughout that lamina; as thoſe particles have, no doubt, a greater affinity to each other than to other particles.—As ſoon then as one lamina is compleated, the concretion is at liberty to begin a new lamina, either of the ſame nature of particles, or of thoſe approaching to a ſpherical figure, according to chance. If of the latter, this ſecond lamina will be leſs compact and denſe, conſequently more eaſy of ſolution—ſo that each lamina muſt preſerve an uniformity of coheſion and texture, although the lamina may be different from each other. If it were to happen that an intire ſtone was made up of thoſe former particles it would be hard indeed, and in its nature dreadful.—This, however, is ſcarce likely ever to happen in the human body, from the continued motion of its ſeveral parts.

CHAP. V.

§ 1. *The Methods hitherto purſued in endeavouring to cure the Stone.*—There is no doubt but the diſorder we are treating of had its origin with our firſt fathers, ſince no climate nor manner of living can grant us an immunity from it.—As ſoon, therefore, as its nature became in part known, by means of that prying and reſtleſs curioſity ingrafted in man, it was looked upon as preternatural, and owing to ſome extraneous ſubſtance having found its way into the body. This opinion was ſeemingly corroborated from there having been found foreign ſubſtances in the heart of trees, ſtones, ſhells, &c. ſo that without conſidering fully the nature of its compoſition and accretion, expedients were formed for relieving the unhappy creatures afflicted therewith.—Pharmacy was but little known in thoſe days, ſurgery and operations were their only reſource, theſe being of very early date.—We have, nevertheleſs, no account of the operation for the ſtone till the time of Celſus, though it is more than probable lithotomy was performed long before.

However imperfect his method might be, it was purſued till after the time of Johannes de Romanis, when, no doubt, the ill ſucceſs

and fatal conſequences attending it ſuggeſted the idea of improvement.

That ſcarce one in twenty eſcaped the operation is evident, from the forms and ceremonies obſerved before the knife was applied; indicating that the miſerable victim was conſidered as devoted.—The work was, therefore, only juſtified upon this ground, that the patient's torments were worſe than preſent death; for in thoſe days the patient derived not the leaſt conſolation from palliative remedies. As the mind became more and more enlarged and expanded, every means were deviſed for leſſening the fatality of the operation, and new inſtruments and new methods of uſing them were invented, till, by the ſeveral improvements and the dexterity of the operators, it was brought to the preſent degree of perfection.

Now, though this was the real caſe, and that ſome ſurvived the knife in a wonderful manner, yet many were rejected as improper ſubjects for ſubmiſſion to it, ſince a due age, habit, &c. were requiſite to derive any hope of ſucceſs. Humanity, therefore, dictated the neceſſity of ſeeking relief in medicine for thoſe who were by no means likely to meet with it from the inſtrument; accordingly we find chymiſts and philoſophers at work in analyſing the human calculus. In its decompoſition it was found to yield a conſiderable quantity of fixed air, which, from the reſult of ſome of their experiments, was deemed the principal cement of the ſtone. On this account lime-water being judged beſt calculated to deprive it of that part of its compoſition, was, in conſequence, recommended by the firſt and ableſt phyſicians. Soap, alſo, as an univerſal diſſolver of animal ſubſtances, was called in aid, and, by ſome, was preſcribed and taken with lime-water, but with what ſucceſs the following inſtances will demonſtrate.

I ſhall adduce two of the caſes quoted by an eminent phyſician, in favour of their operation and effects, and leave the judicious reader to form his opinion from the conſequences produced.

It may be urged that, granting theſe caſes do not convey any very favourable idea of the power of theſe medicines, yet they are inſtances of their not being ſo noxious to the conſtitution as they are reported: to which I anſwer, that the conſtitutions of men differ very materially; to ſome you may adminiſter the moſt draſtic medicines without injury, while the lives of others would be endangered by them.

That ſoap is a great deſtroyer of animal ſubſtance is evident from the bloated, ſallow countenance; offenſive, cadaverous ſmell of the breath, and bad digeſtion of thoſe who are under a courſe of it; and from the hiſtory of the plague of London; as ſoap-boilers, waſher-women, and all thoſe who had commerce with ſoap, were found to die ſooner, and with more viſible marks of putridity than others. With them all alexipharmics and antiputreſcents were thrown away, none of them ſcarce eſcaping. Every trial ſhews that ſoap has this deſtructive tendency, and that it breaks down the

craſis

craſis of the blood; for which reaſon it is abſolutely forbid in all diſeaſes tending to putridity. To demonſtrate this more ſufficiently, let a piece of fleſh, ſuch as beef, or mutton (ever ſo newly killed) be immerged, or ſuſpended by a thread in a bottle half full of water, in which a ſmall quantity of ſoap has been diſſolved, and the bottle placed in a warm ſituation; in fifteen hours, or, if the weather be hot, in leſs time, it will begin to throw up air bubbles; and in fifteen hours more, will emit a putrid ſtench, and bear all the marks of approaching corruption; if the mixture be kept by the thermometer, of the heat of the blood, the corruption will take place much ſooner.

It is not uncommon to meet with a perſon who has taken ſoap a long time; but as the caſes of perſons in a conſpicuous ſituation of life are wont to make a greater impreſſion on the minds of the public than thoſe of others, I have ſelected the two following from them.

The Effects of Soap and Lime-Water in the Caſe of HORACE WALPOLE, *Eſq. afterwards Lord* WALPOLE.

His lordſhip was taken ſuddenly ill when at Hampton Court. His caſe being by his phyſicians miſtaken at firſt for the cholic, he was treated accordingly; but in a little time a ſtone was obſerved to paſs through the left ureter into the bladder, which, for the preſent, afforded him perfect eaſe.—Some time after, by turpentine glyſters, and internal lubricating medicines, the calculus was evacuated through the urethra, being about the ſize of a barley-corn. He was afterwards frequently troubled with gravelly complaints, for which he took cream of tartar whey, and great quantities of mucilages, which, though they kept him tolerably eaſy for two years, were found, nevertheleſs, to increaſe the accumulation of ſtone; for at the end of that period, being in the houſe of a friend, he had a ſudden and urgent inclination to make water, when he was greatly ſurpriſed to find that the baſon contained a pint of almoſt clear blood, made with the greateſt pain he had ever felt. This convinced him of the inefficacy of his former regimen, and he reſolved to be ſounded; when, the ſtone being found, he was immediately put under a courſe of ſoap.—According (July 1748) he began, and took an ounce of it every day, with three pints of lime-water, which he continued to do till the beginning of the year 1757; from which it appears, that his lordſhip took no leſs than one hundred and eighty pounds weight of ſoap, and twelve hundred gallons of lime-water! a quantity ſo prodigious as might ſtagger the faith of any one, if not authenticated by his own hand writing, and further corroborated by the teſtimony of Sir John Pringle, Bart. F. R. S. in the Philoſophical Tranſactions.

With what little ſucceſs his lordſhip took theſe nauſeating medicines for ſo long a time may be learned from the continuation of his

his caſe. It may reaſonably be preſumed, that his lordſhip could not have been prevailed upon to continue in that diſagreeable courſe if he had not believed theſe medicines were the only ones which could be uſeful to him; and if he had not been flattered to the laſt with hopes of a cure. It is from this we find that he was elated with joy whenever he could bear the motion of his own carriage, which, however, he could do but very ſeldom, although that carriage was of the eaſieſt conſtruction. He was obliged to have a litter made for the purpoſe of carrying him to town from his ſeat at Wolterton, which journey took him up five days, though but of one hundred miles. He was all this time debarred the uſe of his ordinary food, and every other enjoyment of life, in order to aſſiſt as much as poſſible the power of the medicines.—He died, however, in that year.—Mr. Ranby and Mr. Hawkins were preſent at the opening of Lord Walpole, and found in his bladder *three* ſtones; two were about the ſize of a Spaniſh nut-kernel—the third ſmaller, which ſeemed to be a part broken off one end of the largeſt ſtone: they were deſcribed to be ſmooth, and of a poliſh as fine as a boy's marble.

Although the above caſe was looked upon as favourable to the effect of ſoap, yet the reader will agree with me, that there was but little reaſon to ſuppoſe the ſtones were waſting, as there was no diſcharge of ſand nor fragments of ſtone; and although his lordſhip might have intervals of eaſe, it was nothing more than could be expected from his low, temperate diet, and abſtaining from motion; beſides, it muſt appear ſtrange, that the ſtones ſhould have been of that ſize at his death, ſince he began to take the ſoap and lime-water ſo ſoon after he found any ſymptoms of the diſeaſe; it cannot, with the leaſt colour of reaſon, be ſuppoſed that the accumulation could have reached ſo far before taking the ſoap and lime-water, without his lordſhip being appriſed of it by ſome leading ſymptoms; whence it therefore follows of courſe, that, in ſpite of the enormous quantity of thoſe reputed lithontriptics taken, the ſtones continued to augment.

It was remarked by thoſe who adviſed his lordſhip to take the ſoap, &c. that the ſmoothneſs of the ſtone's ſurface muſt have been occaſioned by the effect of the medicine; this, in my opinion, is not at all probable; with more propriety might that circumſtance have been imputed to the friction of the ſtones one againſt another, which we know will produce the like effect.

Although the caſe above related will, without doubt, be ſufficient to convince the world of the inefficacy at leaſt of ſoap and lime-water in the ſtone, yet as that of Mr. Hay is ſtill more remarkable, from his having taken it in larger doſes, I cannot omit quoting it; nor muſt I forget to mention, that the very writer of it had then an opinion of ſoap and lime-water as lithontriptics.

In the following caſe mention will be made of a Mrs. Stevens's medicine,

medicine, it therefore cannot be thought improper in this place to acquaint the reader how it came to be ſo much known.

That the world in general, and the legiſlature in particular, thought a diſcovery for the cure of the ſtone of the higheſt importance to mankind is evinced, in the Parliament's voting Mrs Stevens, in the year 1739, 5000l. for diſcloſing the preparation of her medicines againſt this formidable diſeaſe.—This was done in conſequence of her petition to the Houſe of Commons for that purpoſe.

But, although the virtue of the ingredients of which theſe medicines were compoſed, ſhould be ſuch as would juſtify the account given of them, yet the manner of taking them, in quantities ſo large as almoſt to fill the ſtomach, together with the regimen to be obſerved in their adminiſtration, were ſuch as rendered them of very little uſe; very few perſons were able to take them, from their prodigious nauſeating quality; and thoſe who did take them indicated the utmoſt reluctance.

I have by no means drawn a more unpleaſing picture of theſe reputed lithontriptics than they require. The facts are well known to all thoſe acquainted with their nature; and too well by ſuch as have experienced their effects—which circumſtances have been the ſole means of bringing them into diſuſe.—The deſcription of their qualities is, in a meaſure, accidentally involved in the ſubſequent caſe of Mr. Hay, otherwiſe I had paſſed it over in ſilence.

The Caſe of WILLIAM HAY, *Eſq. being an Extract of a Letter from Dr.* RUSSEL, *of Brightheln ſtone, to* HENRY PELHAM, *Eſq.*

November 25th, 1755.

Mr. HAY took three ounces of Mrs. Stevens's medicine in a ſolid form every day for five years, never leaving it off, except for a few days, to obſerve the effect of the omiſſion.

About five years ago he left off the uſe of theſe medicines, and afterwards purſued, with the ſame conſtancy, caſtile ſoap and lime-water, mixed with milk. At firſt he took three ounces every day; but about two years before his death he reduced the quantity to one ounce. Under this method he grew ſo eaſy, that riding in a coach, or walking, ſeemed to give him but little pain. This inclined him to get on horſeback, which he had not done for eleven years; but he found an inconvenience from it the firſt time, and after the ſecond time (which was a little before his laſt illneſs) he was heard to complain that his old diſtemper was as troubleſome as before. He is reported to have died apoplectic, having neglected to uſe the neceſſary evacuations.

Two days after his death Dr. Ruſſel was deſired to attend the ſurgeon on taking the ſtone out of the bladder, which was empty

of

of urine, and grown quite callous from the ſtone's rubbing againſt it.

The ſtone weighed three drachms, two ſcruples, and eight grains; was flattiſh and oval, of a ſhining cheſnut colour, perfectly poliſhed and ſmooth to the touch in every part; the outward laminæ were ſeparated, one of which was thick and friable, the other ſtill thicker, and of a brown loam colour, as well as the ſtone to which they adhered; and was covered over with very rough aſperities.

From this ſhort account of Mr. Hay's caſe the Doctor obſerved that Mrs. Stevens's medicines, or ſoap and lime-water, may give relief to patients, and make them paſs through life eaſier, even although they ſhould have little or no power to diſſolve the ſtones; and as Mr. Hay, as well as the Biſhop of Landaff, continued to diſcharge red gravel in ſpherical pieces, he remarked, that that gravel ſeemed to be what is generated in the kidneys, where, conſequently, the lime-water, &c. have no power; though he thinks they will hinder the gravel, when fallen down into the bladder, from uniting or growing into a ſtone.

From the above declarations it appears, that the Doctor began to doubt the efficacy of theſe medicines in diſſolving human calculi, as they certainly had the faireſt trial given them in the above caſes, as well as in that of the Biſhop, and many others.

The eaſe which Mr. Hay received in the latter part of his days, does not ſeem to have ariſen from the effects of the medicines, but rather to the bladder having become callous by the ſtone's friction againſt its ſides, and conſequently leſs ſuſceptible of pain.

CHAP. VI.

§ 1. *Of a real Cure for the Stone by a newly diſcovered Specific Solvent.*—All thoſe who have ſo peremptorily aſſerted the ſtone incurable, can have but little reflected on its conſtituent principles. They muſt have looked upon it as of one uncompounded nature, immutable as its primary particles; yet they agree, that it is poſſible to prevent the urine from running into further concretions, which is, in fact, contradicting themſelves, and allowing it curable, though in a ſlow degree.

To admit that a medicine ſhould prevent the urine from giving out thoſe principles which form a ſtone, and yet not act upon the ſtone itſelf, is not intelligible to me; however, if a medicine ſhall, as an eminent phyſician obſerves, by deſtroying the petrifying quality of the urine, hinder any calculus from deriving new accretions, that calculus muſt neceſſarily, in time, have its ſurface waſhed down and worn away by the flux of the urine (now rendered more

more ſimple), and the coats of the bladder acting upon it on all its ſides;

Quid magis eſt ſaxo durum? quid mollius unda?
Dura tamen molli ſaxa cavantur aqua.———OVID.

The primary particles of earth, ſo often mentioned as attracting each other in the formation of a ſtone, never fail to take up certain other relative principles as a *medium*, not only to aſſiſt in their junction and coheſion, but as neceſſary to fill up the interſtices formed by the oppoſition of thoſe irregular figured particles; without which medium they certainly could not form a concrete ſubſtance in any degree tenacious. Now if a medicine is adopted, which, by its affinity with any one principle of the ſtone deprives the ſtone of that principle, will it not in part deſtroy the tenacity of that ſtone and render it liable to fall into powder, or moulder away by the common attrition of the urine? And is not that medicine as perfect a diſſolver of the ſtone as *aqua fortis*, or Glauber's ſpirits of nitre, ſince theſe do no more than deſtroy the tenacity of it, without changing the nature of its component primary atoms?

That there is *a ſpecific property* in ſeveral fluids is what no ſenſible medical man will deny. It is what has been always underſtood by the term *affinity*, and is manifeſted in the ſimple experiment of diſſolving a lump of ſugar, the moſt natural menſtruum of which is water; for if alcohol or brandy (though ſo ſtrong in compariſon with water) be poured upon the ſugar it will not ſo readily diſſolve it. Again, reſins are ſoluble in alcohol, but not in water; and ſo on of many other ſpecifical menſtruums, well known to thoſe who are in the leaſt acquainted with that part of chymiſtry which relates to the doctrine and laws of affinity and abſorption.

That there is alſo a property in ſome medicines of operating locally, or, as it were, electively on part of the body, or on one of the fluids of the body, without affecting the whole, the greateſt caviller muſt allow; and every day's experience furniſhes facts for its confirmation—witneſs, the effects of cantharides and mercury, of which mention has been made heretofore.

It being allowed then that there is a *ſpecific* power and *local* effect in ſeveral medicines, it only remains to ſhew how far theſe operations take place in the adminiſtration of this ſolvent, ſo as to anſwer the end of diſuniting the principles of the ſtone, and thereby exonerating the ſufferer from that cruel diſeaſe.

The chymical elements or principles, to which all bodies may be ultimately reduced, are theſe five: 1ſt, *Water* or *Phlegm*—2dly, *Air*, which eſcapes unſeen in great quantities from all of them, ſo as to conſtitute half the ſubſtance of ſome of them—3dly, *Oil*—4thly, *Salt*, which is either *volatile* or *fixed*—5thly, *Earth*.

The natural elements being thus blended together in the formation of a body endued with tenacity, of what conſequence is it whether,

whether, in order to decompoſe and deſtroy its adheſion, we deprive it of either the water, or air, the oil, or the ſalt; ſince it will be equally diſunited in excluding from it any one of its principles or elements.

Although it has been ſaid that *earth* may be converted into *air*, conformable to a learned natural philoſopher's experiments, yet, no doubt, by that will be underſtood, that the earth is reſolved into its primary particles, which primary particles may be, and in fact are, light enough to be borne up by the air.

That this is the caſe is demonſtrable, by a chymical proceſs, where a quantity of earth may be collected from the air; but although, by the help of chymiſtry, we can reſolve bodies into their priſtine, conſtituent principles, nature has here put a *ne plus ultra* upon our curioſity; otherwiſe, ſhould we be able to alter or annihilate the firſt principles of bodies, we ſhould undoubtedly create great confuſion in the order of things.

It ſhould therefore ſeem plain, that although in the ſtrict philoſophical ſenſe of the word, there is not in nature a diſſolvent, yet whatever decompoſes the conſtituent parts of a ſolid body, or reſolves it into its primary particles or atoms, has a right to that title, according to the acceptation of the word.—Salt is not only a predominating principle of the ſtone; it is alſo the cement of other compoſitions, as glaſs, mortar, &c. Now we all know, that if the lime with which mortar is made were to be deprived of its ſalt, it would no longer be fit for the purpoſes of building; for although it ſhould be mixed with ſand, and tempered as in the uſual way, it will never become firm, but continue a *calx*, which, if uſed to build with, would expoſe the work to ſudden decay. The adheſive property may nevertheleſs be given to it again by the addition of a *fixed* ſalt—hence the reaſon why mortar made with ſea-water is more durable than any other.

That the ſpecific ſolvent operates upon more than one of the principles of the ſtone is probable, from the haſty ſolutions of ſome ſtones by its uſe. Indeed the diverſity in the quantity of the ſeveral principles which compoſe the ſtone, will be a cauſe of its operation varying as much as the difference in the nature of the primary particles themſelves.

I believe it would be thought ſuperfluous to draw any compariſon between the operation of the ſolvent, and the remedies hitherto propoſed for the cure of this diſeaſe. The experience of it for theſe ſeveral years paſt renders that altogether unneceſſary; and I have only farther to add, that I am firmly perſuaded a perſon might take it during life, even though no ſtone exiſted in the body, without being injured in the conſtitution: ſeveral of the following caſes ſufficiently authorize that declaration.

CHAP.

CHAP. VII.

§ 1. *Of the Regimen neceſſary in the Cure of the Stone.*—When a patient finds himſelf attacked with the ſtone, either in the kidneys or bladder, it behoves him to lay aſide all violent exerciſe, eſpecially riding on horſeback, as it may induce an hæmorrhage of blood, which, if often excited, would be likely to terminate in an ulcer.—There are people, notwithſtanding, who are inconſiderate enough to adviſe every ſpecies of motion, with a view of forcing out the ſtone; a procedure, however, which none ſhould agree to or adviſe.—It has coſt many their lives, while others have incurred inveterate ulcers thereby.

J— D—, Eſq. near Richmond, fell a ſacrifice to this prepoſterous advice, the which reflects as great a cenſure on the judgment of the ſurgeon who gave it, as it does unhappineſs on the minds of this young man's friends for his loſs: nor is it more ſurpriſing that ſuch abſurd notions of the diſeaſe ſhould be entertained by a man of the profeſſion, than that a patient of the beſt underſtanding ſhould implicitly yield to a doctrine which, at firſt view, militates againſt common reaſon; but it is left to *phyſic* to exerciſe its unbounded ſway over the faculties of *great* minds, as it is to *ſuperſtition* to tyrannize over *weak* ones.

I was informed, that in the beginning of the diſeaſe the ſand, which uſed formerly to paſs freely with Mr. D.'s urine, had ſtopped, and was ſuppoſed to have concreted, or at leaſt to have collected in a quantity at the neck of the bladder, occaſioning frequent irritations, and even obſtructions in urining. He had recourſe to laxatives, and warm bath at times, which generally abated the heat and tenſion about the region of the bladder, and procured a plentiful evacuation of water; but this complaint would return at diſtant periods, and ſoon aſſumed a more formidable appearance, for now he had total ſtoppages of making water, and ſometimes it would be coffee-coloured, or tinged with florid blood, with pain invariably ſucceeding the making it. It was about this period that this young gentleman began to be ſeriouſly alarmed, and conſulted the perſon before alluded to, who gave for his opinion, that there was no ſtone (notwithſtanding the bloody water and conſequent pain) but that it was gravel which was making its efforts to paſs, but could not for want of proper exerciſe; he was therefore directed to take mucilaginous draughts, and ride on horſeback daily, if the weather permitted. This hazardous experiment, like many others, *flattered but to deſtroy*; for the diſcharge of ſome looſe ſand following the firſt day's extraordinary motion, ſeemed to confirm the opinion entertained of the diſorder, and to point to a certainty of its removal; but, alas! theſe illuſive appearances ſoon changed their dreſs; for as they had ſeemed to prognoſticate advantage by perſiſting in the means that produced them, the horſe was brought out in all weathers, and even

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a hint given, that a hard trot muſt of all other paces be the moſt likely to expedite the ſought-for relief. It is a melancholy aſtoniſhment to obſerve with what reſolution this gentleman perſevered in this courſe, in ſpite of the acute pain he felt at every uneven ſtep of the horſe, inſomuch, that he was obliged to diſmount at Ham Common once, and fainted away: every perſon about him (to ſome of whom he was known) were under the greateſt apprehenſion of immediate death, for in this ſyncope the urine had involuntarily paſſed, and of ſo ſtrong a tinge of *blood*, that it was conceived to be wholly ſuch; he was now, after a few hours recovery, carried home in a coach, and then he gave up the practice which had in its outſet promiſed ſo much good, but in its progreſs had created ſo much pain and difficulty. There was now no time to be loſt; he came to town, and was, by Mr. Pott, ſounded, who peremptorily declared a ſtone in the bladder; for the removal of which, he recommended him to go to Briſtol, and take the lixivium with the waters: the diſorder being now aſcertained, he reſumed his hopes, and, with his wonted aſſiduity, took the above medicine, under the moſt abſtemious diet: a more than common attention was paid to his urine, to endeavour to diſcover any part of the ſtone which might paſs, but unhappily that deficiency was made up by a diſcharge of abundance of mucus, mixed with a purulent conſiſtence, which would, if kept two or three days, yield a ſmell that indicated more miſchief in the bladder than *mere* ſtone;—he had always inclined to be ſcorbutic in a ſmall degree, which was conſiderably aggravated by the lixivium, for at this time he grew ſallow in his complexion, and bloated in his countenance, and he ſhewed all the marks of bad habit; this prevalency, and the depraved ſtate of his fluids, from continued pain and rigorous diet, had occaſioned the laceration (which the ſtone's friction had made in the part) to degenerate into an ulcer, of the exiſtence of which there was not the leaſt cauſe to doubt. Not finding relief from pain by the lixivium, but experiencing gradual ſymptoms of extreme relaxation and putridity in continuing its uſe, he betook himſelf, as a *dernier reſort*, to the ſolvent, to which he was ſtrongly recommended by Sir N*** T***** his phyſician: the operation had never been recommended to him, doubtleſs from the ſmall proſpect his habit afforded of a recovery, and therefore the giving him the ſolvent could only be ſuggeſted by the neceſſity of his trying ſomething, for he had the ſtrongeſt apprehenſion he ſhould languiſh under the daily drain of ſuch a profuſe ſuppuration of pus, which even at times had an ichorous appearance when firſt evacuated—he took the medicine long enough to collect a ſmall quantity of the outſide lamina of the ſtone, in the form of ſmall ſhell-like pieces, but he grew weaker and weaker from the ſtrength of his ſtomach being deſtroyed, and before he had taken two bottles of the ſolvent he expired. I have been particular in detailing this caſe, as it is attended with more unhappy conſequences

quences than uſual, and which, from the plauſibility in the commencement, might occaſion a ſimilar fate in other perſons, if not better adviſed.—Such inſtances cannot be learnt but with great concern, ſince examples of recovery from exulceration of the bladder or kidneys occur too ſeldom to encourage the ſufferer with promiſes.—Much exerciſe, therefore, can never reaſonably be recommended but in a caſe of the ſimple gravel, where we are ſure there are no calculi too large to be driven through the paſſages with ſafety.

The moſt ſalutary exerciſe is walking on ſmooth ground as long as the ſtrength of the patient, or ſtate of the diſeaſe, will permit. It ſhould never be continued ſo long as to change the urine to a coffee colour, or to appear tinged with blood. If there be no reaſon to ſuſpect the ſtone to be large, or rough and hard, gentle motion in a carriage may be allowed: but this will be judged of by the frequency of making water, and by the pain attendant on the bladder's contracting round the ſtone after the urine is made.

Our next conſideration reſpects the diet, which ſhould alſo be adapted to the ſtrength of the patient's ſtomach. In common caſes, unaccompanied with other diſorders, it will be ſufficient to attend to the following rules; in others, it is preſumed the patient will ſeek for particular information, as, in a complication of diſeaſes, it may be neceſſary to make exceptions.

It is compatible with the nature of the diſeaſe, and the operation of the ſolvent, to incline as much as poſſible to a milk diet, eſpecially when the ſtomach is enfeebled, or the whole habit emaciated. Milk may be eaten in its natural ſtate, or made into porridge, rice-milk, cuſtards, or puddings. There is no fluid leſs apt to form ſtony concretions than this, nor any more likely to prevent feveriſh or irregular heats in the habit, which are great incentives to the ſtone: but as there are conſtitutions attacked with this diſeaſe which have been always uſed to a more unreſtrained diet, I have thought proper to arrange a certain number of articles by way of breakfaſt, dinner, and ſupper, that the patient may be left to make choice of ſuch as beſt agree with his ſtomach and inclination. He will, by this, be prevented from being cloyed with the ſame food, and, conſequently, his regimen will be thought leſs ſevere.

DIET.—For breakfaſt, milk, boiled or not; rice-milk, or milk-porridge; tea, coffee, or chocolate, with dry toaſt, or toaſt and butter, or bread and butter.

For dinner, plain broth; boiled fiſh of all ſorts; any kind of butcher's meat, not ſalted, but lamb and veal are preferable, and all boiled meats are more to be adviſed than roaſt, though the latter are not abſolutely to be excluded; all kinds of poultry, except geeſe and ducks; rabbits, boiled or roaſted. Of game, the feathered kind are preferable.—The prohibition of veniſon, turtle,

and

and all made-diſhes with ſtrong gravy, muſt be ſtrictly conformed to in moſt caſes; puddings, particularly of almonds, are highly proper The following vegetables may be eaten with or without melted butter, viz. potatoes, turnips, cabbages, cauliflowers, ſpinnage, peaſe, beans, and French-beans. The following are to be avoided, viz. artichokes, radiſhes, aſparagus, onions, and all raw ſallads; alſo cucumbers, unleſs eaten with ſalt only. The patient ſhould at all times avoid eating too much, as, if the ſtomach be ſurcharged, digeſtion is imperfectly carried on; whence flatulencies, want of ſleep, &c.

The beſt kind of malt liquor for thoſe who live in London is porter reduced with water to the ſtrength of table-beer: in the country, choice ſhould be made of the fineſt and beſt fermented ales, or table beer.

In reſpect to wines, (which ſhould be drunk only at or after dinner) the quantity cannot be preſcribed with propriety, as that muſt depend upon cuſtom and other circumſtances; and the table at the end of this chapter will ſhew which are the leaſt liable to reduce the power of the ſolvent: the ſame in regard to fruits, which ſhould be eaten only at dinner, either in tarts, or with or without ſugar, by way of deſert.

In the afternoon, tea or coffee may be drunk, with bread and butter, toaſt, or biſcuit.

In regard to ſupper, the greateſt caution is neceſſary, that it may not (by its being taken ſo near the doſe of the ſolvent) fruſtrate its operation. It is wiſhed that the medicine ſhould be abſorbed with little fermentation in the ſtomach; for this reaſon, panada, water-gruel, milk-porridge, dry toaſt, or biſcuit, are to be preferred to other things; or at moſt an egg and ſpinage, or a boiled egg, drinking rum or brandy and water, or wine and water. Where a thirſt prevails, it is proper to have recourſe to a draught of barley-water at any time in the day.

To thoſe who can be perſuaded to relinquiſh ſuppers entirely, more may be promiſed from the power of the ſolvent; it is nevertheleſs to be underſtood, that this is merely to avoid fermentation in the ſtomach, (ſo inimical to the ſolvent) and not to reduce the patient's ſtrength, for ſhould it do ſo, no peculiar good can ariſe from it; 'tis hoped, therefore, that, with one meal of meat every day, (a dinner) and not leading an active life, the patient will neither loſe ſtrength or fleſh, or at leaſt but in a moderate degree.

Concerning the quantity of fluids that ſhould be drunk in the courſe of the day, it ſhould not be leſs in the whole than about three Engliſh pints of 16 ounces each. By this is meant the broth, tea, barley-water, and all the liquids drunk throughout the day; but, in caſes of fits of the ſtrangury, attended with a more than common irritation, it may be neceſſary to enlarge that quantity, by interpoſing draughts of veal-broth or almond emulſion, water-gruel, &c.—Let it be particularly remembered, that

acids,

acids, and all ſtrongly aceſcent liquors, ſhould be forbidden during the uſe of the ſolvent, eſpecially near the time of taking it.

Many perſons are inclined to be coſtive during the firſt ten or twelve days of taking the ſolvent: this is by no means an unfavourable omen; it is a proof that the ſecretions of the body are moderated, and that the medicine will not paſs off too precipitately.

Now, although this coſtiveneſs will generally go off ſpontaneouſly at the end of the above time, yet it is very neceſſary to looſen the belly with ſome gentle aperient medicine, ſuch as any of the following; viz. magneſia, manna, infuſion of ſenna, or Rochelle ſalts: half an ounce of the latter, taken in half a pint of water-gruel, never fails to procure the deſired effect, leaving the bowels cooled and refreſhed. Theſe laxatives are not, however, to be uſed, but from neceſſity, and even then a frequency of ſtools is not deſirable, ſince they would leſſen the power of the remedy.

Many and reiterated obſervations have convinced me, that the ſurface of the ſtone is often rendered clammy and unctuous by the effect the ſolvent takes upon it. This clammy ſubſtance is of the ſame nature as that diſcharged with the urine, of a clay colour.—Now I have found that this gummy matter, when it ſurrounds or envelopes the ſtone, defends it, in a meaſure, from the full operation of the ſolvent; that, when it is detached, the ſtone is again laid open to its power, and the cure thereby greatly accelerated: for which reaſon, at the diſtance of about every three weeks, I recommend the patient to take in the day two or three half pints of new cheeſe whey, obſerving an interval of five or ſix hours from each half pint; this is to be done for three days ſucceſſively, during which time the patient is requeſted to walk about gently on ſmooth ground, as often as ſhall be found conſiſtent with the ſtate of the diſeaſe. This method is to be purſued at the end of every three weeks while taking the ſolvent, and the diet for theſe three days may, in every reſpect, be as before.

This courſe will alſo be attended with another good effect, which is, that ſhould any coſtiveneſs predominate, the whey will remove it, for which reaſon the ſolvent is to be omitted while the whey is taking.—There can be no difficulty in procuring whey wherever new milk can be had, as the manner of making it is univerſally known.

A TABLE, *ſhewing the Proportion in which ſeveral Wines and Juices of Fruit reduce the Power of the Solvent on the human Calculus.*

The ſtandard for the following experiments was that of one part ſolvent, and three parts ſimple water, this being the moſt natural vehicle for its operation.

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That mixture, as well as the reſt, was kept in a regular, and nearly a blood heat, by the thermometer, for twenty-four hours. The reſult of theſe experiments, therefore, points out which of theſe articles ought to be more abſtained from than the reſt.

The power of the ſtandard mixture on a piece of calculus of four ſcruples weight was, for a ſcale of compariſon, marked at the degree of 40

With the ſame quantity of juice of ripe melon, in the ſame ratio, it was reduced to only 29

With pine-apple juice 27

With peaches, apricots, and nectarines 25

With mulberry juice 21

With codlings 17

With red gooſeberries 14

With red currants 12

Wines reduced the Solvent as follows:

With madeira 29

With mountain and frontiniac 28

Old burgundy and claret 27

Old red port 26

Vin de grave, liſbon, malaga, *nearly* 25

A light florence, or carminiano wine 24

From the fore-mentioned table we ſee the difference is very trifling with regard to the ſeveral wines, only it behoves one to be careful that they have a certain body, good age, and free from tartar, otherwiſe they are more ſuſceptible of fermentation in the ſtomach.

The ſame caution is equally neceſſary, if not more ſo, in reſpect to malt liquors.

CASES

CASES OF CURE

BY THE

SPECIFIC SOLVENT.

IT is now high time to haſten to the moſt important part of this ſubject, and on which the hopes of recovery from ſickneſs and pain of numbers are founded.—The practice of phyſic, more than all the other ſciences, admits of much ſpeculation and abſtruſe reaſoning; and the theoriſt, who is fond of indulging his fancy, has in it an ample field for dazzling his own and his reader's eyes, by diſplaying a ſubject which, in its cleareſt point of view, is ever clouded with much doubt and uncertainty; nevertheleſs, we often ſee a notional phyſician theoriſe with a plauſibility and eaſe upon diſorders, as if Nature had laid open all her myſteries to the profeſſor, and nothing remained to be inveſtigated. But medicines operate in moſt caſes with obſcurity, and whenever their powers are directed beyond the *primæ viæ*, we trace them in the dark, and often confound them with the works of Nature herſelf; hence falſe inferences are deduced, to prove what can never be eſtabliſhed.—Such is the caſe in fevers, and many other acute and chronic diſeaſes. The ſubject of this little diſcourſe ſtands alone on this ground, it being almoſt the only diſorder which preſerves diſtinguiſhing manifeſtations and criterions, and in which the operation of a medicine can be accurately ſcanned; I therefore diſclaim all advantages from ſpeculation, and reſt my pretenſions to indulgence on what will ever be of more conſequence in phyſic, FACTS. Every acquiſition of this kind will always meet with a more welcome reception to the real lovers of the art (however ſimple in narration) than the moſt *brilliant theory*, decorated with the moſt *refined language*.

The following caſes of cures effected by the ſolvent are ſelected from numberleſs others, either for their variety or for the diſtinction of the perſons on whom they were performed; and the author has no fear of being thought prolix or unneceſſarily diffuſe, ſince each caſe is a ſort of comment on the medicine's operation, and will throw ſome additional light on the diſeaſe itſelf, and they altogether will render any encomium on the remedy unneceſſary; as it will be allowed, that no inſtance can be given of any diſcovery being more reſpectably diſtinguiſhed and eſtabliſhed, as well in teſtimony as in reputation.

CASE I.

Of the late Right Honourable Lord Viſcount SACKVILLE, *one of his Majeſty's Principal Secretaries of State, and of his Majeſty's Moſt Honourable Privy Council.*

In December 1774, I was deſired to meet Sir John Elliot at Lord Sackville's, to conſult upon his Lordſhip's caſe, which I found had at one time been treated as a calculous one, at others, as a laxity in the kidney, and which was ſuppoſed to give riſe to an extravaſation of blood. Under the ſuppoſition of the latter being his diſeaſe, he had been preſcribed balſamics and aſtringents; ſuch as bark, &c. Theſe medicines, although they leſſened the bloody water, did not abate his pain; on the contrary, his diſeaſe was found to grow upon him. In a ſhort time his ſufferings increaſed to ſuch a degree, that his lordſhip has been known to take upwards of an hundred drops of laudanum in a night. He informed me, that at frequent times the hœmorrhage of blood was ſo great, as to threaten the moſt alarming conſequence. It may be ſuppoſed that his lordſhip had conſulted the moſt eminent ſurgeons, as well as phyſicians, upon his ſituation, which was not, after all, deemed the ſtone, becauſe he had not been ſenſible of having paſſed any ſand or earthy matter in the urine. After he had, in the moſt accurate manner, related the progreſs of the diſeaſe, I did not heſitate to pronounce his caſe the *ſtone*, and recommended the immediate uſe of the ſolvent. His lordſhip began it that day with the greateſt readineſs, particularly as he had been ſtrongly prepoſſeſſed in its favour, from the accounts he had heard of its effects.—I waited upon his lordſhip the next day, when he told me, that the ſolvent agreed perfectly well with his ſtomach, and was not diſagreeable to his taſte. In a few days I found his urine began to aſſume its natural colour, and the violent pain about the region of the loins decreaſe. I attended his lordſhip at the diſtances of two or three days, until I had the pleaſure to find he was exceedingly mended in health. I had alſo the further ſatisfaction to diſcover a diſcharge of ſabulous matter in the urinal, which removed every doubt of the nature of his diſorder. This, in about a month after, was farther cleared up by the evacuation of a piece of ſtone, which was exceedingly hard within, and had all the evident marks of having been acted upon by the ſolvent.—By this time (which was March) the bloody water had entirely ceaſed to come away, and only the ſlighteſt tinge was obſerved in it upon any extraordinary occaſion or fatigue. His lordſhip continued to take the ſolvent regularly, 'till it was concluded the calculous concretions were entirely brought off; but he had ſuffered ſo much from the diſeaſe, that he choſe, nevertheleſs, to continue taking

taking the ſolvent in ſmaller doſes, although the neceſſity of it was no longer enforced. This caution he obſerved ever after, taking three or four bottles a year for the eight ſucceeding years, during which time (and ever after) he not only kept off the ſtone, but declared he had enjoyed as good health as at any time of his life: his lordſhip's caſe is therefore a happy teſtimony, not only of the power of the ſolvent in removing the ſtone when preſent, but alſo of its preventing the return of the diſorder, and generally amending the ſtate of health, till the lateſt period of life.

The benevolence of his lordſhip prompted him to deſire that his caſe might be publiſhed, for the benefit of thoſe who may unfortunately ſuffer under this ſevereſt of diſeaſes.

CASE II.

The Caſe of —— ALLANBY, *Eſq. Receiver General of his Majeſty's Quit Rents in the Iſland of St. John.*

Mr. Allanby was ſeized with every ſymptom of the ſtone while in the iſland of St. John, on which account he came over to England, in expectation that the operation would be neceſſary. One of the ſurgeons he conſulted on his diſorder adviſed him to try the ſolvent previous to any other ſtep: he very readily acceded to the propoſition, and immediately began a courſe of it, in which he regularly perſevered, 'till he voided ſeveral pieces of ſtone, after which he evacuated a good deal of fine ſand and mealy powder in his urine: in this way he continued ſeveral months, growing eaſier as the ſtone diminiſhed in ſize; for at firſt he ſuffered ſuch extreme pain as made him unable to walk, or even ride in a coach, except with great difficulty; his urine alſo, upon any exertion of the body, would be at times bloody, and at others of the colour and conſiſtence of coffee grounds. As Mr. Allanby's intention was to have been cut for the ſtone when he firſt came over, he had not taken meaſures for any conſiderable ſtay in London, ſo that I was deſired by him to repreſent his caſe profeſſionally to his majeſty's ſecretary of ſtate, in order to obtain permiſſion for his ſtay ſo long here as might be neceſſary to complete his cure.—His majeſty was pleaſed to give him leave, and he continued inceſſantly to take the ſolvent in the uſual quantity, 'till the pain entirely ceaſed, and there was not an indication of the leaſt part of the diſorder remaining: however, he determined ſtill to take it for a time, by way of totally expelling any looſe ſand that might otherwiſe adhere to the neck of the bladder. As he now remained perfectly well, and diveſted of any uneaſineſs whatever in the bladder or kidneys, he wiſhed to be ſounded, for ſatisfaction, ſo that he might be convinced the ſtone was totally diſſolved; for this purpoſe I introduced a ſound into the bladder, and ſcrupulouſly

ſearched therein, when it appeared there was not the leaſt cauſe to ſuſpect a particle of the ſtone was left behind; he accordingly omitted, in part, the ſolvent from that time, and has nevertheleſs been well ever ſince.

CASE III.

The Caſe of the Rev. Mr. FOWKE MOORE, *as tranſcribed verbatim from his Letter to the Author.*

To Mr. PERRY, Surgeon, *&c.*

SIR,

I flatter myſelf it will be unneceſſary to apologize for the trouble occaſioned by this letter, which gives you an account of the ſucceſs of your ſolvent for the ſtone, &c. Encloſed I ſend you the ſtate of my caſe, as I had it printed in different newſpapers, and which you are alſo at liberty to make uſe of as you pleaſe.

I have the pleaſure to inform you, that I have had many applications made to me ſince my cure; ſome from perſons with whom I was entirely unacquainted, deſiring to be informed of every minute particular, which I have not failed to anſwer. I have taken the utmoſt pains to do juſtice to your medicine, which is no more than my duty; and yet I am largely recompenſed for any trouble I have, in the pleaſing proſpect of being the means of relieving many miſerable people, and at the ſame time increaſing your emoluments by the ſale of your truly valuable ſolvent.

I hope you will take care to have this kingdom always properly ſupplied with it; and I think it would be adviſeable to have it in ſeveral of our beſt country towns, particularly in this northern province, viz. Belfaſt, Derry, Newry, &c. which are full of people.

I requeſt you to pardon the liberty I take in giving you this advice unaſked, as it proceeds from my fellow-feeling for my unhappy countrymen, who labour under that dreadful diſorder, and from an earneſt deſire to be ſerviceable to you, who have been the happy inſtrument, under God, of reſcuing me from the jaws of death.

I ſhould be glad to have it in my power to do you any ſervice, for I am, with great truth and ſincerity, dear ſir,

Your much obliged, and very humble ſervant,

FOWKE MOORE.

IRELAND,
Dungannon, Nov. 4, 1776.

The

The ADVERTISEMENT.

" The Rev. Fowke Moore, of Dungannon, in the county of Tyrone, having been cured of a ſtone in the bladder by the above medicine, thinks it his duty, both in gratitude to Mr. Perry the diſcoverer of the medicine, and in compaſſion to all thoſe who labour under that excruciating diſorder, to publiſh his caſe, which is as follows:

" In the beginning of December laſt, 1775, he was ſounded by an eminent ſurgeon in Dublin, who immediately found a ſtone of a middling ſize; upon which, by the advice of phyſicians, Mr. Moore went under a courſe of ſoap leys, which he continued from the beginning of December to the 23d of May laſt, during all which time he had a moſt violent complaint in his bowels, and found not the ſmalleſt relief in the pain of the ſtone: he was ſo emaciated, that it gave him pain to ſit without a cuſhion, and ſo weak, that he could not ſtep into bed without aſſiſtance.

" On the 23d of May he began to take the *ſolvent*, and, in a fortnight afterwards, he found a change for the better. From that time he began to diſcharge gravel, ſand, and glutinous ſtuff in great quantities, which continuing for about three months, then gradually decreaſed: he has now no complaint of any kind, and is convinced that the ſtone is entirely diſſolved. He has recovered his fleſh and his colour, and is able to ride a hard trotting horſe five miles an hour. Any perſon who is deſirous to be informed of more particulars, may apply to Mr. Moore, in Dungannon."

Dungannon, Oct. 10, 1776.

The caſe of Mr. Moore not only evinces the power of the medicine in diſſolving the ſtone, but alſo its ſalutary operation.—— Nothing can more effectually prove it to be of a nature oppoſite to *lixiviums*, or *ſoap leys*, than this caſe; as it is obvious to every one, that, if the quality of the ſolvent was in the leaſt ſimilar to thoſe, ſo far from removing the ſickneſs of his ſtomach, broken craſis of the blood, and emaciated habit, (which were plainly the effects of thoſe medicines) it would have aggravated them.

CASE IV.

The following Letter conveys the Caſe of a Lady at Twickenham, to whom the Knowledge of the Solvent was communicated by the late Lady GEORGE GERMAINE.

SIR,

I was greatly afflicted with the ſtone and gravel for at leaſt 20 years, during which time I voided a great quantity of gravel, but no ſtone—I was laſt June ſeized with violent pains in my right hip and groin. To deſcribe what I felt is impoſſible; and 'till Decem-

ber, I never enjoyed one moment's eaſe, night nor day, except when aſleep, which reſt itſelf was of ſhort duration. I then took your excellent ſolvent, which, in leſs than a fortnight, began to bring away the ſtone, by diſſolving it to a fine ſand. It is judged, when whole, to have been as large as a pigeon's egg: I took the ſolvent but about ſix weeks, which, with the bleſſing of God, has, I believe, quite cured me. I have taken none ſince November laſt, and yet I continue very well. May God ſtill give his bleſſing to your medicine, by which, I hope, numbers will be relieved as well as your very humble ſervant,

MARY LOVE.

Twickenham, March 8, 1776.

From the rapid diſſolution of the calculus in the foregoing caſe, it may be fairly concluded, that beſides the advantages that ſex derive in this diſeaſe, from the different ſtructure of the ſeats of it, over that of men; that their more temperate diet alſo prevents the ſtone from acquiring that firmneſs of contexture which is uſual in the other ſex. This obſervation will appear more than conjectural in the recital of the following caſe, which, for its ſingularity, is retained in this edition though publiſhed in the former ones.

CASE V.

The following Caſe was tranſmitted to me by the Favour of RICHARD PHELPS, *Eſq. of Dunſter, near Minehead.*

Mrs. Barnes, of Taunton, in Somerſetſhire, had been afflicted more than ſeven years with the confirmed ſtone and gravel, to a very violent degree, during which time ſhe conſulted the moſt eminent in phyſic, even thoſe who were at a great diſtance; and although ſhe had taken almoſt all the medicines common in theſe caſes, ſhe daily grew worſe, inſomuch that ſhe was at length given entirely up, and her death every hour expected. In this melancholy condition ſhe was informed of the ſolvent, and was prevailed upon, even in that languid ſtate, to begin a courſe of it. She was ſoon ſenſible of eaſe, and began to diſcharge ſome gravel; and was now ſufficiently convinced of the ſafety of its operation, of which before ſhe had entertained ſome doubt, by the ſuggeſtions of ſome phyſical neighbours; ſhe took the ſolvent regularly to the ninth ſecond ſize bottle, by which time ſhe had voided ſuch a quantity of ſand and gravel as could ſcarcely be credited, being, it is averred, not leſs that half a pint. By this favourable diſcharge of gravel, together with the ceſſation of many diſagreeable ſymptoms, ſhe had reaſon to hope her diſeaſe was about to leave her; but ſhe was ſuddenly ſurprized by an attack of the moſt acute pain

ſhe

ſhe had ever felt, the irritation of which had abraded and forced away the mucus of the bladder, &c. in a great degree. In this ſituation ſhe conſulted me by letter; and as I had not the leaſt doubt but there was a ſtone endeavouring to paſs, I recommended her to take the ſolvent in full doſes, and adviſed her to deſiſt from much motion till ſhe was better—ſhe did ſo, and before a third part more of a large bottle was taken, ſhe paſſed, with very moderate pain, a ſtone about an inch long, and very near as much in circumference; this was followed by *two* more, very little ſmaller, which very conſiderably leſſened her uneaſineſs. She continued the ſolvent to the end of two bottles, by which time ſhe had voided near a hundred ſmall ſtones, the largeſt of which were of an uncommon ſhape, almoſt flat, reſembling in figure ſmall dried garden beans. The pains now entirely ceaſed, and before ſhe quite left off the ſolvent, her water, which before had aſſumed every morbid colour and conſiſtence, now became entirely clear; and ſhe recovered her ſtrength and appetite, to the aſtoniſhment of all who had known her before. The progreſs of this cure is ſo truly wonderful, that the world might juſtly ſuſpect its reality, if it was not authenticated by many reputable perſons in the neighbourhood, her ſituation having been univerſally known.

CASE VI.

The following Letter came too late to be inſerted in the former Edition, except in a few, by Way of Appendix.

To Mr. PERRY.

SIR,

We the miniſter, church-warden, overſeer, and other the principal inhabitants of the pariſh of Elſenham, in the county of Eſſex, join with James Clark in returning you our moſt hearty thanks for the very remarkable cure of him by your moſt valuable ſolvent. He is a very ſober, honeſt, poor man, who has no leſs than ſeven children; he had been greatly afflicted with the ſtone and gravel for many years, and for ſeveral of the laſt to ſuch a violent degree, with ſuch excruciating fits, as to render him quite incapable of ſtirring out of his houſe for four years together.

Your ſolvent brought from him great quantities of gravel and pieces of ſtone, and now, by the bleſſing of God, with that excellent medicine, he is ſo well reſtored to health from that diſorder, which had baffled the power of all other medicines, that for above a year paſt he has been able to go to his daily labour as another man, and has gone through it with far more eaſe and pleaſure than could poſſibly be expected, to the great aſtoniſhment of every bod who knew his caſe.

Your generoſity and goodneſs to this deſerving object of compaſſion, in ſending him the ſolvent, time after time, *gratis*, cannot fail to yield a true ſatisfaction to, and reflect the greateſt honour on your liberal mind; and we beg leave to aſſure you, that we are ever ready to authenticate this very ſingular and extraordinary cure, in juſtice and gratitude to you, and as a duty we owe to the public.

Signed, by order of the ſaid pariſhioners,

By, Sir,

Your moſt obliged humble ſervants,

John Canning, miniſter,
John Mumford, church-warden,
John Pamphillon, overſeer.

CASE VII.

The following is the Caſe of HUGH STEVENSON, *Eſq. a Surgeon at Egham, Surry, being an Extract of a Letter from him to Mr.* HOME, *Surgeon of the Savoy, and publiſhed in a ſmall Work of this laſt mentioned Gentleman.*

About twelve years ago, from want of reſt and continual pain (which was daily encreaſing, in ſpite of the many powerful medicines taken to relieve me) my fleſh was waſted, my appetite decreaſing; night ſweats, with ſwelled legs, came on. I could not walk a quarter of a mile, could not ride on horſeback, could not bear the motion of a coach, except on turf or very ſmooth road, without ſevere pain and making bloody water. I could not lie in bed above a quarter of an hour at a time, from an irritation to make water, then did not make above half an ounce at a time, and that by drops, with very acute pain; when turning in bed, which I was obliged to do every time I awoke, the ſenſation from the ſtone rolling in the bladder, made the whole ſurface of the body ſo irritable, that if any part of the ſheet or bed cloaths touched me, it felt like cutting with an edged inſtrument; ſo that Mrs. Stephenſon was always obliged to ſupport the cloaths while I was turning.

Thus circumſtanced, I was told of much benefit being received by taking Mr. Perry's medicine, known by the name of *Adams's Solvent*; having an opportunity to taſte it, and diſcovering nothing corroſive or unpleaſant in it, tempted by the ſmallneſs of the quantity neceſſary to be taken, I determined, though without faith, to give it a few weeks trial.

I took it nearly in the manner and quantity directed in the printed paper wrapped round each bottle, viz. two tea-ſpoonfulls night and morning

morning in veal broth, barley water, milk and water, &c. which I encreaſed in a fortnight to three tea-ſpoonfuls at night.

I had not taken more than two of the ſmalleſt bottles, when I thought ſome of my ſevereſt ſymptoms were not ſo acute; by this, encouraged to perſevere, in three months I felt ſenſible relief, made water with leſs pain, and at longer diſtances; in ſix months I could ſleep ſound an hour and a half at a time without irritation to make water; could walk a mile, and bear the motion of a carriage moving gently.

At the end of twelve months, ſtill continuing the uſe of the ſolvent, I could bear the motion of a hackney-coach over the ſtreets of London, with but little inconvenience; could lie in bed for two hours and a half, without irritation to make water; could turn in bed without pain, or even feeling the motion of a ſtone. My health was by no means hurt by the uſe of the medicine, but, on the contrary, I eat, drank, and ſlept better than before; and though I by no means could call my then ſituation a perfect cure, yet I felt myſelf comparatively happier than if I had never been ill.

For two years afterwards I continued the medicine in ſmaller quantity, and am at this time, I thank God, in perfect health; and what little difficulty remains in making water, I impute to a diſeaſed ſtate of the neck of the bladder, and adjacent parts, from the injury they had received from the ſtone, when ſo many years irritating and lying on them, as well as from the frequent returns of tumid and inflamed bleeding piles.

From a tendency to make coſtive, and rather heat, I have, when taking the medicine, abſtained from every heating cauſe, by meat, drink, exerciſe, &c. and if from cold, or any other accidental cauſe, fever came on, I diſcontinued its uſe, till theſe ſymptoms, by proper medicines and regimen, were removed. Caſtor oil, ſoap, and rhubarb, and large glyſters, &c. were occaſionally uſed to counteract its aſtringency.

Throughout the taking of the ſolvent nothing has come away in the form of a ſtone; but for the firſt ſeven months the water was turbid when made, and immediately depoſited a quantity of impalpable powder. When dry, this powder ſhewed no ſaline chryſtals, nor did it diſſolve in warm water, but immediately ſubſided. Does not the above appearance give reaſon to ſuppoſe that the impalpable powder was a part of the ſtone diſſolved? as by a continuance of the muddy diſcharge the pain decreaſed, and gradually diſappeared. Is there not ſome reaſon to ſuppoſe the ſtone is diſſolved, or, at leaſt, rendered ſmooth, ſo as to give leſs pain? If only leſſened or made ſmooth, would it not ſometimes fall upon the neck of the bladder, or obſtruct the diſcharge of urine, which is not the caſe? If the ſtone is not diſſolved (which I flatter myſelf it is) it muſt have adhered, or is confined in a ſac, and ſo not felt.

But let me not *theoriſe*, only return thanks to *Almighty God!* for

the happineſs I now enjoy, in being reſtored from a ſtate of the greateſt miſery and diſtreſs to a ſtate of perfect health.

I moſt ſincerely wiſh that you,

Egham, Dec. 20, 1782. Sir, &c. &c.

CASE VIII.

Mr. SCURRIER, at Mr. Stone's, Park-ſtreet, Groſvenor-ſquare, upwards of 85 years of age, conſulted me in a diſorder under which he had ſuffered ſeveral years. The queſtionable ſhape it had aſſumed prevented him from deriving even palliative relief, as at one time it would appear like inflammation, at another like a relaxation of both kidney and bladder; it put on however at laſt a leſs equivocal appearance, for he had a call to make water eight or ten times in an hour, with ſuch exceſſive pain during and after the making of it, that his neighbours often heard his cries, and he now paſſed urine almoſt as high coloured as blood. Under theſe ſymptoms I did not heſitate to pronounce the complaint the ſtone, and he immediately began a courſe of the ſolvent, which he unremittingly took for five months, with but faint appearance of advantage; he, nevertheleſs, was reſolved to continue it, from the warmth with which it had been recommended to him; and in three months more he brought away ſeveral ſhell-like pieces of calculus, which appeared to be flinty, and of the colour of yellowiſh marble;—in the mucus was alſo a conſiderable quantity of earthy powder, which could not well be ſeparated therefrom, and his pains now began to abate in a great degree, ſo that he could walk out of doors, and hold his water two hours.

With ſhort intermiſſions from a cold, or from taking an opening mixture, he perſevered in the uſe of the ſolvent till the pain had entirely ſubſided, and no more of the pieces of ſtone or ſand could be traced to paſs, nor was his water either charged with mucus, or morbid in colour—notwithſtanding all this, and there being no apparent neceſſity for it, yet he thought it prudent to continue the medicine once a day for a time longer, as an additional aſſurance from a return of the complaint; this end was fully obtained, for although it is now four or five years ſince he took any of the ſolvent he has remained quite free from the complaint.

CASE

CASE IX.

The Reaſon for not publiſhing at length the Name of the Gentleman, whoſe Caſe is here related, will be obvious; but it is at his particular Requeſt it is made public, and he will make no Scruple to communicate with any Gentleman whoſe Similarity of Situation may render him deſirous of Information.

J— S—, Eſq. inherited calculous complaints from his father; for the latter died of the diſorder at Briſtol, in the forty-ſixth year of his age; he ſays that as long as he can remember he paſſed conſiderable quantities of gravel, but that daily exerciſe and the conſtant uſe of honey, which was his father's recipe, he believes prevented the formation of a ſtone, to which, he apprehends, his habit tended ſtrongly. At the age of twenty-five he began his travels on the continent, where, for the moſt part, he enjoyed tolerable health, except ſome ſlight attacks of ſtrangury, which he imputed to particles of gravel irritating the neck of the bladder in their paſſage; upon thoſe occaſions he had recourſe to opiates, venæſection, and warm bath, and he uſually grew eaſy in a few hours after. He embarked in the ſummer of 1773, at Marſeilles, for Smyrna, which voyage proved much more tedious by bad weather than could be expected from the ſhortneſs of the paſſage; and from this confinement and inactivity he dates the commencement of the *ſtone*, for in a month after his arrival in Turkey he was ſeized with a violent fit of the ſtone, accompanied with bloody water and feveriſhneſs.—He was left wholly to his own management in that country, and he found his inflammatory ſymptoms conſiderably relieved by drinking freely of goats milk; but he now grew ſenſible of weight in the bladder, and could trace the motion of the ſtone in turning from ſide to ſide. His being ſo well convinced of the exiſtence of a ſtone in the bladder determined him to return with all convenience to Europe, without viſiting Egypt, although almoſt his whole baggage had been ſent in a Turkiſh ſhip to Cairo. In his way home he ſtopped at Cyprus, where at Nicoſia he fell into company with a Greek merchant, of ſome learning, who informed him, after being acquainted with the nature of his complaint, that if he would accompany him to Aleppo, he would introduce him to an Armenian phyſician, who would undertake to cure him. After ſome conſideration he reſolved to put the profeſſor's ſkill to the trial, and in ten days he had an interview with him, after which he was put into ſeveral unnatural poſtures, with a view of ſounding his feelings as to the reality of there being a ſtone.—This circumſtance being placed beyond a doubt, an injection was made into the bladder with a fluid mixed with a portion of melted fat from a ſheep's tail, through a tube which Mr. S. deſcribes to have the appearance

of an animal's gut dried, for it was flexible when firſt introduced, and after the warm fluid had been paſſed through it was quite flaccid; this operation he ſubmitted to forty-ſix times, with conſiderable pain and difficulty, but he ſays with ſuch ſucceſs that he offered a conſiderable ſum for the ſecret, which was refuſed; after which he learned that a Jew at Conſtantinople had been cured of a ſtone in the ſame manner. This happy event determined him again to reſume his travels, and he viſited moſt of the iſlands in the Archipelago and Mediterranean, and did not return to England for three years, where he took up his reſidence for ſome time in the neighbourhood of Litchfield, from which place he dates the unhappy recommencement of the ſtone, having never ſince his quitting Aſia ſuſpected more than the lodgment of a little ſand for a ſhort time in the bladder. The ſymptoms of coffee water, frequency to urine, teneſmus, &c. returned as bad as ever; and after ſome ineffectual remedies he determined to ſeek out his Armenian benefactor once again, and renew his efforts to bring him to England; but by the time he reached Paris he was ſo worn with the pain, that he was perſuaded to ſuffer the operation under Frêre Comê the younger, who extracted three ſtones, the largeſt of which I have by me; this took place in the year 1775, and it was not till that of 1778 that he conſulted me for a third attack; the ſymptoms of his diſorder at this time were nearly ſimilar to thoſe in his former illneſs, and he loſt no time in beginning the ſolvent. A part of that ſummer he paſſed at Southampton, where he eſcaped another danger, apparently as imminent as that under the hands of the French ſurgeon, for being out of the medicine he employed a needy bookſeller of Wincheſter to ſupply him with it, who by ſome means procured a ſpurious ſubſtitute, the firſt doſe of which occaſioned a vomiting from nine o'clock in the evening to two the next morning. The impoſtor was obliged to quit the place, and application was made to me for the genuine ſolvent, which he took, unremittingly, till the February following, during which time he had collected two ounces and three drachms of a whitiſh ſand, after repeated ablutions with warm water had diſſolved every thing ſaline or gummy which might be paſſed along with it in the urine. About this time he returned to town, when he communicated the particulars of his amendment; but as he ſtill felt a pain after having made water, and a tittilation, or rather uneaſy ſenſation at the glands p—s, I perſuaded him to continue the ſolvent, under a certainty that the nucleus remained ſtill to be voided. About this period he unfortunately contracted a L— v——, which obliged him to undergo a different regimen for ſix weeks, at the end of which time he was thrown back into his calculous complaint, with a ſerious addition of a diſcharge of a purulent matter in his water, which made me apprehenſive of an exulceration at the neck of the bladder, more eſpecially as he now complained for the firſt time that the ſolvent encreaſed the warmth of the urine and heat throughout the urethra. It was difficult to determine what

what courſe to take, as we were perſuaded the virus of the new diſorder was fully conquered, and terebinthinate medicines proved ſtrongly diuretic, without ſhewing any ſigns of healing the ulcer.—The ſolvent was his ſheet anchor, ſo that there was no poſſibility of remitting it entirely. I therefore, as a *dernier reſort*, gave him twice a day a bolus of a ſcruple of ſpermacæti, and one grain of calomel, with three ſpoonfulls of the ſolvent every night: I had the ſatisfaction to obſerve, in ten days, that the quantity of mucus and pus diminiſhed every time of making water, and that it was leſs offenſive to the ſmell than it had been; I continued this courſe for three weeks longer, even till he complained of a ſoreneſs in the gums, and till there was no appearance whatever of matter; he then took the ſolvent twice a day during the uſe of three large bottles, in the laſt of which he paſſed five fragments of ſtone, which compoſed a compleat nucleus; and he has ever ſince taken the ſolvent regularly, but a few doſes at the diſtance of a fortnight or three weeks, which have effectually defended him from any appearance of gravel, &c.

I have been the more particular in the detail of this caſe by Mr. S—.'s deſire, he being aſſured in his own opinion of the two following facts: That drinking the ale in Staffordſhire brought on the ſtone for the ſecond time; and that the calomel ſaved his life in the laſt inſtance—May it not be in this caſe as in old ulcers in the legs, and other parts of the body, that calomel diſpoſes as an alterative the eroſion to heal faſter, and with more certainty, even where there is no ſuſpicion of a venereal taint remaining? and may it not be fairly concluded, that the ſolvent does more than remove the diſorder when preſent, ſince Mr. S— has remained well and free from ſabulous urine for eighteen months without taking any of it, although his habit was naturally diſpoſed to form it all his life time before.

CASE X.

J. Bennett, Eſq. of New Ormond-ſtreet, conſulted me in a diſorder, whoſe indications were of that ambiguous kind, that he had, at different times, for five years, been treated as under ſpaſmodic conſtrictions at the neck of the bladder; at others as having inflammation there; and, laſtly, the cortex peruvianus was adminiſtered him in all ſhapes, as the complaint was obſerved to return periodically; none of theſe methods of treatment ſucceeding, he ſuggeſted of himſelf that it might be ſtone, as he felt the moſt excruciating torture in and after making water, inſomuch that it would often throw him into convulſions on the floor or couch, from which he could not be removed till the pain ſubſided; during theſe fits the tenſion of the whole abdomen would be conſiderable, accompanied with violent ſickneſs, head-achs, and langour, for which 60 or 80 drops

drops of laudanum would be adminiſtered with but ſlight effect, and at ſome times none at all would be produced.

It was impoſſible at this time to pronounce his diſorder ſtone, for the contraction of the whole urethra was ſo great as not to allow the introduction of the *ſound*, nay even bougies were with much difficulty paſſed therein; and as has been mentioned the fits returned periodically; the ſtricture prevented a further trial of bark; but I determined to join ſome antiſpaſmodics with the ſolvent, which I propoſed to give him for two reaſons, the firſt becauſe his diſorder could not be ranked under either of the before mentioned claſſes, and therefore by reaſoning *à prioré*, I concluded it might be ſtone; the other reaſon was, that whatever the diſorder might prove to be, the ſolvent could not hurt him.

I loſt no time therefore in giving the ſolvent; to each doſe of which I added three grains of muſk, and a drachm of tincture of caſtor; in twenty days he was ſenſible of the fit being leſs ſtrong, the water leſs morbid and red, and the tenſion of the lower belly conſiderably abated. In this way he continued ſo far to mend, that in two months he could walk with indifferent eaſe, and more than once called at my houſe; nevertheleſs there was no further ſigns of a diſſolution of ſtone than a fine ſediment in the urinal as light as flour. I ventured now to give him the ſolvent without the antiſpaſmodics, and he continued the uſe of it inceſſantly for ſix months, before the completion of which time he had indubitable proofs of the cauſe of all his ſufferings, for he had paſſed ſeveral intolerable rough fragments of ſtone, after which an impalpable powder ſucceeded to it, and he grew ſo perfectly well that he only took the remedy at diſtant periods.

This cure may be called ſo radical, that he has not for four or five years had any ſymptoms of it whatever, although he daily walks to the India-Houſe and back, at the age of 70 years and upwards.

CASE XI.

The two following Caſes afford every Reaſon to ſuppoſe that Stones in Children are leſs compact than in Adults; from which it is as natural to conclude, that the more our Diet (while the Calculus is forming) approaches the Simplicity of theirs in its Quality, the leſs likely it is to acquire the Denſity and Hardneſs which is remarked in many.

MASTER THOMAS, ſon of Joſiah Thomas, Eſq. of Guinea-ſtreet, Briſtol, had been afflicted with the ſtone ſeven years, and at ſo early an age that it was not conſidered as that diſorder, but treated at times as cholic, at others as ſpaſmodic. The complaint however, as he grew, acquired additional ſtrength, till at laſt he was unable to walk for the pain, and a very conſiderable quantity of

of fœtid pus was evacuated with the urine, which plainly indicated an ulcer in the bladder; he was now ſounded, and a ſtone of a conſiderable ſize diſcovered; upon which a conſultation of the moſt eminent phyſicians in London was had upon the expediency of his being cut, and which might have taken place but for his extreme weakneſs and emaciated condition.—Sir Noah Thomas therefore adviſed the trial of the ſolvent, and he was accordingly carried back into the country to make trial of it, but without any great hope of advantage. He had left ſchool ſome time before, on account of the violence of the diſorder; and in the laſt year of his being there he had not, from that cauſe, made any progreſs in his learning.—By the time he had taken the ſolvent a month a prodigious quantity of purulent matter and mucus paſſed, and in a month more ſome earthy ſubſtance was plainly ſeen in every making of water, and the urine was become almoſt clear of that thick jelly-like matter which it had before abounded with; his pain now leſſened greatly, inſomuch that he could walk about, and he began to recover his fleſh ſurprizingly, and in two months more near a quarter of a pint of ſand was collected from the urinal, after repeatedly waſhing the ſediment with warm water. At the end of about ſix months he appeared to be totally cured of the ſtone, and to have recovered his ſtrength and fleſh, ſo that he was again put to ſchool, with the caution of continuing to give him the medicine once a day for a time longer—in three months more it was quite laid aſide, and this laſt autumn, in my way from Bath, I called to ſee him at Keynſham Academy, when, inſtead of the moſt emaciated puny youth, I found him in the higheſt appearance of good health, and learned, that he advanced in his education with the greateſt ſolicitude and ſucceſs.

CASE XII.

THOMAS GALE, Eſq. near the four-mile ſtone, at Hammerſmith, called upon me in November laſt, and acquainted me he had a ſon (a child about four years old) who had been ill for a conſiderable time before he was ſuſpected to have the ſtone; nor was it till he was ſounded, by Mr. Chaſy, of Berner's ſtreet, that they were convinced of the reality of it. He had, at times, ſuffered the moſt excruciating torture in making water, which, by fits, would be every half hour, in ſmall quantities; and he would throw himſelf into all manner of poſtures, and cry out in the moſt affecting manner.—Upon this repreſentation I adviſed him to loſe no time in putting him under a courſe of the ſolvent; and he began, with the doſe proportioned to his age.—In a month, or thereabouts, I went to ſee him, when I learnt that the fit had returned at the uſual period, but with leſs violence.—He had for a conſiderable time had a weakneſs at the neck of the bladder, which occaſioned his water

to

to run from him inſenſibly; this, no doubt, was brought on by the preſſure of the ſtone on the neck of the bladder, and which would as probably leave him upon the removal of the diſeaſe itſelf.—The ſecond time I ſaw him I found his fits of ſtone but of trifling concern, and he could make water without much pain.—By the time he had taken the ſolvent four months there was not the leaſt reaſon to apprehend any remains of the diſorder, for his urine (which had had a conſiderable quantity of mucus and ſand in it during the uſe of the remedy) now became clear, and, in all reſpects, healthy in appearance; it therefore remained only to ſtrengthen the ſphincter of the bladder, for which I recommended him to leave off the ſolvent, and uſe the cold bath.

CASE XIII.

The Right Hon. Lady L******** had ſuffered very conſiderably with the ſtone for ſix years, in which period ſhe had, at different times, been under the care of three of the moſt eminent phyſicians, and taken every medicine uſually preſcribed in that complaint, which not only gave her no relief, but proved hurtful to her ſtomach. Her ladyſhip ſays that ſhe had not taken the ſolvent a month, before ſhe was eaſier, and her ſtomach ſtrengthened; and that in the courſe of time it had all the good effects I had reaſon to expect, the particulars of which cannot, from conſiderations of delicacy, be mentioned. Her ladyſhip has taken it for five years and upwards, occaſionally, as a preſervative, and inſtead of its being found injurious to her, ſhe has often declared, that ſhe not only owes her eaſe to it, but her life. Her ladyſhip is pleaſed to add, that if any perſon is deſirous of particular information about her caſe, I have liberty to mention her name at length, and that ſhe will take the trouble of relating her progreſs with the medicine.

CASE XIV.

Of the Honourable Mr. CHARLES HAMILTON.

In his firſt letter, December 1777, he remarks, that he ſuſpected a ſtone had formed, or was forming; that he had taken ſoap pills twice a day for a year, and then blackberry conſerve, without removing the complaint, for that in a little time he diſcovered, upon taking a long walk, his urine to be bloody, on which account he began again with the ſoap pills, but they were ſo forcing to his urine, that he was obliged to leave them off: ſoon after this, the tendency to make water grew frequent, with ſtrangury and uneaſineſs (almoſt a pain he ſaid) at the *g*——*s* *p*——*s*, and particularly after making water, and which he obſerved, from reading my diſ-

quiſition,

quiſition, was occaſioned by the neck of the empty bladder touching a ſtone:—he further ſays, that, having been accuſtomed ſome time before this to void numerous bits of ſand or gravel, and none having lately come away, he apprehends they are in a ſtate of *aggregation* in forming one large one. He adds, that though there is no aſſurance of this being the caſe, yet as he is informed the ſolvent will do no injury, he is determined to take it, and wiſhes to know how he might be certain of having it genuine, as he has heard of a ſpurious medicine diſpenſed by people in the country. His next letter to me was dated the 12th of April, 1778, in which he ſays,

"SIR,

Your ſolvent has had a very extraordinary effect upon me, and ſeems to have more apparently ſhivered the calculus to pieces, than I find deſcribed in either the firſt or fifth edition of the diſquiſition.

Jan. 10, 1778. I began to take the ſolvent, two large tea-ſpoonfuls at a time, night and morning, and finiſhed the bottle the middle of February, during which time I voided much ſandy ſediment and mucus in the urine.

March 6. I voided a large piece of calculus, in ſhape like a quarter of an almond at the pointed end; that very night I began the ſecond bottle, taking two large tea-ſpoonfulls night and morning as before.

March 8. I voided another piece of the ſame calculus, twice as big as the former, inſomuch, that it ſtopped in the urethra 'till I made a more than ordinary effort, which forced it out, with ſome blood, as the pointed parts had juſt ſcratched the urethra near the glans.

March 9. I began to take the full doſe, three large tea-ſpoonfulls, night and morning.

March 12. I voided another piece of the ſame calculus, leſs than the laſt, but larger than the firſt.

April 2. I voided a ſmall piece of the ſame calculus.

April 6. I voided a very ſmall piece of the ſame calculus, and the ſame day I finiſhed the ſecond bottle.

The above eight pieces, manifeſtly of the ſame calculus, look to me as if the points of all of them terminated in the centre of the nucleus: if that conjecture is right, one may form ſome judgment of the preſent diameter of the ſtone, and in what proportion it has diminiſhed. I am ſenſible I have voided other pieces at the water-cloſet, for I felt no pain upon voiding any of theſe; and which is very extraordinary, ever ſince I have begun voiding calculi, I have never felt the leaſt pain any where, except an uneaſy ſenſation after making water, which I had juſt before I took the ſolvent, and which has quite left me from the firſt taking of it.

There is ſtill ſome ſediment in the urine, but very much diminiſhed; I have deſired Mr. Eddie, who ſent me the laſt, to ſend me

two

two more bottles, which I propoſe going on with immediately: I will never be without ſome in the houſe, and ſhall, as I ought, ſtrongly recommend it. I ſuppoſe I ſhould take it as long as any ſediment ſhall be found in the urine, but ſhould be glad to know what rule I am to obſerve in leaving it off, ſuppoſing my cure compleated. I am, Sir,

Your much obliged humble ſervant,
CHARLES HAMILTON."

Extract of another Letter.

July 12, 1778.

"SIR,

Though my cure is not yet compleated, I would not defer any longer acquainting you with the wonderful effect your ſolvent has had upon me. I have not yet taken half the laſt bottles you ſent to me, for as it has a purgative quality with me, I have been obliged to take it in ſmaller doſes than uſual. I am, however, in hopes that, by the time I have finiſhed the ſolvent I have, I ſhall have brought away all the calculi. I imagine what I have before taken in large quantities (for I took it at firſt at the rate of eight, and ſometimes twelve, ſpoonfuls in twenty-four hours:) I imagine, I ſay, that it has ſo impregnated the calculus that it now eaſily diſſolves; for it is amazing what I have voided ſince the nineteenth of May, twenty large pieces of calculus, beſides many middling ſized ones, and a quantity of very ſmall pieces like egg-ſhells, as you deſcribe, and many pieces of the nucleus, and a vaſt deal even of fine duſt muſt have paſſed unobſerved, at the water-cloſet and elſewhere, and, which is very extraordinary, no pain now; for the pain I had after urining has left me ſince I have taken the ſolvent.—It is now ſix months ſince I began to take your ſolvent; in two months time I began to void pieces of calculus, and had yeſterday the curioſity to weigh all I have preſerved, and they weigh exactly one drachm and a quarter; if I could get a parcel of them joined together where they tally (which I will endeavour) I could gueſs at the ſize of the ſtone, or if there be more than one, which I ſuſpect.

If any friend of yours, or any medical gentlemen are deſirous of ſeeing them, I ſhall be very willing to ſhew them, and vouch to them what I have written; I think it is but juſtice to you. I believe my experience in your medicine has removed all the prejudice the phyſical people have entertained againſt it, as the lady you have before heard of is well; I met her at an aſſembly not long ago. I have told Dr. C——, her phyſician, of the good effects of it on me, at which he ſeemed much ſurprized.

I am, Sir, &c.
CHARLES HAMILTON."

Other

Other Letters from the ſame Gentleman.

"SIR, *Creſcent, Bath, Sept.* 20, 1778.

Your ſolvent continues to do wonders for me, for though the ſtate of my bowels obliged me to take it very ſparingly, yet, notwithſtanding, I have voided a much greater quantity of calculus and nucleus than before; from July 10th to Auguſt 10th I voided forty-eight grains; from Auguſt 10th to September 10th thirty-nine grains; the whole quantity voided (that I could ſave) is (from the 6th of March, when the ſolvent firſt began to operate) above half an ounce.

As ſoon as I found my bowels grew ſtronger, I encreaſed the doſe gradually; and from the 9th of this month have taken the full quantity night and morning: I am now apt to think it was ſome particular weakneſs in my bowels made it diſagree, for now, beſides finding no inconvenience from the encreaſed quantity, I have taken the firſt ſort you ſent me ſince the 16th inſt. which agrees as well as the other--I muſt deſire you to ſend me two more bottles. I ſhould be glad to know how long it will keep perfectly good; I have very little left now, as I gave almoſt all the bottle I am now drinking away to poor people, who could not afford to buy it, which I ſhall continue to do as long as I live, for your ſake as well as that of my poor fellow ſufferers. I have talked over the ſolvent with ſeveral medical gentlemen, as well as many others; and have ſurprized and converted many. Dr. Moyſey, my phyſician, after I had taken it ſome months, unknown to him, upon my telling and ſhewing him the effect, adviſed me by all means to continue it, but with caution as to my bowels, and that he ſhould recommend it himſelf to his patients in ſimilar ſituations. Yeſterday I ſhewed it to a very ingenious man, Mr. Bliſs, your neighbour, in Oxford-ſtreet, an old acquaintance of mine, who was much ſurprized.

I apprehend by the different ſized concaves of the pieces of calculus, and convexes of the nucleus, that mine is not all one very large ſtone, but ſeveral middle ſized ones, and that the ſolvent is acting upon them all at once. As the quantity voided decreaſes, I ſuppoſe I ſhall come to the bottom of the quarry at laſt, but propoſe taking it till I have been three weeks without voiding either calculus or ſediment, then I ſuppoſe I may reckon my cure compleated.

I am, Sir, your very humble ſervant,
CHARLES HAMILTON."

Bath, Dec. 13, 1778.

"SIR,

I have now taken five bottles in all, the reſt I have given away with ſucceſs; it continues to do wonders with me; I have voided above five drachms in all, and continue voiding, but in much leſs quantities;

quantities; only twenty-four grains laſt month—ſome months I have voided above ſixty grains. I take two tea-ſpoonfulls night and morning, without purging for ſome months, and propoſe taking till I have ceaſed voiding any thing for above a fortnight.

I have mentioned to many of the faculty and others, and ſhewn them what I have voided, and without any inconvenience, which aſtoniſhes them all; and I believe my caſe will operate as ſtrongly in favour of the ſolvent as any you have publiſhed.

I ſhewed them to the Duke of Northumberland, to his great amazement; but he ſays it won't do for him, as he has reaſon to believe one large ſtone almoſt fills one of his kidneys, and if it was broke to pieces, like mine, it might kill him in endeavouring to paſs the ureters.

I believe mine is not one, but ſeveral largiſh ſtones, by the ſhape of the pieces, both of calculus and nucleus, which I keep ſeparate, and which look as if they had been broke to pieces with a hammer.

I ſhould be glad to know what is the largeſt quantity any body has taken to effect a cure, and am, Sir,

Your humble ſervant,

CHARLES HAMILTON."

Bath, Jan. 19, 1779.

"SIR,

I void great quantities ſtill, chiefly nucleus, ſo I hope it is drawing to a concluſion; laſt month I voided a whole drachm. I think it impoſſible that what diſſolves the ſtone can permit any new ones to generate whilſt I am taking it; if ſo, unleſs I have a quarry in me, it cannot laſt long. I continue perfectly well in other reſpects, except a dull obtuſe gentle pain about the loins, which has come lately; perhaps there is a ſtone in the kidney.

I am, Sir, your humble ſervant,

CHARLES HAMILTON."

Bath, May 11, 1779.

"SIR,

I think I am almoſt cured of the ſtone in the bladder; was in hopes to have wrote you word long ago that I was quite ſo, but my bowels have lately, contrary to their uſual cuſtom, been in ſo lax a ſtate, I have been forced to deſiſt from taking the ſolvent; I have taken but two tea-ſpoonfulls in all ſince the firſt of April; it always purges now, ſo it did about a year ago, yet ſince that time I have taken the full doſe for a continuance, without inconvenience; hope I ſhall again.

Though

Though I have diſuſed it ſo long, I feel no uneaſineſs at the neck of the bladder after urining; void very few pieces, chiefly ſmall ſhells and crumbs, and the quantity decreaſes ſo much, I ſuppoſe the bladder is pretty nearly cleared: laſt month I voided but eleven grains; the month before thirteen; and the month before that twenty; before which I generally uſed to void from forty to ſixty grains per month. All the pieces and crumbs I have preſerved ſince I began the ſolvent weigh one ounce wanting ſeven grains—much muſt have eſcaped my obſervation.

I am not without apprehenſion of ſomething being in the left kidney, from an uneaſineſs I feel there upon quick motion, and even turning in bed, or lying long on that ſide, ſo think it prudent to abſtain from going in a carriage; and my ſcheme is, if you don't diſapprove, whenever my bowels are ſtrong, to take one tea-ſpoonful of ſolvent every day, as long as any the leaſt particle of ſtone is voided.

Lord Stormont, to whom I am very nearly related, was here lately; I was telling him what wonders your ſolvent had performed with me, he told me he knew you well, and I was very glad to have an opportunity of proving to him the efficacy of your medicine, as I ſhall never loſe any opportunity where I think it may be of ſervice to you to give it its due praiſes.

I am, Sir, your humble ſervant,

CHARLES HAMILTON."

Bath, March 16, 1783.

"SIR,

I ſhould have ſent you earlier a furthur account of the great ſucceſs of your medicine with me, but waited till my ſtock was out, ſo now deſire you to ſend me two bottles more as uſual, for which I ſhall deſire Mr. Eddie to pay you next time I write to him.

As I am quite free from pain or inconvenience of any ſort, though I continue voiding ſtone almoſt daily, at the rate of from twenty to forty grains a month (for I keep an exact account), I have taken for the laſt year not above ſeven or eight tea-ſpoonfulls a month; and have now in my poſſeſſion above four ounces of calculus which I have voided, and, in all probability, above an ounce more muſt have eſcaped me. I have not, for this year or more, voided any pieces that ſeem broken or ſplit, like thoſe I formerly deſcribed to you; I hope all theſe large ones are gone; I now void ſome very large, but entire and rough, for I imagine the ſmall quantity of ſolvent I continue taking prevents their coming to their former ſize, and I hope, by taking it in that manner all my life, to keep the diſorder under.

Though I cannot call mine a radical cure, I think my caſe as extraordinary as any you have quoted, and you are at liberty to make

make what uſe you think proper of it; but I apprehend my habit of body generates ſtone ſo faſt, that nothing can prevent its exiſtence in me, only a growth to a troubleſome bulk.

I am, Sir, your humble ſervant,

CHARLES HAMILTON."

REMARKS ON THE BEFORE-MENTIONED CASE.

This caſe of Mr. Hamilton's muſt be allowed the moſt ſingular of any I have recited, ſince the ſolvent has all along reduced the ſtone in ſo deſirable a manner, and enabled him to void it without pain, or any alarming ſymptom whatever. In September laſt I called upon Mr. Hamilton, in my way through Bath, and was greatly ſurprized to ſee him in ſuch perfect health and ſpirits, and to obſerve his activity, he having done me the honour to walk with me over all his new made lawn and gardens, in which I cannot (though foreign to the ſubject) help remarking, that I never ſaw ſuch perfection in building and laying out ground, in the diſplay of which no ſigns appeared of his diſorder having either impaired his diſcernment, or hindered his taſte from manifeſting itſelf to the utmoſt, by an application of judgment, which his time of life makes one reflect on with equal ſurprize and pleaſure.

Though any further teſtimony of the ſolvent's innocency may not be neceſſary, yet an additional proof of its not aggravating gouty or bilious complaints will not be thought ſuperfluous, ſince theſe complaints (particularly the latter) have furniſhed ſome phyſical people with pretenſions for ſuſpending the uſe of the ſolvent, than which nothing can be more wrong, for it is an undoubted fact that it is beneficial in gouty and bilious caſes, as being ſtomachic; and it may be added that bile is often ſymptomatic of the ſtone, ſo that the ſolvent is abſolutely the only medicine likely to relieve in that ſituation of the diſeaſe—but leſt it might be ſuſpected that partiality may in ſome degree incline me to conſider a medicine as a *panacea* becauſe it has done wonders in one diſorder, I ſhall add, with permiſſion of the writer of it, the confirmation of theſe facts, by a letter I received from Sir J. Call, Bart. Member of Parliament for Callington, in whom, at that time, the nucleus of the ſtone remained to be diſſolved, which has ſince been happily effected.

Queen-Square, April 3, 1785.

"SIR,

Having taken your ſolvent at intervals for ſome time, I think it neceſſary to acquaint you of its effects on the object for which I took it, as alſo on my conſtitution in general.

In June, 1781, having rode on horſeback pretty ſmartly, I made a conſiderable quantity of bloody water, without having previouſly

felt,

felt, or feeling at the time, any pain or extraordinary ſenſation.—Not knowing from whence, or from what cauſe it proceeded, I dined in company, and making no more ſuch water, I paid no regard to what had happened, but returned to London from Portſmouth, where I then was, and afterwards went into Cornwall—whence I rode again only five miles, and then made bloody water as before; this alarmed me; I conſulted a ſurgeon and phyſician, who pronounced it the gravel, and preſcribed ſoap-pills, lime-water, and ſome other medicines, which I took at times during the autumn of 1781; but on riding or walking much always made bloody water, though without any pain or conſiderable ſenſation. In the beginning of 1782 I came to London, having at times experienced ſevere irritations in the bladder, and frequent urgings to make water, and being very unable to bear the motion of the carriage on the firſt part of the road. I was ſoon after ſounded by Mr. Young, ſurgeon, who found my complaint to be a ſtone in the bladder, which I could feel with the ſound myſelf. I had before taken a bottle or two of your ſolvent, but now reſolved to take it regularly, and to obſerve the regimen preſcribed pretty exactly, neither eating meat, nor drinking wine, except at dinner, and never to any exceſs; but having been accuſtomed to drink as far as a pint, I have ſeldom taken leſs at and after dinner than five or ſix glaſſes—my ſupper, if any, has always been according to your regimen.

From the ſpring of 1782, I took the ſolvent pretty conſtantly till the ſummer of 1783, but only at intervals during the year 1784. I began to bear travelling better towards the end of 1783, but I could not ride an horſe except in a walk.—In 1784 the travelling up and down to Cornwall in a carriage became very eaſy, and latterly the motion of a carriage over the London pavement is not troubleſome. I alſo, laſt autumn, rode out with the harriers, and often trotted, without making any bloody water (but did not venture to gallop), and I can walk many miles in a day without the uneaſy ſenſations I formerly felt.—In ſhort, though I am at times ſenſible that there is a nucleus ſtill in the bladder, yet I truſt it is not large, as I feel no ſenſation in jumping down, nor any frequent urgings to make water—on the contrary, I often go four or five hours without evacuation, and am ſeldom diſturbed in the night. I mean to go on regularly again with the ſolvent this ſpring, and hope to obtain a total relief.

With reſpect to the effect of the ſolvent on the conſtitution in general, I think I am clear, as to myſelf, that it has been very beneficial; for though when I began to take it, or before I felt any ſenſations of the ſtone, I was at times of a very bilious habit, had frequent head-achs, and ſtrong ſymptoms of the gout (which my father fell a martyr to) yet I do not remember, for twenty years paſt, to have been ſo free from all the above complaints as I have been theſe three or four years paſt, nor to have enjoyed a better

ſtate

ſtate of health, except with regard to the complaint for which I took the ſolvent. I have enjoyed a conſtant good appetite, and more particularly ſo the days I take the ſolvent. My body has always been open, as it always was, conſtitutionally; and I never have had the leaſt nauſea at the ſtomach, or diſinclination to any kind of food.—So far I can ſpeak with certainty as to what I have experienced, and I mean to perſevere, in hopes the effect will be as certain in relieving me wholly from a complaint, which, though very tolerable at preſent, is not agreeable in proſpective.

I am, Sir, &c.

JOHN CALL."

CASE XVI.

The Caſe of JOSEPH BELL, *Eſq. Surgeon, at Wycombe, Bucks, as drawn up by himſelf, and encloſed in the following Letter:*

"DEAR SIR,

Incloſed I ſend you a ſimple narrative of facts, as they occur to my recollection, you will be ſo obliging, if you think it may be of uſe to the world, to put it in proper form; and I aſſure you that I ſhall at all times be ready to give the moſt ample ſatisfaction to every one who may be induced to apply to me on the ſubject, as I feel it a duty I owe the public ſo to do. The obligation I am under to you for your attention to me during the courſe of the ſolvent's trial will never be effaced from my memory.—The relief I have experienced will always incline me to keep a bottle or two in the houſe, for which reaſon I beg the favour of you to ſend me two before you go to Paris—till your return therefrom, permit me to ſubſcribe myſelf

Your obliged and devoted humble ſervant,

JOSEPH BELL."

The 6th of December, 1783, on my road to Kingſton upon Thames, I was ſeized with a ſevere fit of pain in my left kidney; I had been for four years back too well and too repeatedly acquainted with the kind of pain to miſtake that which I then ſuffered; however, as I had only five or ſix miles to ride, I purſued my journey, at the end of which, on getting off my horſe and calling for a chamber-pot, I paſſed a very conſiderable quantity of bloody water; my pain by this time was ſo conſiderably increaſed, that I was under the neceſſity, though at an inn, of having recourſe to the warm bath and laudanum, of which I took between eighty and a hundred drops.—The relief I experienced was very little in proportion to the quantity

quantity of opium I took, and my night was a night of torture. By the perſuaſion of a friend who was with me, I the next day returned gently home, in a chaiſe.

Having taken the ſolvent for a month previous to this fit, my friends and Mr. Roſe, a very eminent ſurgeon of this town, adviſed me to ſend for you; the ſtate in which you found me I need not deſcribe; ſuffice it to ſay, that from the time of my being taken ill, to the evening on which I apprehend the ſtone paſſed from the kidneſs into the bladder (being a ſpace of near three weeks) the pain I underwent is beyond all poſſibility of deſcription. Dr. Bates, an eminent phyſician in this neighbourhood, and Dr. Parſon, profeſſor of anatomy in Oxford, were likewiſe called in to my aſſiſtance, particularly as you were at ſuch a diſtance from me. The methods uſed during the fits of pain you are perfectly acquainted with; I ſhall therefore content myſelf with informing you, that as ſoon as the ſtone had paſſed I again, by the advice of thoſe attending me, had recourſe to the ſolvent; and from perſiſting ſtrenuouſly in the uſe it for twelve months, I have the greateſt reaſon to flatter myſelf that it has rendered me every benefit I could poſſibly hope or expect, without feeling any one ill effect from perſiſting ſo long in its uſe. For the firſt two or three months, during the taking of the ſolvent, I paſſed a conſiderable quantity of large rough gravel, attended at times with pain, when, for three or four months more, I paſſed a pretty large quantity of very fine ſand, ſince which time I have hardly experienced a twinge, or paſſed a particle, at leaſt in compariſon to what I had ſuffered or what had paſſed before, and am now, thank God, pretty well able to go through the fatigues of my profeſſion.

Remarks on the above Case.

It only remains for me to add, that upon being deſired, by expreſs, to attend Mr. Bell, I got immediately into a chaiſe, and reached his houſe about two o'clock the next morning, when I found him in a high fever, in the moſt excruciating pain, and at times delirious; his vomitings I learned had been violent, and his urine I found was bloody to the higheſt degree.—I immediately ordered copious bleeding, but was informed, attempts had been fruitleſsly made with the lancet, and, as I apprehended his life in ſome danger, I determined to renew the attempt myſelf, and was ſo fortunate as to ſucceed, by which I drew off 16 or 20 ounces of blood. His fever began now to ſubſide, and he grew ſenſible, ſo as to deſcribe his feelings; balſamics and anodynes were alternately given him, and I had the ſatisfaction to leave him in a fair way of recovery. The piece of ſtone ſoon after paſſed, and he took the ſolvent, with-

out

out interruption, till hopes were entertained that there remained nothing to be feared. It may be proper to add, that Mr. Bell remarks that the ſtone has all the evident ſigns of being operated upon ſtrongly by the ſolvent, by reaſon of its ſpecifical lightneſs, for that a calculus of the ſame dimenſions and figure, not operated upon by the ſolvent, weighs nearly three times as much, viz. 25 grains, whereas his own weighs but nine grains.

CASE XVII.

THE following very important Inſtance of the Efficacy and Safety of ADAMS's SPECIFIC SOLVENT, was lately communicated to Mr. Bacon, of No. 150, Oxford-ſtreet, London, by a worthy Clergyman.

The Caſe of Mr. WILLIAM HARPUR, *at the Right Honourable Lord* ROBERT BERTIE'S.

" Mr. Harpur had been afflicted with the ſtone many years, to that degree, as rendered his life at laſt extremely burdenſome, and made him incapable of uſing exerciſe, or even any motion, without great pain, the ſtone having acquired ſuch a weight, that he could ſenſibly feel it in his bladder upon every ſudden movement, and particularly when he turned himſelf in his bed. It is not poſſible to deſcribe all the medicines he had been recommended to, and which he had taken, without relief. He was at laſt adviſed to take the Solvent, which he did to the quantity of three bottles before he perceived any alteration; but in the fourth or fifth he was ſo much eaſier as to be able to walk about. He alſo began to diſcharge gravel and ſand; and by the time he had taken as much more, the ſtone was ſo far operated upon, that it came away in concave pieces, like broken nut-ſhells. Previous to his taking the Solvent, he had been urged to make water eight or ten times in an hour, and with ſuch exquiſite torture, that his cries were heard at a very conſiderable diſtance; but by this time he could retain his water for three or four hours, and make it with but ſlight pain. The ſtone continued to be voided, ſometimes in the form of powder, at other times in thoſe ſhell-like pieces before deſcribed, till at length a round piece (ſuppoſed to be the nucleus) paſſed the urethra; and from this time he dated his perfect cure, for he could now ride on horſeback ſixty miles in a day, without the leaſt inconvenience. Lord Robert, from his great humanity, took infinite pains to make known the efficacy of the Solvent, for the benefit of the afflicted in ſimilar caſes."

Obſervations

Obſervations on the foregoing Caſe, by the Clergyman.

" The peculiarity as to the form of the diſcharge of the ſtone, in the aforeſaid cure, is a greater encomium on the Solvent than any thing that can be ſaid; as it plainly ſhews it does not act by any forcing or irritating quality on the veſſels themſelves, but from a power of diſpoſſeſſing the ſtone of its principles of coheſion. The ſame effect is frequently perceived in the firſt coats of the ſtone, more eſpecially if it be of ſome conſiderable bulk."

CASE XVIII.

The following Cure preſents not only indubitable Evidence of the ſolvent Power of this Medicine in the Stone and Gravel, but alſo its happy Effects in removing the Diſpoſition of the Habit to calculous Concretions, an Advantage which even chirurgical Operation cannot ſecure to the Patient.

The Caſe of Mr. J. ROBERTSHAW.

Mr. J. Robertſhaw, a non-commiſſioned officer in the Royal Regiment of Horſe Guards Blue, (and in General Blathwayt's troop) was for many years tormented with fits of the gravel, which at length became ſtone, rendering him incapable of doing his duty: the accumulation was ſo rapid and alarming, that he kept his bed for ſix weeks, being unable all that time to ſtand upright but with the greateſt agony.

At this period he was reported by the regimental ſurgeon to have a confirmed ſtone, and to be in great danger. General Blathwayt's ſervant was thereupon diſpatched for Adams's Solvent, which, by the time Mr. Robertſhaw had taken it three weeks, gave him ſome relief—in ſix or ſeven more he began to evacuate quantities of ſtone and clayey matter. The excruciating pains which had kept him awake for nights together, abated, and ſymptoms threatening an ulcer diſappeared.

By this happy change Mr. Robertſhaw could walk about, and with further continuance of the Solvent, he ventured to mount his horſe, paſſing ſtone and ſand in prodigious quantities daily, till he grew as well as ever he was in his life: although it is now two years ſince he left off the Solvent, yet he continues perfectly well, and is doing duty with the regiment, to the ſurpriſe of every one who knew his caſe; his cure being conſidered as one of the moſt aſtoniſhing inſtances of the power of this medicine.

CASE XIX.

The Case of Master THOMAS GALE.

To S. PERRY, Esq. Surgeon.

SIR,

Upon reading in the Sussex Weekly Advertiser, dated the 13th of June inst. that "on Friday last died in London, after being cut "for the stone, by Dr. John Hunter, Master Shergold, youngest "son of Mr. Shergold, of Brighthelmston, aged about six years," I could not but recollect, with the sincerest satisfaction, the great and lasting good effects of your invaluable Solvent upon my eldest son, Thomas Gale, when five years of age.—He is now a fine healthy boy, eleven years of age, at boarding school, and has never had any return of the cruel disorder under which he laboured six years since. As I consider it a duty to you, and to the public, you have my free consent to make this cure known, who am,

SIR,

No. 29, *Lower Brook-street, Grosvenor-square*, London, *June* 27, 1791.

Your obliged and obedient Servant,

M. GALE.

CASE XX.

Perhaps none of the radical Cures performed by this invaluable Medicine afford more pleasing hope or well-founded Expectation in the unhappy Sufferers under these excruciating Maladies, than the half performed one described in the following Extract of a Letter from a medical Gentleman at Aberdeen.

"I have, as I conceive the medicine's efficacy merits, done every thing in my power to put it on a good footing with the faculty here, and to bespeak their candour to try it in any fair and clear case of the stone. Dr. Livingstone, a Physician, as eminent in the profession as esteemed in private life, adopted it in the case of a man of the name of Walker, in this town; he took the Solvent for some weeks, but his agony and his impatience were so great, that, contrary to all advice, he would undergo the operation of the knife; he was actually cut, when the stone to be extracted broke into several small pieces, which, with the greatest difficulty, were all taken out

out of the bladder. The pieces were all ſoft, like mortar, which put it paſt a doubt that, had the patient perſevered with the Solvent, his cure would have been happily performed, becauſe the firſt time Dr. Livingſtone ſounded him, the inſtrument rung on the quite hard ſtone, whereas the laſt time the Doctor ſounded him, he found the calculous quite ſoft."

IT may be obſerved that the ages of the patients are not given as a circumſtance in the detail, nor is it a material conſideration in the cure of the ſtone; for, after a perſon has attained to maturity, the ſtate of the fluids cannot be very different, whether of 25 or 65.—Several of the before recited caſes were of perſons in an age ſtill further advanced, ſo that no unfavourable obſtacle threatens the ſolvent's operation on that account; and it may be fairly concluded that nothing can exceed (as a medicine) the benignity and ſalubrity of its quality, ſince theſe patients are ſtill living, although 'tis ten years ſince ſome begun the uſe of the ſolvent, which they continue at intervals to this day, as a preventative remedy, with this extraordinary remark on it (viz.) that it operates as a ſtomachic and ſtrengthener of the viſcera, and therefore account for its keeping back in a meaſure thoſe fits of gout, which they may have been before accuſtomed to be attacked with.

The ſucceſs and importance of this diſcovery to the world being now confirmed beyond the power of infidelity or oppoſition, it will be unneceſſary to addreſs myſelf either to the ſceptical or prejudiced reader; but it may be proper to ſay ſomething to thoſe who may (while they admit its utility and benefit) argue, that its uſefulneſs is but partially diſpenſed, whilſt its ſecret is retained to the emolument of the diſcoverer, inſiſting that all improvements or diſcoveries in medicine ſhould be at once revealed for the univerſal and equal benefit of mankind. I ſhould be ſorry if I was inſenſible of the philanthropy of this remark; but at the ſame time I cannot think it incumbent on me fully to adopt thoſe ſentiments, without the leaſt regard to my own ſituation. I ſhould be aſhamed of myſelf if the poſſeſſing an arcanum was capable of exciting any the leaſt tincture of vanity in me, and ſtill more ſo if I could be mercenary enough to make that uſe of it for enriching myſelf which avarice and opportunity might enable me to do; diſclaiming, therefore, the illiberality of ſuch a conduct, I hope for the candour and indulgence of the world, as long as I continue to make no other uſe of the diſcovery than I have hitherto done, and which I have the pleaſure to find has ſecured me the approbation of the public, and the eſteem and friendſhip of many of the moſt diſtinguiſhed of my profeſſion.

And now having ſaid ſo much in my defence of not making a diſcloſure of this new remedy, I cannot, in juſtice to my feelings, forbear mentioning how far I have endeavoured to do away the imputation of ſelfiſhneſs or want of public regard. This vindication drives

drives me neceſſarily into the moſt unpleaſant taſk which can be aſſigned to me, viz. to egotize; but as ſelf-commendation is not the motive, but ſelf-juſtification, I rely on my readers indulgence, and for which I ſhall adopt all poſſible brevity. About fourteen years ago, when the ſucceſs of this medicine rendered it an object of particular attention, I gave up my ſurgical practice, in which I had been engaged nearly as many years, in order to attend better to its effects, and to improve its compoſition, ſhould it admit of it, ſo as to render it as ſafe in the hands of a patient at a diſtance as under mine own eye; ſoon after this, concerns of a military nature called me away, ſo that my patients ſought my advice with ſome uncertainty and trouble, and it was then that a right honourable friend adviſed me to open a correſpondence with Lord N——, that he might give me a recompence for the ſecret of the ſolvent; my terms were aſked, and my anſwer was, a place for life, of the value of my profits at that time; I added alſo, that I was not averſe to the duty of ſuch a place as my capacity was competent to—in this I was counſelled by my noble friend, who enforced the reaſonableneſs of my demand, by ſaying, that it could not be improper to exchange a place, the ſalary of which is paid by the public, for an equivalent, in which the community will be benefitted. Whatever might be the cauſe of this negociation falling to the ground I know not, but I heard no more from his Lordſhip, and no propoſition has been made to any ſucceeding miniſter, although I ſhall never be averſe to its renewal, if it ſhould be thought intereſting enough to deſerve it, being ready to declare that I ſhall feel more gratified even with a ſmaller emolument, than in deriving a large one by the poſſeſſion of a ſecret, which muſt ever render me an object of envy, not to ſay more, of ſome of the profeſſion.

Perſons

Perſons inclined to go through a regular Courſe of the Remedy are informed, that the large Bottles, at 1l. 2s. contain nearly equal to five at 6s. 3d. making a great ſaving to the Purchaſer.

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BY MEN OF SCIENCE,

FOR THE RELIEF AND CURE OF

Asthma, Bilious Cases, Coughs and Colds, Consumptions, Caries of the Bones, Dropsy, Fistula in Ano, Fevers of all Kinds, Female Complaints, Gout and Gouty Habits, Gravel, Head Ach, Indigestion, Lowness of Spirits, Loss of Appetite, Morbid Affections, Nervous Disorders, Piles, Rheumatism, Relaxations, Scorbutic Diseases, Sore Throats, Stone in the Bladder, Tooth Ach, &c.

INTERSPERSED AND ILLUSTRATED WITH

Many *very remarkable* and *authentic* FACTS.

TO WHICH ARE ADDED,

SOME OBSERVATIONS

RESPECTING

PUBLIC MEDICINES,

AND THE

CONDUCT OF THE FACULTY IN GENERAL.

BY A CANDID PHYSICIAN.

663