

A disquisition on medicines that dissolve the stone. In which Dr. Chittick's secret is considered and discovered ... / [Alexander Blackrie].

Contributors

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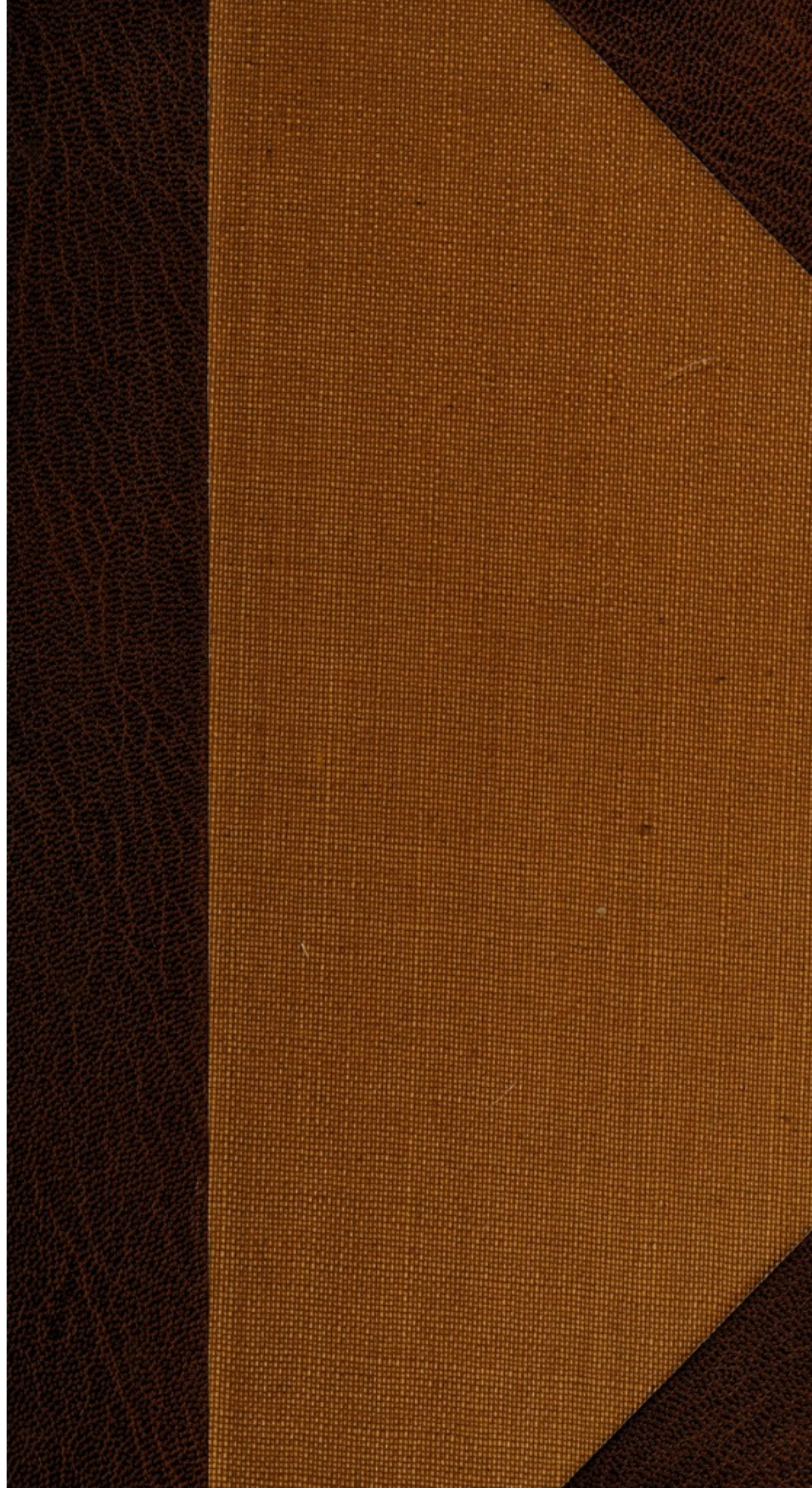
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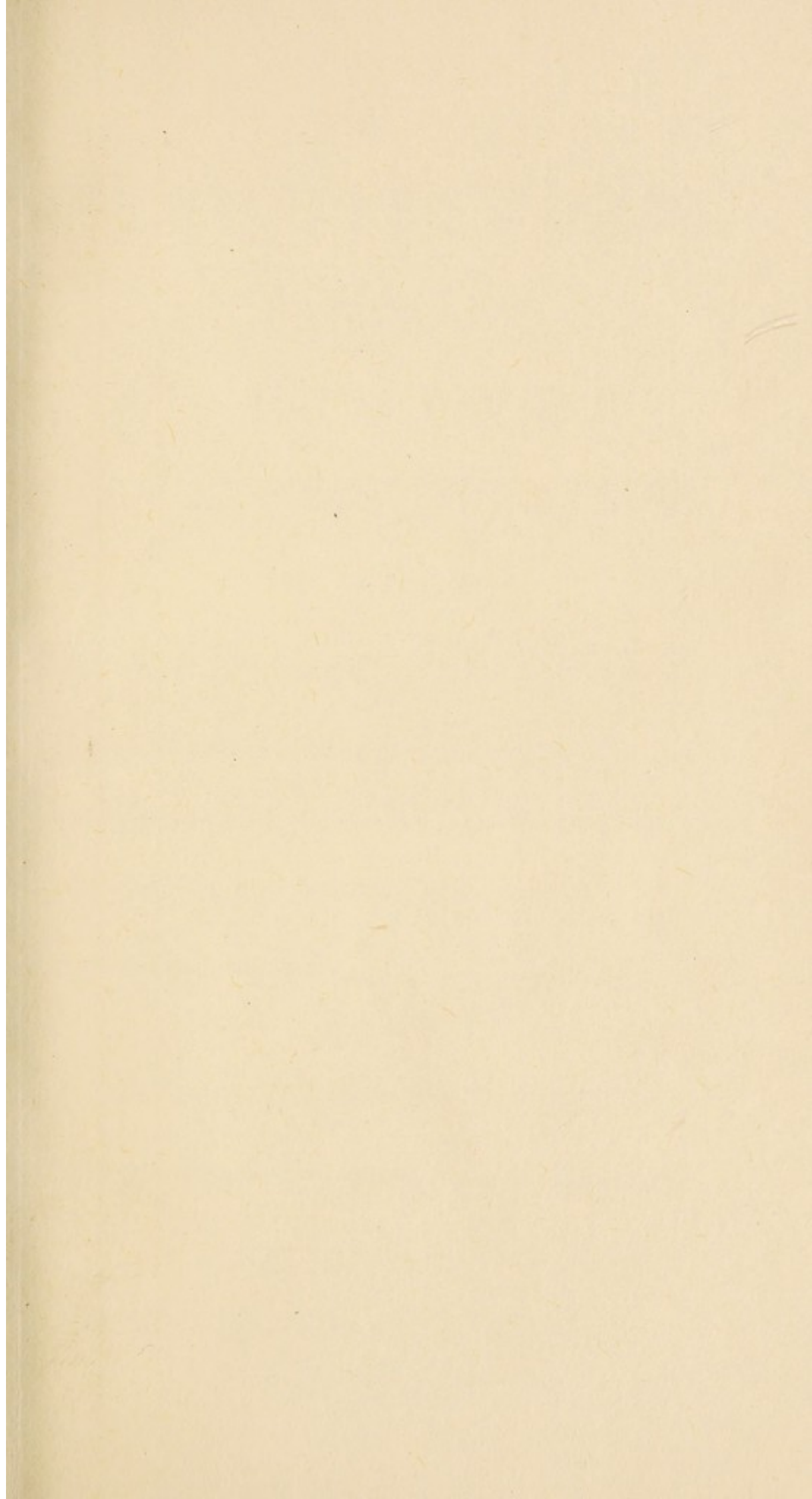
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A
DISQUISITION

O N
M E D I C I N E S
THAT DISSOLVE THE STONE.

IN WHICH
Dr. CHITTICK'S SECRET
Is CONSIDERED and DISCOVERED.

Nullius addictus jurare in verba magistri.
HOR.

B Y
ALEXANDER BLACKRIE.

L O N D O N :
Printed for D. WILSON, in the Strand.
M.DCC.LXVI.

JOHN H. 8 DEI 1814

OF CHARTERHOUSE SQUARE

MEDICINE

THAT THIS IS THE FIRST

IN WHICH

IS WITH THE GREATEST RESPECT

BY THE GENTLEST

INSCRIBED

BY THE GENTLEST

BY

THE GENTLEST

BY

ALEXANDER D. W. 1814

MOST OBEYANT

LONDON

BY THE GENTLEST

BY THE GENTLEST

TO
JOHN HYDE, Esq;

OF CHARTERHOUSE SQUARE,

THIS TREATISE

IS WITH THE GREATEST RESPECT
INSCRIBED

BY

HIS MUCH OBLIGED,

AND

MOST OBEDIENT HUMBLE SERVANT,

THE AUTHOR.

TO

JOHN HYDE, ESQ.

OF CHARTERHOUSE SQUARE,

DISQUISITION

ON THIS TREATISE

IN WHICH THE GREATEST RESPECT

IS DESCRIBED

BY

JOHN HYDE, ESQ.

HIS MUCH OBLIGED,

AND

MOST OBLIGED

JOHN HYDE, ESQ.



A
DISQUISITION
O N
DISSOLVING MEDICINES
FOR THE
GRAVEL and STONE.



ABOUT five years ago a severe fit of the gravel supervening upon the return of a painful illness to which I have been long subject, and by which I was then confined, alarmed me much,

B

as

as I continued several days in great agonies and danger.

In consequence of this unexpected incident, that disease, which is at least as calamitous as any of the other lasting disorders that afflict mankind ; and which more frequently occurs, as no age, sex or condition is exempted from its attacks, became so much the subject of my attention, that I have ever since spared no pains to obtain the knowledge of every thing recommended to me as remarkably serviceable for the cure, or relief, of this cruel distemper, either for the removal of its cause, or the alleviation of its paroxysms.

In the course of my enquiries, I was told of a medicine, which, for a considerable time past, has continued in high repute as a powerful lithonthriptic ; and was informed, that about five years ago,

ago, it was obtruded upon the publick as a new discovery, and administered with success at Bath, by the late Dr. CHITTICK; and, since his death, in London and Westminster, by his brother, the present Dr. CHITTICK, who, as his heir, became sole possessor of this remedy, and after his brother's example, makes use of every artifice to keep it secret.

In particular, so circumspect in concealing his medicine does the present proprietor still continue, that, in administering it, he entrusts it unmixed with no person whatsoever; conscious, no doubt, that if but once submitted to inspection and examination, it would immediately betray itself.

He, therefore, gives it to his patients in a large quantity of weak veal-broth made by them according to his direc-

tions, and sent him from day to day, for that purpose ; and not satisfied with this precaution, he gives to it, as I am informed, different tastes, and uses other methods of disguise, more effectually to conceal the principal ingredient in this medicated broth.

For this medicine, thus managed, such a high price is demanded as every person whom I have spoken to greatly complains of ; so that the benefit of a remedy in several instances confessedly serviceable, so dearly sold, and so limited in its use that it is only to be had at one place, can be enjoyed but by very few.

Some time after receiving these informations, I had frequent opportunities of thoroughly examining this broth, and was thereby enabled to make such remarks, as will, I think, be sufficient to ascertain,

ascertain, beyond dispute or doubt, the nature and quality of the medicine concealed in it.

Incited therefore by no other motive than a desire of being in some measure instrumental and subservient to the general welfare, I have determined to publish these remarks, in hopes, that they may prove useful, not only to those who cannot afford the price demanded, but likewise to those whose distance from the place of the doctor's residence makes their personal attendance at all times extremely inconvenient ; but, in the more severe returns or fits of the disease, utterly impracticable.

While this consideration was warm in my mind, I published my opinion, with, perhaps, too much brevity, in a monthly paper of intelligence, entitled, the Gentleman's Magazine, for October,

1763 ; for which publication I have been thanked by some who thought that I had, by a very proper and convincing investigation, evidently discovered that nostrum which has engrossed so much attention, and kept the publick so long in suspense.

I have, likewise, since that time, been importuned by others, both by letters and personal application, to republish these remarks in a separate treatise, on a supposition that their usefulness will be more extensively diffused : and, indeed, when I considered that the short medical hints, commonly inserted in such periodical and miscellaneous productions, are either overlooked, or not so attended to as to make any lasting impression, I was inclined to think that a regular and methodical disquisition, of the nature, causes, and cure of this distemper, so excruciating in its symptoms,
and

and dangerous in its consequence, was proper, if not necessary, as more likely to attract the notice of medical readers, to whom I now repeat an address that has been made by many writers upon many occasions,

— *Si quod novisti rectius istis,
Candidus imperti: si non his utere mecum.*
HOR. Epist. 6. Lib. 1.

and hope they will think it their duty to communicate such remedies, if any such there be, as experience has shewn to be more useful and efficacious.

As this disease is every where frequent, and the number of persons afflicted great, the cause in which I am engaged is of general concern; I therefore make no doubt, that not only they, but every good man, in compassion to mankind, will wish to extend a benefit

which the doctor is so unreasonably industrious to contract.

As these reasons have induced me to resume this subject, I shall recapitulate, as far as I think it necessary, my former narrative, inserting such additional remarks as subsequent notices, and observations, have enabled me to make.

When Dr. CHITTICK's lithonthriptic medicine was first mentioned, its efficacy was extolled in such high terms as made me hope the stone would be no longer formidable ; but finding the benefit thus sparingly bestowed, I could not help lamenting that the custom of concealing for lucrative purposes such salutary discoveries, should be so frequent and prevailing.

This exuberance of caution rather excited me to a more diligent scrutiny
into

into this medicine, as I inferred, from the extraordinary methods used for its concealment, that if I could but see it, mixed as it is, I should be able by a proper investigation to discover that part in which its lithonthriptic quality chiefly resides.

Some time after I had the good fortune to be introduced to several gentlemen who had taken, and were taking, this broth, and had afterwards ready access whenever I went: they allowed me to taste it, and without reserve communicated to me what they knew, by which means I became acquainted with the following particulars.

The doctor orders two pounds of a crag-end of a neck of veal to be boiled in five quarts of water, till they are reduced to three, and each of his patients to send him, in a tin-bottle, pad-lock-

ed, to prevent, as he himself acknowledges, curious people from prying into his secrets, three pints of this broth, free from all fat, and other impurities, every day; for the opening of which bottle he keeps one, and the patient another key. This broth he returns with the medicines in it, and directs the whole to be taken in the day, one pint in the morning fasting, by a little at a time, so as to be an hour in taking the whole, fasting two hours afterwards, the second pint at noon, and the last pint in the evening, in like manner fasting two hours after each.

He also directs his patients to eat no salt meat, nor so much as salt with their meat; no fat of any kind, no butter, no cream, nor any milk, unless skimmed; no cheese, no fish, no eggs, no sauce of any sort, no tarts, no pastry, no vegetables, except turnips, potatoes,
and

and boiled onions, and all these without sauce, and at the same time directing potatoes to be taken but very sparingly, and no fruit of any kind.

As to drink, he prohibits all acids, and every thing that has the least tendency to acidity, as wine, beer, cyder, perry, and all other fermented liquors. He allows only water with a little brandy in it.

He permits his patients to eat beef, mutton, lamb, veal, ducks, chickens, and rabbits, without any sauce but their own gravy.

He also recommends such exercise, and such only as can be taken without pain.

He tells his patients, that if they expect benefit from his medicine, they

must persevere in the use of it, and punctually follow his directions for a considerable time, three, four, five, and even six months ; which if they do, he makes no doubt of their cure ; as a proof that his confidence is well founded, he wishes every person who applies to him for relief, would be searched, that the existence of a stone may be ascertained, before he enters upon his course, and says, if afterwards, upon repeating the experiment, a stone is still found remaining, that he desires nothing for his pains.

While he is administering his medicine, he is very assiduous in his visits, and minutely attentive to every thing that occurs. If the patient, at first application, labours under any other disorder, or the paroxysm of the stone is very severe, he intermits his practice till one is removed, and the other abated.

ted. And if any accidental disorder supervenes during the course, he suspends the use of his medicine till the patient is recovered. Through the whole course he mixes more or less of it with the broth, as particular constitutions and symptoms require.

The terms upon which he administers this medicine, are two guineas a week, during the whole time of the cure, indiscriminately from rich and poor; for this he gives no credit, if he is not therefore regularly paid at every week's end, he refuses to medicate the broth. He at the same time tells his patients that he does not look upon this sum as an equivalent, assuring them that the medicine he puts into their broth is dear, and costs himself very near as much; and that he therefore expects a considerable premium besides, for his pains and trouble, after the cure is completed.

He

He at first made no stipulation for any thing certain, but finding himself, by submitting to his patient's consideration and generosity, greatly disappointed in his expectations; I am informed that, before he undertakes the cure, he now makes a positive bargain, and demands a price so high, as few are able to comply with.

When I first tasted this medicated broth, what struck me most was a strong flavour of tansy, but upon carefully tasting it again and again, I at last discovered, very plainly, the effect of an alkaline matter upon my palate; and immediately said to the patient, "I believe, Sir, I know the medicine;" and asked whether he had ever tasted any thing like spirit of hartshorn in it? He answered in the affirmative, and moreover said, that at different times, he could distinguish this taste to be more
or

or less predominant, and at that very time more perceptible than he ever observed it before.

I had afterwards the same accounts from others, whose broth I tasted ; and although I found the tanfy flavour in all I ever met with, yet several persons informed me that the broth had sometimes a flavour of a very different kind. One gentleman in particular told me, that the doctor himself acknowledged to him that these tastes were given on purpose to disguise his medicine.

From this observation, I concluded that the ingredient which gave the alkaline taste was the medicine, and that the tanfy and other flavours were only intended to conceal it : and altho' I was told, that the doctor, in discourse with several of his patients, greatly exclaimed against the use of alkaline salts and substances,

stances, as extremely acrid and highly mischievous, and complained that he failed of success in several instances, only because his patients, previous to his being employed, had burned up their insides with soap-lye, lime-water, and other such like caustic stuff: these speeches, however, rather confirmed me in my opinion, as I looked upon them to be no other than words of artifice, intended to divert the attention of his patients from that which it was so much his interest to conceal.

However, to be thoroughly satisfied that my conjecture was well founded, I procured sufficient quantities of the doctor's medicated broth to make the following experiments.

I made veal broth according to the directions, and after I had given the tansy flavour, found, that by putting
into

into it, at different trials, various quantities of alkaline fixed salts, or their solutions and preparations, I could give it a similar, though not quite the same taste; which I imputed to this, that these salts, by long keeping, were either weaker, or otherwise altered from what they were at first: for such is the nature of these salts, that it requires the greatest care to preserve them in their pure pristine alkaline state; as of all substances, they are most apt to attract and imbibe the moisture of the air, whereby their alkaline qualities, in which their lithon-thriptic virtue chiefly consists, are not only greatly impaired, but likewise, as the air is known to abound with acid particles, so much altered as to become, in a great measure, salts of an intermediate nature, neither alkaline, nor acid, but neutral as they are termed, such as, for example, is vitriolated tartar.

Being

Being thus somewhat disappointed in my first trial, yet I did not despair, for upon recollecting an observation of the most learned BOERHAAVE, that by these alkaline salts, when mixed with quick-lime, a much more intense alkaline acrimony is obtained than any one of these substances separately are possessed of *, I therefore resolved to make the experiment ; which most effectually answered my purpose, for in a solution of these salts, combined with quick-lime, I found the resemblance so exact, that those of the nicest taste and smell could not distinguish the doctor's broth from mine. I have therefore the greatest reason to conclude that this medicine is a solution of alkaline fixed salts joined with quick-lime,

* “ Sal hic, ex calcis virtute ignea vere attracta in alcali fixam, igneam, acquisivit virtutem rodendi acutissimam, promptissimamque, quæ neque fuerat in alcali solo, neque in calce viva sincerâ.”

BOERHAAV. Element. Chemiæ edit. Lugd. Bat. 1732, Tom. 2. pag. 61.

lime, and therefore in reality no other than soap-lye.

I do not wish however to rest my opinion on this single proof, it being so easy for the doctor to elude its force, by giving, as he formely has done, what tastes he pleases to the broth; I shall therefore corroborate it by such other evidences as I presume will establish it beyond the danger of confusion.

There is one property peculiar and essential to alkaline salts and substances which no art can disguise, this is their changing the fine blue colour of fyrup of violets to a green, as acids change it to a red; and these effects are so constant, that thereby a certain rule is established, by which we can judge whether any composition is of an alkaline or acid nature.

Knowing

Knowing therefore that if Doctor CHITTICK's broth was medicated with an alkaline substance, it would make syrup of violets green ; I made the experiment, and it immediately shewed the alkaline property : I repeated it with my broth, and an exact similiarity of colour was the issue.

I proceeded next to try if the efficacy of my broth, as a menstruum to dissolve the stone was likewise similar to that of the doctor's. I therefore took two equal fragments of the same calculus, and put one of them into a small quantity of my broth, and the other into an equal quantity of his, and placed them both in an equal degree of heat, the consequence was, that both were very quickly dissolved, and both in the same space of time.

Having by these experiments evidently demonstrated, not only that my
broth

broth is fimilar to the doctor's in every fenfible quantity, but likewise that its efficacy is equal as a menftruum for diffolving a calculus immerfed in it, and as this exact refemblance was effected by medicating it with soap-lye, the inference then will confequently be, that the doctor's broth is medicated with the fame, it being extremely improbable that different fubftances fhould in fo many refpects produce like effects.

Upon thefe combined evidences do I reft my proof ; referving for the fucceeding pages my remarks on the regimen which the doctor informs his patients to obferve, and the confideration of his pretences that his medicine is a new difcovery, and more efficacious than any other hitherto known.

However, as the doctor puts more or lefs of his medicine into the broth,

I am aware that I may be asked a question, which at first will seem important. How is therefore the precise quantity he at all times uses to be ascertained? This knowledge is not at all necessary, as in administering such an acrid substance the quantities ought to be regulated by the sensation it gives, and the effects it produces. If the sensation which it gives is very troublesome and painful, the dose must be less, but if otherwise, more, as some degree of painful irritation is necessary to effect the solution of such hard substances. However to avoid any occasion of cavilling upon this account, I shall propose the following methods by which the exact quantity may be easily obtained.

I observed before, that the blue colour of syrup of violets is changed by alkalies to green, and by acids to red ;
and

and we can change these different colours from one to the other, by the addition of acids if green, and alkalies if red, as often as we please. Take therefore two equal quantities of alkalinized broth, made green with syrup of violets, the quantity of the alkaly in one known, in the other not; put into that already known, a sufficient quantity of strong spirit of vitriol, drop by drop, shaking them, every time you add the acid, well together, till the colour is changed to red; and in like manner do so to the other, till it is likewise changed to a similar red colour; so that thus the difference of the quantity of the acid for producing these effects in both, will be a certain index of the different quantity of the alkaly contained in each, and thus the problem is at once solved.

And

And besides, by observing the intenseness and remissness of the effervescence and heat, the constant concomitants of the transmutation of these different colours from one to the other, not only the quantity, but likewise their different degrees of strength, may be in a great measure estimated.

Another method still remains of ascertaining not only the quantity, but likewise the quality of the alkaly contained in the broth, which is by evaporating it in a glass or glazed earthen vessel to dryness. The residuum will very exactly shew what is wanted to be known; however the trouble of frequently repeating this tedious operation may for the reason above assigned be very well spared.

Having thus far succeeded in my attempts to investigate this nostrum, and
evidently

evidently proved it to be a solution of alkaline fixed salts combined with quicklime, or soap-lye; I shall proceed to enquire how far the internal use of such like salts and substances may be relied on as dissolvents of gravel and stones in the human kidneys and bladder; in what periods of the distemper, circumstances of the patients, and quantities, they may be properly and safely administered for these purposes.

The antients were unanimously of opinion, that calculous matter, either in the kidneys or bladder, when concreted, and consolidated into stony-like substances, too large to pass through the common and ordinary outlets, is absolutely, while it remains in these parts, indissoluble, and therefore, that *nulli medicinæ locus**, all efforts to do it were

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not

* See LUDOVICUS DURETUS, his most excellent commentary upon the 472d observation
of

not only vain, but frequently productive of very ill consequences.

A remarkable instance of this HIPPOCRATES has given. This history, wherein the diagnostic signs of a stone in the bladder, are not only most accurately described, but likewise the excruciating symptoms and fatal event of having, in that case, given a medicine potently diuretic, are shewn, is related in his Epidemics*.

They

of HIPPOCRATES's *Coacæ Prænotiones*, from which I have transcribed the following extract.

“ Temeraria est omnis medicina, pestifera,
“ et sæpe mortifera, quæ frangendo vesicæ cal-
“ culo adhibetur, cui profuerit vidi adhuc ne-
“ minem, permultos quibus exitio illa fuit.”

Comment. in Hip. Coac. Prænot. Cap. 22.
De Morb. Vesic. Sect. 5.

* “ Larissæ Theophorbi puer calculosam ha-
“ bebat vesicam, glutinosum quidpiam permei-
“ ebat, idque difficulter cum sævo dolore tum
“ initio tum faciens finem meiendi. Præpu-
“ tium manibus confricabat. Hic cum bibisset
“ acerrimum diureticum, nihil in vesicam seces-
“ sit,

They therefore thinking that in these circumstances there is only one method in giving relief, recommended extraction, though a dangerous, and too often fatal operation: “ *anceps remedium melius quam nullum* ;” and, indeed, innumerable have been the instances of its most surprising success: they, however, confined that operation to the bladder only, where, for the most part, these larger concretions are to be found.

Yet, notwithstanding this, we know, that for some centuries past, nephrotomy has been recommended, in consequence,

“ fit, nihil e vesica excessit: vomuit autem
 “ multum puriformem et bilem. At tum hujus-
 “ modi altera trans mittebat infra per alvum.
 “ Venter dolebat admodum, et intus incendio
 “ conflagrabat: reliquum vero corpus frigidius
 “ erat glacie. Omnibus membris captus est,
 “ nec voluit quicquam assumere. Huic magna
 “ erat ipsius alvi exulceratio a forti nimium me-
 “ dicamento vel pharmaco. Periit a potione
 “ tertium agens diem.”

Hippocrat. Lib. 5. Epidem. Interprete Lud.
 Dureto, loco citato.

sequence, no doubt, of a precept of HIPPOCRATES, who after enumerating various methods of giving relief for tophaceous concretions in the kidneys, directs an incision, in order to discharge the matter contained in an abscess formed from too great a quantity of sand or gravel confined in them, the existence of such abscess being first evidently ascertained by an external tumor*.

This operation has not only been recommended, but actually performed in two instances with remarkable success. Once at Paris, in the reign of CHARLES the Eighth, at which time the practice of surgery was but in its infancy in France,

* “ Ubi vero intumuerit et extuberarit, sub
 “ hoc tempus juxta renem secato, et extracto
 “ pure arenam medicamentis urinam cientibus
 “ curato. Si enim sectus fuerit evadendi spes
 “ est, alioqui morbus hominem ad mortem us-
 “ que comitatur.”

Hippocrates opera Foessio interprete,
 Edit. Genev. 1657. pag. 539.

France, upon a condemned malefactor, with such success, that he lived many years after the operation, in a perfect state of health.

This happened hundred years before ROUSETTUS wrote upon this subject, who, with great energy, endeavoured to enforce this practice. This case, taken from a French historian, is related in the History of Physic, by Dr. FRIEND, who himself, though he acknowledged it to be a very dangerous and uncertain operation, seems to further it. The other more recent operation was performed at Padua, by DOMINICO MARCHETTE, upon Mr. HOBSON, the English consul at Venice, and is recorded in the Philosophical Transactions, No. 223.

Yet, at last, we find, that for a considerable time past, attempts have been made to dissolve calculous substances ;
and

and for that purpose, alkaline fixed salts have been esteemed the most efficacious.

BASILIIUS VALENTINUS, a famous chemist, of the 15th century, contrived a medicine for the gout and gravel, for the preparation of which, an alkaline fixed salt, made from vine-twigs, cut in the beginning of the month of March, was made use of by him, preferably to any other alkaly *.

And SENERTUS makes mention of a lithonthriptic medicine in great esteem, and much used by people of distinction in his time, consisting of one ounce of salt of tartar, dissolved in a pint of parsley-water, and afterwards tinged yellow with orange-peel †.

And

* BOERHAAVE, Element. Chem. Tom. 2. pag. 53.

† DANIEL SENERTUS, Praxis Medica, Cap. De Calculo Vesicæ.

And RIVERIUS, from SENERTUS, likewise takes notice of this medicine *.

These notices, however, were but little regarded, and the antient opinion universally prevailed, till lately the Parliament of Great Britain ordered a premium of 5000 *l.* to be given to Mrs. JOHANNA STEPHENS, for discovering and publishing her lithonthriptic medicines, a favourable report of their efficacy having been given by the gentlemen appointed trustees and employed to make that enquiry.

The directions for preparing and administering these medicines are inserted in the Gentleman's Magazine, for June 1739. vol. ix. pag. 298, but as a complete collection of these papers is very scarce, I shall here transcribe these processes.

C 4

“ *A full*

* LAZARUS RIVERIUS, Praxis Medica, Cap. De Calculo Vesicæ.

*“ A full discovery of the medicines given
“ by me JOHANNA STEPHENS, for
“ the cure of the stone and gravel;
“ and a particular account of my me-
“ thod of preparing and giving the
“ same.*

*“ MY medicines are a powder, a
“ decoction, and pills.*

*“ The powder consists of egg-shells
“ and snails, both calcined.*

*“ The decoction is made by boiling
“ some herbs (together with a ball,
“ which consists of soap, swine’s cresses
“ burnt to a blackness, and honey) in
“ water.*

*“ The pills consist of snails calcined,
“ wild carrot seeds, burdock seeds, ashen
“ keys,*

“ keys, hips and hawes, all burnt to a
 “ blackness, soap and honey.

The Powder is thus prepared.

“ Take hen’s egg-shells, well drain-
 “ ed from the whites, dry and clear ;
 “ crush them small with the hands, and
 “ fill a crucible of the twelfth size
 “ (which contains nearly three pints)
 “ with them lightly, place it on the fire,
 “ and cover it with a tile ; then heap
 “ coals over it, that it may be in the
 “ midst of a very strong clear fire, till
 “ the egg-shells be calcined to a greyish
 “ white, and acquire an acrid salt-taste.
 “ This will take up eight hours at least.
 “ After they are thus calcined, put
 “ them into a dry clean earthen pan,
 “ which must not be above three parts
 “ full, that there may be room for the
 “ swelling of the egg-shells in flacking.
 “ Let this pan stand uncovered in a dry

“ room for two months, and no longer :
 “ in this time the egg-shells will be-
 “ come of a milder taste, and that part
 “ which is sufficiently calcined will fall
 “ into a powder of such a fineness as to
 “ pass through a common hair-sieve,
 “ which is to be done accordingly.

“ In like manner, take garden snails,
 “ with their shells, cleaned from the
 “ dirt, fill a crucible of the same size
 “ with them whole, cover it, and place
 “ it on the fire as before, till the snails
 “ have done smoaking, which will be
 “ in about an hour, taking care that
 “ they do not continue on the fire af-
 “ ter that. They are then to be taken
 “ out of the crucible, and immediately
 “ rubbed in a mortar to a fine powder,
 “ which ought to be of a very dark
 “ grey colour.

Note. If pit-coal be made use of, it
 will be proper, in order that the
 “ fire

“ fire may the sooner burn clear
 “ on the top, that large cinders,
 “ and not fresh coals, be placed
 “ upon the tiles which cover the
 “ crucibles.

“ These powders being thus pre-
 “ pared, take the egg-shell powder of
 “ six crucibles, and the snail powder
 “ of one, mix them together, rub
 “ them in a mortar, and pass them thro’
 “ a cypress sieve. This mixture is im-
 “ mediately to be put into bottles, which
 “ must be close stopped, and kept in a
 “ dry place for use. I have generally
 “ added a small quantity of swine’s-
 “ creffes, burnt to a blackness, and
 “ rubbed fine; but this was only with
 “ a view to disguise it.

“ The egg-shells may be prepared at
 “ any time of the year; but it is best
 “ to do them in summer. The snails

“ ought only to be prepared in May,
 “ June, July, and August; and I esteem
 “ those best which are done in the first
 “ of these months.

The Decoction is thus prepared.

“ Take four ounces and half of the
 “ best alicant soap, beat it in a mortar
 “ with a large spoonful of swines-creffes
 “ burnt to a blackness, and as much
 “ honey as will make the whole of the
 “ consistence of paste. Let this paste
 “ be formed into a ball.

“ Take this ball and green camo-
 “ mile, or camomile flowers, sweet fen-
 “ nel, parsley and burdock leaves, of
 “ each one ounce, (when they are not
 “ green, take the same quantities of
 “ roots) cut the herbs, or roots, slice
 “ the ball, and boil them in two quarts
 “ of water half an hour, then strain it
 “ off, and sweeten it with honey.

The

The Pills are thus prepared.

“ Take equal quantities, by measure,
 “ of snails calcined as before, of wild
 “ carrot seeds, burdock seeds, ashen-
 “ keys, hips and haws, all burnt to a
 “ blackness, or which is the same thing,
 “ till they have done smoaking; mix
 “ them together, rub them in a mor-
 “ tar, and pass them through a cypress
 “ sieve; then take a large spoonful of
 “ this mixture, and four ounces of the
 “ best alicant soap, and beat them in
 “ a mortar with as much honey as
 “ will make the whole of a proper con-
 “ sistence for pills; sixty of which are
 “ to be made out of every ounce of the
 “ composition.

*The method of giving these medicines is
 as follows.*

“ When there is a stone in the blad-
 “ der or kidneys, the powder is to be
 taken

“ taken three times a day, viz. in the
 “ morning after breakfast, in the af-
 “ ternoon about five or six, and at go-
 “ ing to bed. The dose is a dram
 “ averdupoize, or fifty-fix grains, which
 “ is to be mixed in a large tea-cup full
 “ of white wine, cyder, small punch ;
 “ and half a pint of the decoction is to
 “ be drank, either cold or milk warm,
 “ after every dose.

“ These medicines do frequently
 “ cause much pain at first; in which
 “ case it is proper to give an opiate,
 “ and repeat it as often as there is oc-
 “ casion.

“ If the person be costive during the
 “ use of them, let him take as much
 “ lenitive electary, or other laxative
 “ medicine, as may be sufficient to re-
 “ move that complaint, but not more:
 “ for it must be a principal care at all
 times

“ times to prevent a loofeness, which
“ would carry off the medicines ; and if
“ this does happen, it will be proper to
“ increafe the quantity of the powder,
“ which is astringent ; or lessen that of
“ the decoction, which is laxative ; or
“ take some other fuitable means, by
“ the advice of phyficians.

“ During the use of these medicines,
“ the person ought to abstain from salt
“ meats, red wines, and milk ; drink
“ few liquids, and use little exercise,
“ that so the urine may be more strongly
“ impregnated with the medicines, and
“ the longer retained in the bladder.

“ If the stomach will not bear the
“ decoction, a sixth part of the ball
“ made into pills, must be taken after
“ every dose of the powder.

“ Where

“ Where the person is aged, of a
 “ weak constitution, or much reduced
 “ by loss of appetite, or pain, the
 “ powder must have a greater propor-
 “ tion of the calcined snails than ac-
 “ cording to the foregoing direction;
 “ and this proportion may be increased
 “ suitably to the nature of the case, till
 “ there be equal parts of the two in-
 “ gredients. The quantity also of both
 “ powder and decoction may be lessen-
 “ ed for the same reasons. But as soon
 “ as the person can bear it, he should
 “ take them in the above-mentioned
 “ proportions and quantities.

“ Instead of the herbs and roots be-
 “ fore-mentioned, I have sometimes
 “ used others, as mallows, marshmal-
 “ lows, yarrow red and white, dande-
 “ leon, water-creffes, and horse-radish
 “ root, but do not know any material
 “ difference.

“ This

“ This is my manner of giving the
 “ powder and decoction. As to the
 “ pills, their chief use is in fits of the
 “ gravel, attended with pain in the
 “ back and vomitings, and in sup-
 “ pression of urine from a stoppage
 “ in the ureters. In these cases, the
 “ person is to take five pills every hour,
 “ day and night, when awake, till the
 “ complaints be removed. They will
 “ also prevent the formation of gravel
 “ and gravel-stones, in constitutions
 “ subject to breed them, if ten or fif-
 “ teen be taken every day.

May 16, 1739.

Signed

J. STEPHENS.

That these gentlemen had sufficient
 evidences at that time to justify their
 recommendation of those medicines, I do
 not doubt; yet subsequent experience has
 shewn them to be not so well adapted
 to

to the ends proposed as might be wished: they being a medley of soap, ill prepared alkaline substances, and such other ingredients as seem calculated rather to retard than promote their effects; so nauseous and oppressive to the stomach, especially as they are ordered to be given so frequently, and in such large quantities, that it requires the greatest resolution imaginable, to continue such a course for the time necessary. And after all, though they in many instances had confessedly given great relief, yet in many more they had failed; for Dr. JURIN has observed, that several patients, after taking them for several months together, without any benefit, had submitted to be cut rather than to use any longer a medicine so extremely nauseous, which had generally increased their pains without bringing any thing away*.

Although

* Abstract of Dr. JURIN's case, p. 5.

Although these medicines, however in many instances useful, yet have, on account of the defects or inconveniencies before-mentioned, been often found inadequate to the purpose; yet this good has ensued from that publication, that several men, eminent in the practice of physic, and others, became more attentive to notices of this kind; and to their great assiduity in discovering the nature and qualities of stony substances, it is owed, that the solution of hard calculous concretions is, by the use of internal remedies, now found to be practicable, and alkaline fixed salts and substances, properly and cautiously administered, to be the most efficacious dissolvents.

In particular, the late Dr. DAVID HARTLEY, of Bath, tho' a strenuous advocate for Mrs. STEPHENS's medicines, yet conscious of their defects, caused a
paper

paper to be inserted in the Gentleman's Magazine for the month of February, 1746. vol. xvi. p. 77. entitled, *Directions for preparing and administering Mrs. STEPHENS's Medicines for the Stone, in a solid form.* Which, for the reason above assigned, I have likewise here transcribed.

“ 1. Take of alicant or Castile-soap
 “ eight ounces, of powdered quick-
 “ lime one ounce, of salt of tartar a
 “ dram. Shave the soap, mix it with
 “ the lime and salt, and beat all into a
 “ soft mass, by adding thereto as much
 “ water as is necessary for this purpose.

“ 2. The weights here intended are
 “ the apothecaries weights, but the
 “ medicine may be prepared by any
 “ others, care being taken to preserve
 “ the proportion of the ingredients here
 “ directed; that is, to make the lime
 an

“ an eighth part of the soap, and the
“ salt an eighth part of the lime.

“ 3. Quick-lime may be reduced to
“ powder for the purpose of this medi-
“ cine, either by dipping it in water
“ for a few moments, or by exposing
“ it to the air for some days. This
“ powder is to be passed thro’ a fine
“ sieve.

“ 4. The lime which is made from
“ lime-stone is stronger than that made
“ from chalk, the shells of eggs, oy-
“ sters, &c. However, this last is suf-
“ ficiently strong for the general pur-
“ poses of this medicine, when highly
“ calcined and fresh. And, on the
“ contrary, the strongest stone-lime
“ may be made weaker at pleasure, by
“ being exposed to the air, or by re-
“ peated effusions of fresh water.

“ 5. Strong

“ 5. Strong lime is a more powerful
 “ solvent than weak, but then it is
 “ more apt to occasion irritation and
 “ pain in the urinary passages. New
 “ soap appears also to be more irritat-
 “ ing and more powerful than old.

“ 6. The chief use of the salt of
 “ tartar is to preserve the mass soft.
 “ This is necessary, that the stomach
 “ may digest it easily, and the bowels
 “ absorb the efficacious part in its pas-
 “ sage along them. If therefore it
 “ should at any time grow so hard and
 “ dry as to be heavy on the stomach,
 “ or pass thro’ the body undissolved, it
 “ will be proper to beat it over again,
 “ with the addition of a little more
 “ water and salt of tartar. The same
 “ purpose may be obtained by using a
 “ weaker lime, or a less proportion of
 “ a strong one.

“ 7. This

“ 7. This medicine must not be
 “ prepared in a copper or brass mor-
 “ tar, lest it should corrode the metal,
 “ receive a taint from it, and so occa-
 “ sion sickness or vomiting.

“ 8. The method of administering it
 “ is as follows : Make each ounce of
 “ the mass into six rolls of about two
 “ inches in length, and a little taper
 “ at each end ; and let the person who
 “ has the stone in the kidneys, or blad-
 “ der, take from eighteen to twenty-
 “ four of these rolls, that is, from
 “ three to four ounces of the mass,
 “ every day. Less than three ounces
 “ every day ought not to be depended
 “ upon for the solution of the stone,
 “ and I cannot authorize any one from
 “ experience to take more than four.
 “ Three, four, or five rolls may be
 “ taken at once, and at any hour of
 “ the day, according as each person
 “ finds

“ finds his stomach best able to digest
 “ them.

“ 9. If one of these rolls be laid
 “ length-ways on the tongue, and then
 “ a mouth-full of water taken and
 “ swallowed, the roll will slip down
 “ along with the water, so as scarce
 “ to be perceived in its passage.

“ 10. If the patient drinks some
 “ lime-water and milk for his common
 “ drink, during the use of this me-
 “ dicine, the cure will be forwarded
 “ thereby: but then it will probably
 “ subject him to a greater degree of
 “ irritation and pain in the urinary
 “ passages; and therefore is not ad-
 “ viseable in cases where these com-
 “ plaints are already considerable. Lime-
 “ water is made by pouring a gallon
 “ of cold water upon a pound of quick-
 “ lime, stirring it about, and after it
 “ has

“ has stood for two or three hours,
 “ passing it through a filtering paper.

“ II. Where the irritation and pain
 “ are very great, also where the pa-
 “ tient is subject to discharge much
 “ blood with his urine, the medicines
 “ ought to be prepared with a very
 “ mild lime and soap, and even with
 “ a less proportion of lime than ac-
 “ cording to the foregoing directions.
 “ The salt of tartar may also be left
 “ out, as the mass will not now be so
 “ apt to grow dry. But it seems requi-
 “ site to give the medicine in due quan-
 “ tities in such cases, lest the stone
 “ should happen to be of so brittle a
 “ nature as to fall into fragments, with
 “ sharp edges and corners, from a small
 “ quantity ; at the same time that thro’
 “ want of due quantities, the urine is not
 “ powerful enough to make these edges
 “ and corners grow rotten, and fall off
 D “ from

“ from the fragments ; but on the con-
 “ trary, should suffer these fragments
 “ to continue rough and hard, and
 “ thereby to occasion great irritation,
 “ pain and danger. For the same rea-
 “ son the medicines ought not to be
 “ intermitted, whilst rotten fragments
 “ are voided.

“ 12. Where a person cannot swal-
 “ low the rolls, nor take a sufficient
 “ quantity of the above-mentioned me-
 “ dicines in any other form, the fol-
 “ lowing may be directed in its stead,
 “ viz. Mix equal parts of powdered
 “ quick-lime and salt of tartar together,
 “ and let the patient take a quarter of an
 “ ounce of this mixed powder, in half
 “ a pint of milk, three or four times
 “ a day.

“ This medicine seems to be of
 “ about equal efficacy with that be-
 “ fore-

“ fore-mentioned, but more apt to in-
 “ crease the pain and irritation. It
 “ cannot be taken in due quantity, in
 “ any other vehicle besides milk, as far
 “ as I have been able to discover ; and
 “ when not taken in due quantity, it
 “ appears to me to expose the patient
 “ to the hazards mentioned in the last
 “ article, in a greater degree than the
 “ foregoing medicine. This powder
 “ ought to be mixed with the milk
 “ only a few moments before it is
 “ taken ; otherwise it will acquire a
 “ great increase of acrimony. Pot-ash,
 “ purified by solution, filtration, and
 “ evaporation, or fixed alkaline salt of
 “ any kind, may be used instead of
 “ salt of tartar, both in this and the
 “ foregoing medicine.

“ 13. A sixth or eighth part of ei-
 “ ther of these medicines, taken every
 “ day, seems sufficient to prevent the

“ formation of gravel and gravel-stones.
 “ Half an ounce of mere soap, or a
 “ pint of strong lime-water, taken
 “ every day, may also in general be
 “ sufficient for the same purpose; nei-
 “ ther is there any reason to apprehend
 “ that any of these methods will be
 “ hurtful to the health, tho’ continued
 “ for many years. On the contrary,
 “ soap, lime, and lime-water, appear
 “ to be very salutary to most persons in
 “ the decline of life, and to be excel-
 “ lent remedies in the gout, in jaun-
 “ dices, and in all such disorders of the
 “ first passages, as arise from, or are
 “ attended by, acidities there. Soap
 “ alone, in the quantity of half an ounce
 “ or an ounce a day, is very useful in
 “ habitual costiveness, and in obstruc-
 “ tions of the catamenia, or tenden-
 “ cies thereto, especially if there be
 “ previous pains; as is strong lime-
 “ water, mixed with an equal quan-
 “ tity

" tity of milk, and used for common
 " drink in habitual loosenesses. I am
 " also inclined to believe, that a diet,
 " consisting of bread, milk, and lime-
 " water, alone, if rigidly adhered to,
 " and persisted in for a sufficient time,
 " would be of the greatest service in
 " many scorbutic and scrophulous cases."

Nov. 2, 1745.

D. HARTLEY.

Whatever new degree of efficacy
 these medicines, thus altered and cor-
 rected, might appear to the doctor to
 have obtained, yet that they are not
 thereby exempted from many defects
 and inconveniencies, the following re-
 marks will sufficiently prove.

I. Tho' by the doctor's prescription
 the superfluous and useless ingredients
 in Mrs. STEPHENS's medicines are en-

tirely rescinded, yet those substituted in their stead, are not without their imperfections, being very little else than Castile soap, and even that vitiated by one eighth part of an absorbent earth, such as quick-lime partly becomes when slacked as is directed; it is therefore not likely to dissolve calculous concretions, or promote the good effects of the soap, which being in the largest quantity, must be supposed to have been esteemed by him, the most important part of this composition.

2. It is true that salt of tartar is ordered to be added, but so little, being only but about a fixty-fifth part of the whole mass, and with a view only to preserve it soft, that little good can be expected from it; whereas this salt being, as will afterwards appear, the most efficacious ingredient, ought to have been prescribed in the largest quantity.

From

From this particular alone, it plainly appears to me, that he was not at that time thoroughly acquainted with his subject, and therefore the inconsistencies in his subsequent directions are easily accounted for.

3. The quantity of this mass ordered to be taken, being from at least three to four ounces every day, is so great, that the objection made to Mrs. STEPHENS's medicines upon this account, recurs. This, even he himself seemed sensible of; for to a person who cannot swallow the rolls, nor take a sufficient quantity of the medicine in any other form, his directions are, that the following mixture may be used in its stead. Mix equal parts of powdered quicklime and salt of tartar together, and let the patient take a quarter of an ounce of this mixed powder in half a

D 4

pint

pint of milk, three or four times a day.

4. As an equal quantity of salt of tartar, or any other pure fixed alkaline salts, and quick-lime is the exact proportion of these substances, without any farther addition, for making the lapis septicus or potential caustic *, a small round piece of which, not exceeding the size of a silver penny, when applied and confined properly to the skin, for some hours, will produce a very deep eschar; the alternative proposed is not a little surprizing; for tho' by being mixed in such a quantity of milk, its acrid particles may be so far separated and so weakened by that separation, as not to be immediately productive of such effects, yet what ill consequences may not be dreaded from three quarters
to

* Pharmacop. Edinburgensis, edita 1756.

to an ounce of this being taken every day, for any length of time ?

5. As he has estimated that quantity of this powder to be only of about equal efficacy with the medicine before-mentioned, and yet at the same time acknowledged it to be more apt to increase pain and irritation, and even so acrid that it cannot be taken in due quantity in any other vehicle besides milk, as far as he has been able to discover ; and that even thus diluted it ought to be drunk a few moments after it is mixed, otherwise it will acquire a great increase of acrimony. Now, as he immediately before cautions against the use of such medicines as irritate greatly and give much pain, and in order to avoid such inconveniencies, orders his former medicines to be prepared with a very mild lime and soap, and even with a less proportion of lime,

and the salt of tartar to be left out, what can we think? surely that in this respect he seems to be inconsistent with himself, and that therefore his directions cannot be trusted.

These animadversions may perhaps be looked upon by some as too severe; but as I have frequently heard of, and in a few instances seen, bad effects from such-like acrid substances given in too large quantities, I think that I cannot sufficiently enough recommend the practice of proceeding leisurely, beginning at first with a small quantity, and by a constant attention, either augmenting or diminishing it as circumstances and consequences indicate; for, what cannot immediately be done by force, yet in time may be effected by easier methods. *

“ The

* *Quid magis est saxo durum? Quid mollius unda?*

Dura tamen molli saxa cavantur aqua.

OVID.

“ The late learned Dr. JURIN, who
 “ for many years was greatly affected
 “ with the gravel, being at last con-
 “ vinced that he had a stone in his
 “ bladder, too large to be got rid of by or-
 “ dinary means, began seriously to con-
 “ sider what course he should take to
 “ avoid being cut ; the result was, that
 “ he turned his thoughts to the lixi-
 “ vium or lye that soap is made of,
 “ being inclined to think that the virtue
 “ of the soap resided principally in the
 “ lye ; and that its efficacy for dissol-
 “ ving the stone was rendered less by
 “ the addition of such a quantity of
 “ oil or fat as was necessary to make it
 “ into soap * ; and not only so, but
 “ the medicines rendered thereby more
 “ nauseous and bulky. He was con-
 “ firmed in this opinion from a careful
 “ perusal

* The quantity of oil in Spanish soap is com-
 puted to be above two third parts of that com-
 position. See Dr. ALSTON's Dissertation on
 Quick-lime and Lime-water. Edit. 2. p. 26.

“ perusal of the experiments made by
 “ his ingenious and learned friend the
 “ latereverend Dr. HALEs, to whom the
 “ world is so much indebted upon this,
 “ and many other accounts; and the
 “ more so from the following experi-
 “ ment which came nearer to his own
 “ case. He mixed a tea-spoonful of the
 “ lixivium with about two ounces of
 “ river water, and by a cold infusion
 “ in this mixture a rugged red stone,
 “ of the size of a small pea, he had
 “ formerly voided, was dissolved in two
 “ days.

“ Being thus apprized of the supe-
 “ rior lithonthriptic quality of soap-lye,
 “ and knowing that it had been taken
 “ by several persons without inconve-
 “ nience, he determined to make use
 “ of it, and the event answered his ex-
 “ pectation; for by a constant perse-
 “ verance in taking it every day for
 “ abov

“ above six months, he, by the blef-
 “ sing of God, found himself perfectly
 “ cured.

“ The lixivium or lye that he used
 “ at first, is what is commonly called
 “ the capital soap-lees, but afterwards
 “ the lixivium of the first running,
 “ which is much stronger. Yet, even
 “ that was found to vary sometimes
 “ very considerably with regard to
 “ strength, and tho’ he himself could
 “ pretty nearly judge of the strength
 “ of every fresh parcel, and increase
 “ or lessen the dose he took accord-
 “ ingly; yet this could not be done
 “ by his patients, especially by those
 “ he seldom or never saw after he had
 “ once settled them in a proper course
 “ of taking this medicine: and besides,
 “ the soap-lye was often attended with
 “ a smell and taste so exceedingly of-
 “ fensive, that many persons could not
 “ keep

“ keep it upon their stomachs, and
 “ were obliged to discontinue it upon
 “ that account.

“ These considerations put him upon
 “ thinking whether a medicine might
 “ not be contrived of the same ingre-
 “ dients, and consequently of the same
 “ virtue, yet without the above-men-
 “ tioned inconveniencies ; which after
 “ several trials he happily effected by
 “ the assistance of his friend Mr. LIT-
 “ TLEBURY, apothecary ; and since that
 “ time this was what he used for himself
 “ and patients instead of the common
 “ soap-lye.”

This particular preparation, however,
 he did not think proper to communicate
 to the publick, and only directed that
 it may be had in any quantity of Mess.
 LITTLEBURY and LANGLEY, apothecaries,

carries, opposite to Austin-Fryars, Old Broad-street, London.

I have often heard this concealment censured as a lucrative artifice below the dignity of his character, but as these persons were assisting to him in preparing it, he therefore, as a recompence for their trouble, I think, could not well do otherwise, and consequently was in this respect excusable; and the more so, because very probably by his directions, it is sold so cheap, one shilling and six-pence being the price demanded for an half pint bottle, which will keep its virtue at any distance, that people not rich may be supplied on easy terms, and the indigent succoured by benevolent persons without any great expence. Thus, the objection made to Dr. CHITTICK's manner of concealing and administering his medicine is intirely obviated.

Yet

Yet as those who are at a very great distance, may wish to know this medicine in order to have it always ready in case of exigency, that I may satisfy them, as far as I am able, I shall subjoin my conjectures about it.

The doctor's objection to the common soap-lye, is not its want of efficacy, but its disagreeable smell, and taste, and that it cannot at all times be had of the same degree of strength; I therefore suppose that his lixivium is the solution of a precise quantity, by weight, of depurated rhenish wine tartar, and oyster or cockle-shells, both recently and well calcin'd, the tartar till it acquires a pale blue colour, the shells till they are perfectly and thoroughly white, in constantly the same proportionate quantity, by measure, of pure light water.

A lixivium, thus prepared, must if well kept from the air, be always of equal strength, and may be more immediately taken than soap-lye, for salt of tartar is more pure than any other of the alkaline salts, which soap-boilers, for the most part, make use of; and I much doubt whether the calcination of their quick-lime is so well attended to as it ought to be. Dr. WHYTT observes, that in the calcination of cockle and oyster-shells, if any part of them are bluish and not properly calcined, the water poured on them will get a very disagreeable sulphurous taste. * The disagreeable and nauseous smell and taste so common to their soap-lye, may therefore be attributed to an imperfect calcination, and I think by the preparation here directed

* Dr. WHYTT's Essay on the Virtues of Lime-Water and Soap in the Cure of the Stone. Edit. 3. p. 31, 32.

ed will in a great measure be prevented.

To ascertain the exact proportions of these different ingredients, which the doctor made use of in making his soap-lye, is the difficulty ; however I think they may be pretty nearly guessed at by the following methods.

The doctor's medicine is a pale-coloured transparent lixivium, and a white calcareous sediment. First, therefore, exactly weigh any quantity of it, for example a pint, then separate the clear liquor by filtration, and thoroughly dry and weigh the sediment : thus the quantity of quick-lime contained in this composition will be nearly ascertained : after this evaporate the clear liquor obtained by filtration to dryness, and weigh the residuum ; which will, in like manner, indicate the proportion

portion of the alkaline salt; then subtract the weight of these two last ingredients from the first quantity, and the remainder will be the proportion of water in which they were mixed.

If, after all, these calculations should be found deficient, I can only say that a due attention ought to be had to the strength or alkaline acrimony of this medicine, and indeed of any other of that kind, for to this their lithronthriptic virtue is chiefly owed; by the knowledge of this therefore must be regulated the due administration of such-like substances, and how to obtain this knowledge I have already shewn.

“ The quantity of the lixivium the
 “ doctor began with was very small,
 “ being only twenty drops twice a day,
 “ but by a gradual increase he was
 “ enabled to take from an ounce to
 “ an

“ an ounce and a half in that space
 “ of time. To those, therefore, who
 “ wanted to get rid of a stone of any
 “ considerable bigness, or a large quan-
 “ tity of gravel, he generally prescrib-
 “ ed an ounce, or thereabout, to be
 “ taken every day in three or four doses;
 “ beginning with a drachm weight in
 “ a dose three times a day, and in-
 “ creasing it by degrees; but after-
 “ wards he thought that about a third
 “ of an ounce in every four and twenty
 “ hours would be sufficient to keep
 “ them clear of gravel.”

The regimen he observed was only to
 abstain from every thing that could be
 suspected of lessening the efficacy of his
 medicine; which being highly alkaline,
 he forbore all vinegar, fruit, and the au-
 stere wines.

The reason why he did not sepa-
 rate the clear part of his lixivium from
 the

the sediment, was probably a supposition that it might thereby be preserved longer in the first alkaline state; for the quick-lime, by its active particles being dissolved, will become partly an absorbent earth, and therefore to contribute to absorb and render ineffectual the acid particles of the air, which, as I observed before, either weakened or otherwise altered alkaline salts and substances; or perhaps by taking it himself thick and turbid, and ordering others so to do, he intended that any acids which might too much abound in the first passages, should by the earthy parts of the quick-lime be absorbed and obtunded, and consequently the action of the alkaline salts and substances be less impeded.

“ He confidently recommended this
 “ medicine in gravelly cases, it not
 “ having failed in any one case, that
 “ he knew of; but in case of a stone
 “ in

“ in the bladder, he acknowledged that
 “ the success was by no means equally
 “ certain ; but he believed this at least
 “ may be depended on, that while a
 “ patient takes this lixivium in due
 “ quantity, the stone will never grow
 “ bigger, and no new ones will be ge-
 “ nerated.

“ And so positive was he of the ser-
 “ vice it would be to mankind, that he
 “ desired to be remembered, after death,
 “ for nothing more than the share he
 “ had in introducing the practice of in-
 “ oculation and this lixivium.”

Altho' the doctor was not the first
 who made use of the soap-lye for the
 gravel and stone, yet as he was, for
 ought that appears to the contrary, the
 author of the practice of giving it in
 such large quantities, the merit of this
 improvement justly belongs to him,
 and

and therefore his name ought to be had in grateful remembrance.

As to what farther relates to this subject, the regimen that he observed while he was taking the lye, the observations that he made from time to time on its effects upon himself, and the inferences deduced from them, I refer to “ The Abstract of his own
 “ case, written by himself, as far as
 “ relates to the taking of this lixivium
 “ for the stone and gravel, and printed
 “ only for the better instruction and
 “ direction of those who take that medicine,” from which, what I have thus related, is transcribed.

The ingenious and learned Dr. WHYTT, professor of medicine in the university of Edinburgh, in his Essay on the Virtues of Lime-Water and Soap in the Cure of the Stone, declares it to
 be

be his opinion, that the lithontriptic virtue of soap is chiefly in the quick-lime, which, together with alkaline fixed salts and oil, constitutes the whole of that composition.

He it seems was first led into this persuasion after reading the ingenious experiments published by Dr. HALE, in the year 1741, upon Mrs. STEPHENS's medicines; as it there appears that the soap owes its virtue neither to pot-ash nor oil, but wholly to quick-lime, and as that bears so small a proportion to the other ingredients, he thought it reasonable to expect greater benefit from large quantities of lime-water assisted by soap.

He was afterwards confirmed in this opinion by the speedy and good effects of lime-water in the case of Mr. DAVID MILLAR, who after he had
taken

taken soap five months without any sensible relief, upon drinking, by his advice, large quantities of lime-water along with it, in a few days was freed from many of the troublesome, painful, and dangerous complaints, he before laboured under; and by persisting in this course four months longer, after voiding two pretty large fragments of a stone, he continued from the beginning of the year 1742 (when the doctor's Essay was first written) to June 1751, (when he died) perfectly free from all symptoms of the stone without taking medicines of any kind.

The doctor consequently thinks, that there can be no doubt but that the stone which gave him so much uneasiness was wholly brought away by drinking daily for that space of time three pints of lime-water along with an ounce and half of soap.

E

This

This was, indeed, a very striking case and most certainly justified the inference he at that time deduced from it. But this is the only instance he has given of such sudden relief and perfect deliverance obtained from lime-water assisted by soap, whereas subsequent experience has sufficiently evinced the more salutary power of soap-lye, as in many instances it has given very quick relief, not only unassisted by lime-water and soap, but even after they have been taken in large quantities for a long time without effect. A few cases of this kind have occurred to me, and many more are so well known and attested by others, that it is needless to exemplify them, at least at present.

I am therefore by irresistible conviction obliged to differ from the doctor in this point ; and indeed he has himself contributed much towards this dissent. For among the numerous experiments
he

he has made and communicated to prove the superior efficacy of lime-water, both to soap, and to alkaline fixed salts, as a dissolvent of hard calculus concretions immersed to it, there are several which plainly demonstrate the superior power of soap-lye *.

As he ascribes the dissolving quality of such substances, when given inwardly, to their superior efficacy as menstrua; therefore, soap-lye, from even his own supposition, is more to be relied on as a medicine.

And if at the same time the following experiments are added; the evident prevalence of soap-lye as a dissolving menstruum, will still be farther confirmed.

E 2

Let

* See his Experiments, edit. 3. p. 92, 93, 94, 95, and 96.

Let it be recollected, that, by Dr. JURIN's experiment such a small quantity of soap-lye as a tea-spoonful mixed in two table-spoonfuls of river-water, was found to dissolve a rugged red stone of the size of a small pea, without the assistance of heat, in the space of two days. My own observations are the following.

1. I put a fragment of a hard compact calculus, weighing eight grains, into an ounce of recently and well calcined salt of tartar, and afterwards poured three ounces of boiling rain-water upon them, and allowed them to infuse in a moderate heat before the fire, in a four-ounce gally-pot covered with paper; after they had thus remained twenty-four hours, on examining, I found not the least sign of any solution.

2. I re-

2. I repeated this experiment with a fragment of the same calculus, weighing ten grains, and one ounce of recently and well calcined oyshell quick-lime, and after twenty-four hours infusion found no solution, only it became a little slippery to the touch, and the brownish colour of the calculus was changed somewhat whiter,

3. I put in the same manner a fragment of the same calculus, weighing nine grains, into salt of tartar and quick-lime, of each half an ounce, with the same quantity of water; and in ten hours infusion found it totally dissolved.

4. I repeated the experiment with a fragment of the same calculus, weighing fourteen grains, in six drachms

of quick-lime, and three drachms of salt of tartar; and after an infusion of twenty-four hours, I found it so far dissolved, that only about half a grain remained.

5. A fragment of the same calculus, weighing fourteen grains, in six drachms of salt of tartar, and three drachms of quick-lime, after an infusion of twelve hours, was found totally dissolved.

6. I made an experiment by immersing a fragment of the same calculus, weighing five grains, in four ounces of boiling lime-water; and after an infusion of twenty-four hours, found that it lost none of its weight, but only became of a lighter colour.

This

This lime-water was prepared by pouring a pint of boiling rain-water upon four ounces of oyster-shell quick-lime.

7. I put a fragment of the same calculus, weighing ten grains, into six ounces of a cold solution of Russian pot-ash, obtained by letting it run in a moist air, and after three days infusion, found not the least solution, nor even its colour changed.

From these experiments it is apparent, that such a sudden solution of calculus concretions is only obtained by the combination of alkaline fixed salts and quick-lime, that separately they are very far from having such a speedy effect, and that consequently soap-lye is the preferable menstruum.

The doctor's experiments, it is true, have proved a very considerable dissolving quality in lime-water, and shewn that calcined oyfter or cockle-shells afford a better lime for that purpose than lime-stone : this, however, I think proceeds not from any inherent quality in the shells themselves, but from their texture, being not so compact and firm as that of stone, and consequently not only more easy to be thoroughly calcined, but likewise more ready, and apt, to receive, and retain, a greater quantity of igneous particles, to which alone, in my opinion, their dissolving qualities are to be ascribed.

Lixivial fixed salts and quick-lime are in many respects similar alkaline substances, being both the offspring of fire ; but it is very remarkable, that by mixing them together, a much more intense degree of alkaline acrimony,

as

as has been already mentioned, is produced, than either of them is separately possessed of. To this increased acrimony, as the doctor himself by the above-mentioned experiments has proved, it must be ascribed, that a more speedy solution of calculus substances is effected: and as by these experiments he has evidently demonstrated, that soap-lye is endued with a dissolving quality much superior either to lime-water or soap, I am greatly surprized that he should totally exclude alkaline fixed salts, since an equal quantity of them and quick-lime dissolved in water constitute soap-lye *, from having any share in the dissolving virtue of soap; and the more, as even he himself, by one of his experiments has conceded some degree at least, of a lithontriptic quality even to a weak solution of pot-ash

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* London Dispensatory.

in water. And when it is considered, that by his own confession, the quantity of these salts does greatly exceed that of quick-lime in the composition of soap, even so far, that it is doubted whether there is any lime at all, or at least but the smallest quantity in Alicante soap, which alone is ordered for internal use *; and that I have proved by experiment 5. a more speedy solution of calculus substances to be obtained by their immersion, in a mixture which the alkaline fixed salts exceed the quick-lime by one third, this exclusion seems the more extraordinary.

A lady of great distinction, told me, that she was informed by a lady in Ireland, of high rank, and her acquaintance, that the Rev. Mr. WELSH, a country clergyman in that kingdom, had

* Dr. ALSTON's Dissertation on Quick-lime, p. 19.

had often practised, with great success, upon the gravel and stone, by giving in a pint of veal-broth twice a day, two hours before breakfast, and when going to bed, a tea-spoonful and a half of a strong lixivium or lye, made only with Russia or Flanders ashes, if to be got, if not, with the ashes of sea-wreck or weed, by putting them into a sufficient quantity of boiling water; and after they had boiled some time, letting them remain in the vessel till the ashes subside, and after that pouring off the clear lye for use, which he says, ought to be as strong as possible. If the complaint is bad, he directs that the same quantity of the lye should be taken, in like manner, before dinner; and that the patients, while taking this medicine, should sup upon broth, and at dinner drink only rum and water very weak, and avoid every sort of food which has an acid or salt in it.

From

From this observation, I think it reasonable to conclude, that the lithon-thriptic virtue of alkaline fixed salts, even without the assistance of quick-lime, is apparent, and consequently their exclusion less defensible.

As to oil, the third and by much the largest ingredient in the composition of soap, it is so far from having any share in its lithonthriptic properties, that on the contrary I think it rather tends to hinder the other two, which, if the expression be allowable, may be looked upon as a solid soap-lye, from exerting their active powers for this purpose, by becoming in some degree, a cement to connect the calcareous particles of our food, which by subsiding, constitute the most considerable share in such concretions as are found in the secretory and excretory organs of the urinous evacuation.

That

That this is the case will evidently appear by the easy experiment of calcining a bone till it is reduced to an inert unactive earth; which if not disturbed will, nevertheless, retain its former shape; an indication surely, that the quantity of earth is much greater than of all the other substances which constitute the fabrick of the bones. The bone thus robbed of its agglutinating principles, will become so friable as to crumble into dust and ashes upon a gentle touch; but afterwards, by the affusion of a sufficient quantity of oil, such a degree of tenacity may be restored to it, as will allow it to be taken up and handled freely without breaking.

That oil contributes much to the stability of the bones by preventing them from growing too brittle, the learned and accurate anatomist, doctor ALEX-
ANDER

ANDER MONRO, when he enumerates the uses of the marrow, has evidently shewn *.

As soap-lye is not incumbered with oil to retard its operation, I think that alone sufficient not only to establish it as a more powerful dissolving menstruum, but likewise to recommend it as a more efficacious medicine; and indeed, on the same account it may with propriety be esteemed a lithontriptic solutis principiis, a phrase made use of by the learned Dr. HUXHAM, when preferring the antimonial wine to all the other preparations of antimony †.

But this is not the only advantage possessed by soap-lye in preference to soap, and indeed to any of the alkaline

* Anatomy of the Bones. Edit. iv. p. 20 and 21.

† Observations upon the Antimony. p. 67.

line tribe hitherto known. For the reason above assigned, a much less quantity will be sufficient, which, therefore, may be diluted with a proper quantity of any bland vehicle to prevent the painful irritation in swallowing it; and thus the nauseous and disagreeable taste so common to such substances, will be less perceptible; whereas soap, either in a liquid or solid form, must be taken in such large quantities before any benefit can be expected from it, as will in time, even to the most resolute, prove very disgusting, if not otherwise noxious; for oil, by such long boiling as is necessary to make it coalesce with the other ingredients, and be converted into soap, must become very rancid and acrid, and therefore on many accounts extremely hurtful.

For a farther illustration of the ill consequences, which may ensue from the

the existence of too great a quantity of rancid oil in the constitution from whatsoever cause it happens, I again refer to what Dr. MONRO has said upon this subject, in the place before cited.

Having thus sufficiently proved that soap-lye, whether considered as a menstruum, or medicine, has a power of dissolution superior to that of lime-water and soap, either conjunctively, or separately ; when at the same time I consider, that many persons who had taken large quantities of soap and lime-water, not only for months but years without benefit, yet afterwards upon taking soap-lye, were quickly relieved from several troublesome complaints, of which some instances will be taken notice of in the sequel of this disquisition ; and that though much stress is laid upon lime-water, yet it must be remembered, that Mr. MILLAR, from
May

May to the latter end of September, took above seven pounds weight of soap before he began to take lime-water with it, and continued to take one ounce and a half of soap daily afterwards ; I think it reasonable to conclude, that the soap was preparative and very conducive to the subsequent good effects observed in this gentleman's case, and this conclusion is confirmed even by the doctor himself, who gives one remarkable instance of a stone in the bladder compleatly dissolved by soap alone, in the case of the Rev. Mr. MATTHEW SIMSON *.

In the last case recited by doctor WHYTT, soap was found so necessary, that the painful symptoms returned when the soap was omitted, tho' the lime-water was continued ; and the doctor was obliged

* Essay, p. 190.

obliged to confess, that some stones yielded to soap which could not be diminished by lime-water. But as none of my experiments have furnished any example of a stone which soap-lees did not speedily dissolve ; from these considerations, I cannot avoid giving the preference to soap-lye, not only as a more powerful, but likewise as a more pleasant, and if prudently managed, a safe lithontriptic.

As this learned gentleman, however, from a principle, undoubtedly, of universal benevolence, has taken great pains to give instructions and directions to those who are obliged to take such-like substances, and to shew what regimen they ought to observe as various incidents occur, and particular circumstances require, he certainly deserves the highest encomiums.

That

That alkaline fixed salts and substances are possessed of very effectual dissolving qualities, is now so much a prevalent opinion, that the practice of giving them for the gravel and stone is become general, and indeed, the relief confessedly in many instances obtained has in a great measure established it.

Yet notwithstanding this, as several forcible objections are started against the use of them, it will be necessary, at least in some measure, to obviate them before I proceed.

It is objected, that the large quantities of such acrid medicines as are ordered, and are indeed necessary to effect the solution of such concretions as are formed in the kidneys and bladder, especially after they are become large and hard,

hard, must in time be productive, if not of all the ill consequences, at least of some enumerated by BOERHAAVE, Aphorisms 85 and 86. as the effect of an alkaline acrimony *.

That the excess of an alkaline acrimony in the constitution will be productive of bad consequences, it is very reasonable to expect; yet from experience in many instances it is found, that those who have taken large quantities of alkaline substances, for the gravel and stone, are so far from being injured thereby, that on the contrary, they were by the use of them greatly relieved from other complaints which they before were subject to.

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* See the most learned physician baron VAN SWIETEN's commentaries upon these aphorisms.

In particular Dr. WHYTT has taken notice of this in several of the cases he has related, among which that of the late Lord WALPOLE is the principal; who from July 1748, to the beginning of 1757, drank three English pints of lime-water, and swallowed for the most part an ounce of soap daily, except for two months or thereabout, during which time he took only one pint of lime-water, and one third part of an ounce of soap daily; by which means he was not only relieved from the painful symptoms of the stone, but had his health greatly improved in other respects; his appetite, healthful look, and a degree of spirits uncommon to his age, (he was then in his 78th year) continued till the end of 1756, when his last illness began first to attack him, which was a lingering feverish disorder, very much affecting his spirits, but entirely unconnected with
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the stone : and when opened after death, which happened a few months afterwards, all the viscera which were immediately concerned in the secretion and excretion of the urine, were found in a natural healthy state, except that the coats of the bladder appeared to be a little thicker than common, and three small stones were found, two loose in the bladder; and a very small one sticking in the passage ; all the other viscera in the abdomen, (the breast and heart not being opened) were found likewise found, except the gall-bladder, which was full of stones, an indication that alkaline substances are more particularly adapted for dissolving such concretions as exist in the urinary organs than in the gall-bladder, which Dr. WHYTT is not surprized at, as he observed that soap and lime-water, which dissolve the former out of the body, yet do

do not make the smallest impression upon the latter.

Another remarkable observation to this purpose is related by the learned Dr. DE HAEN, professor of medicine at Vienna *, in the case of a shoe-maker, who, if ever any, for the space of seven years, was a martyr to the stone in the bladder, and who, upon that account, being admitted into the hospital, took from the month of November 1756, to June 1757, seventeen pounds weight of soap, and 1500 pounds of lime-water, with as much milk.

In three or four months after he began this course, he found himself as easy as any person who never was troubled with the stone; passed his urine as readily, and had afterwards no stranguery,

* Ratio Medendi, edit. Ludg. Bat. 1761. p. 137, 138.

gury, no retention, no heat, no pain, and was able to retain it the usual time as healthy people do; and tho' when dismissed the hospital he forbore the use of these medicines, and lived at large, eating plentifully salt and acrid food which he was fond of, yet, notwithstanding, about four or five months afterwards it was found that he had no returns of his former complaints, and he otherwise continued in perfect good health, altho' upon searching, the stone was still found remaining in his bladder.

Yet to this relation the doctor adds, *From the use of such a quantity of alkaline substances, may not a putrid solution of the humours ensue?* Doctor WHYTT, and others, never observed that consequence, nor did he himself find any thing like it happen to his patient; so far otherwise, that from a bad habit of body he became quite sound, and so plethoric
that

that it was necessary on that account to bleed him, and the doctor demonstrated to a full audience, that his blood was in every respect exceeding good.

The doctor the year after (p. 203, 204.) repeats the observation, and says, that even then this man continued in good health, eating and drinking indiscriminately what he liked best. He caused him again to be brought to the hospital, where he acknowledged that he was so free from every complaint, that he did not know he was troubled with the stone, yet to every one who searched him, its existence was very perceptible.

I am, therefore, not at all surprized, that persons who are subject to calculous concretions, find no inconvenience from taking such large quantities of these substances, as they

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are

are generally observed to have either naturally, or from their manner of living, and other circumstances, lax and weak solids. May not, therefore, their fluids, by not being sufficiently acted upon, become viscid, and consequently preternaturally concrecent? If so, it is therefore reasonable to conclude, that by such substances as greatly stimulate the solids, and are also endued with a peculiar attenuating quality, the fluids, in consequence of such irritation, will be increased in their motion, and thereby coagulations and concretions prevented; and not only that, but by being thus attenuated, the usual and necessary evacuations will be increased, and consequently, the redundancy of pituitous viscid humours, which otherwise in many respects injure health, will be lessened; it is, therefore, not wonderful that, in nephritic complaints, patients should not only find ease, but likewise, by be-
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ing difincumbered from a load of tenacious glutinous humours, be relieved from other difeases, which they were formerly fubject to ; for it is a general remark, that perfons, who take large quantities of alkaline fixed falts and fubftances for the gravel and ftone, and obferve ftremely the regimen prefcribed to them, become lean.

As to the nature and properties of alkaline fixed falts, and their good effects in fuch difeases as are owing to relaxed weak folids, and redundant vifcid fluids, if taken in fmall quantities well diluted, and continued a proper time, confult BOERHAAVE *.

From hence it is apparent that the internal ufe of fuch fubftances, if properly and cautiously adminiftered,

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* Operationes Chem. Proceffus 12.

is not attended with such formidable consequences as might be expected, and, therefore, I think the chief objection is, in a great measure, obviated.

As it has, however, been often observed that many persons who had taken very large quantities of these substances for a great length of time yet were so far from having been cured, that, when opened after death, stones were found still remaining in their bladders ; hence another objection occurs, viz. their evident insufficiency for effecting the ends proposed.

To which I answer ; that, when the solution of these concretions is not attempted till they are grown large, compact, hard, and smooth, this may be often the case. Yet to many persons who, even in these circumstances, have
taken

taken such substances, the relief thereby obtained has been so remarkable that they afterwards continued many years as easy as if they had no stone, and at last died in an advanced age of other diseases, which had not the least connection with their former nephritic complaints. Thus, I think, the objection can have but little weight; it being a maxim with regard to painful diseases that, if a perfect cure cannot be obtained, we should, at least, endeavour to give ease, and that palliating medicines are better than none.

It is to be considered that such large concretions, as are found in the bladder, owe their existence to a very small hard substance, commonly termed the nucleus, transmitted thither, for the most part, from the kidneys, and increase to such a large size as they are often observed to attain, not all at once, but

by this nucleus being circumvested from time to time with fresh supplies of calculous matter ; so that thus a substance is formed consisting of several strata or concentrical layers, somewhat like the coats of an onion.

As these different layers, however, continue after their formation for a considerable time rough, this is the period in which the fits of the stone are most severely felt, occasioned by their rough surfaces, irritating and lacerating the very sensible and tender internal coat of the bladder ; but when once they are become smooth, either by the action of the bladder, or otherwise, this painful irritation ceases ; and while they thus continue, the sensation afterwards is only that of weight, nay, not always even that ; for in the cases above related, those persons, notwithstanding that
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the existence of the stone was evident, continued as easy as if they had none.

And to confirm this Dr. DE HAEN* observes, that there are innumerable examples, where by the assistance of provident nature, without the intervention of art, and by operations unknown to us, such a degree of ease has been obtained in calculous disorders, that in the few following remarkable instances which he has selected and transcribed from other writers, not one of the persons there mentioned, during their lives, were ever sensible of their having had such-like complaints.

“ A man, during his life, except
 “ the two last days, continued abso-
 “ lutely free from all nephritic com-
 “ plaints; yet when dissected, his left
 F 4 “ kidney

* Ratio Medendi, p. 208, 209.

“ kidney was found consumed to a
 “ putrid fanies, and his right ureter to-
 “ tally obstructed with a stone *.

“ Two men never once com-
 “ plained of any disorder in their kid-
 “ neys, yet after death, a very large
 “ stone was found in the kidney of
 “ each of them †.

“ HERMAN OSTERDYKE SCHAUHT,
 “ (*professor of medicine at Leyden, co-
 “ temporary and colleague with BOER-
 “ HAAVE*) being an eye-witness, has
 “ recorded, that a man had a stone
 “ of four ounces weight in the ureter,
 “ and, besides that, another of seven
 “ ounces weight in the bladder, yet
 “ from neither of which, while alive,
 “ had he the least pain or trouble ||.

“ HEUR-

* Holler. cap. Hydrope in Scholio.

† Bagliv. prax. Med. lib. i. cap. 9.

|| Oratione Leydæ habita 8. Feb. 1735.

“ HEURNIUS * by dissection extract-
 “ ed seventy from one, and eighty small
 “ stones from the other kidney of a
 “ man who never had any nephritic
 “ complaints.

“ A nobleman without the least in-
 “ dication, while alive, of its existence,
 “ had a stone in the bladder, not only
 “ remarkable for its being extremely
 “ hard, and weighing fourteen ounces,
 “ but the more so, by being perforat-
 “ ed its whole length, so as to form
 “ as it were a canal, through which
 “ his urine flowed, without the least im-
 “ pediment, or interruption †.

An eye-witness relates, “ That two
 “ large stones, weighing six ounces,
 “ were found in both kidneys of a
 “ privy-counsellor of his Imperial Ma-
 F 5 “ jesty,

* Edit. Leyd. op. Fernel, p. 2. lib. vi.

† Fredericus Loffius. lib. iii. Obs. no. 53.

“ jesty, without the least preceeding indi-
 “ cation of any such thing in what view
 “ soever considered. He passed no gra-
 “ vel, had not the least numbness in
 “ his legs, nor pain in his loins; and,
 “ as to his urine, so far was it from
 “ being in the least obstructed, that he
 “ voided it in too large quantities, but
 “ quite limpid and pale, like common
 “ water; from which circumstance his
 “ thirst became so intolerable that no
 “ drink could assuage it *.”

I therefore think, that the alter-
 nate accession and remission of pain in
 this dreadful distemper, abstractedly con-
 sidered, without regard to other, too of-
 ten concomitant, complaints, is only to
 be accounted for from the smoothness
 or roughness of those calculous sub-
 stances contained in the bladder; and
 hence

* Antonius de Pozzis apud Bonelum Med.
 Sep. tom. i. lib. iii. sect. 25 cap. 6.

hence appears the expediency of giving such medicines as will prevent any future accretions. From the preceding remarks, it is likewise apparent, that a solution of alkaline fixed salts and quick-lime combined (or soap-lye) is found, not only most efficaciously, but likewise more speedily to answer this purpose, if conveyed in sufficient quantities to the parts affected, and that it is so conveyed repeated experiments shewing, that the urine of those persons who have taken large quantities of these substances for a length of time, becomes a very powerful dissolving menstruum of calculous substances immersed in it, have sufficiently evinced.

Upon the whole, I am firmly persuaded, that, if patients were provident enough to be attentive to the first approaches of this cruel disorder, and pursue proper measures to prevent its increase,

crease, by taking small quantities of lixivial salts and substances, of which I, at present, know none so good and effectual as soap-lye, in large quantities of soft emollient diluting liquors, observing a proper regimen, and repeating this course occasionally as symptoms indicate, the future existence of such large and hard concretions will be entirely prevented.

And, indeed, of all the lasting disorders which affect mankind, there are none, in my opinion, to which the following advice is more applicable than to this :

“ Principiis obsta, sero medicina paratur,

“ Cum mala per longas invaluere moras.

“ Sed propera; nec te venturas differ in horas;

“ Qui non est hodie, cras minus aptus erit.”

OVID Remed. Amor. ver. 91, &c.

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This advice, I presume, will not be objected to by any, nor the expediency denied of administering in time such medicines as from experience are found most serviceable to prevent the formation, or if already formed, to promote the solution of calculous concretions; or such as give ease and prevent their increase, if by the neglect of attempting it sooner, these substances are become so large and hard that this solution cannot be effected.

And as I know none more efficacious to all these purposes than soap-lye, I therefore recommend that species of it which is prepared with two third parts of a pure alkaline fixed salt, and one of well calcin'd quick-lime dissolved in a sufficient quantity of water; for by experiment 6th, I found a lye with this proportion of these substances,

stances, the most speedy dissolvent of the fragment of a calculus immersed in it; and this is the exact proportion of these substances in the soap-lye made use of with great success for some years, by Dr. GUSTHART, an eminent physician at Bath, in a prescription communicated to me by a friend of the doctor's, which is as follows:

Take eight ounces of pot-ash and four ounces of quick-lime fresh from the kiln, mix and put them into a glazed earthen vessel, then pour upon them a quart of boiling soft spring-water; let the infusion remain twenty-four hours, stirring it now and then, and afterwards filtrate it for use.

The soap-lye that I have made, and used likewise with success, for some time past, as to the proportion of the ingredients

dients and quantity of water, is exactly the same with the above. But as BOERHAAVE has observed, that an alkaline fixed salt is from no substance whatever, sooner and better obtained than from the tartar of wine, and to this observation has added that PARACELSUS and HELMONT have esteemed a salt thus prepared, to be the prince of alkalies *; instead of pot-ash, I have substituted salt of tartar, and if used immediately after it is well calcined, the degree of alkaline acrimony or strength of a lye prepared with it, will be very exactly ascertained: whereas all the different sorts of pot-ash are brought to us in large quantities, in casks, from different regions, so that by being long kept, and often exposed to the air, as I before took notice, they will become weaker, and otherwise altered from what they

* Elimenta Chem. tom. ii. p. 53

they were at first; on which account, the degree of strength of a lye made with them, cannot be so easily determined, and consequently its lithon-thriptic qualities not so much depended on.

As oyster-shell quick-lime calcined till it is uniformly and thoroughly white, is by Dr. WHYTT's experiments found to be a more efficacious dissolvent, as a menstruum, than the common quick-lime, I have therefore substituted the former in the lye that I have made, instead of the latter *.

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* For want of conveniencies at home, this lye was faithfully prepared for me by Mr. WELLINGS, Druggist and Chemist in the Poultry, near Cheapside. By whom those, who either want the like conveniencies, or do not chuse to be at the trouble of preparing it themselves, may be supplied with it at the easy expence of one shilling and six-pence for a full half pint, in a bottle with a ground glass stopper; and without the bottle, at one shilling the half pint.

It is however objected to these medicines, that many times bad consequences have been observed to ensue from the long-continued use of them ; to which I answer, that this can only happen from their being preposterously taken, either at improper times, or in too large quantities, which is often the case, as many people in the calamitous circumstances, which arise from the existence of a stone in the bladder, are in greater haste to be well, than the nature of their disorders will admit of, and the faults are imputed to the medicine which are intirely owing to their own indiscretion. If this medicine is prudently administered, I am convinced that no bad effects will follow.

For the due administration, therefore, of such substances, I shall subjoin the following remarks.

1st, If

1st, If the disease is recent, and there is nothing but loose gravel, or if its concretions are but small, to combat with, small quantities of these medicines, such as 30 or 40 drops two or three times a day, in half a pint of weak veal-broth, or any other soft mucilaginous vehicle, will be sufficient to answer the purpose of comminuting and expelling it. Hence concretions will be prevented. This course ought, however, to be persisted in, not only till the patient is perfectly easy, but likewise while there is the least appearance of fabulous matter subsiding in the urine, or even while it continues to fur the chamber-pot. And as many people are naturally apt to breed gravel, this course ought to be renewed from time to time, as succeeding symptoms of its existence indicate.

2dly, If after a severe nephritic fit there is reason to suspect, that a small calculus

calculus is transmitted from the kidneys to the bladder, in order to promote its solution and expulsion as soon as possible, a larger quantity may be given. A tea-spoonful, or even two, twice or thrice a day, cannot, I think, be too much; the dose, however, as I before observed, ought to be regulated, and made either less or more according to its effects.

By this prudent management, I know a person who by degrees was enabled to take an ounce of a very strong soap-lye every day for a great length of time, with good effect as to the complaint for which he took it, and not the least ill consequence with regard to his health in other respects.

3dly, If through neglect, as I said before, or improper and ineffectual medicines

dicines administered, calculous concretions are become so large, compact, and hard, that a total solution of them cannot be effected, our business then is to augment the dose of these substances by slow degrees, carefully attending to the effects of each preceding quantity before we proceed to a farther augmentation; by which means I do not in the least doubt, that not only new accretions, or layers, will be prevented, but likewise the rough surfaces of those already formed, speedily rendered smooth; hence, a permanency of ease will be obtained, which persons in these circumstances were before unacquainted with.

4thly, In that state of the disease where a stone in passing from the kidneys, is impacted, and firmly adheres, in the narrow passages leading from thence to the bladder, occasioning excruciating

cruciating pains in the loins, and pains in the lower belly like cholic pains, with bilious vomitings, obstinate costiveness, strangury, tenesmus, &c. alkaline salts, or any other irritating medicines, ought carefully to be avoided; and lithon-thriptic substances in all the more severe fits of this distemper should be forborn till they are abated, nay, even afterwards discontinued for some time, upon the recurring of very painful paroxysms; as by irritating too much at these particular times, painful strictures, ruptures of blood-vessels, inflammations, &c. may be unnecessarily caused.

5thly, In administering these medicines, with respect to the quantity proper to be given, great regard ought to be had to the different constitutions of the patients. To lax habits, flat and phlegmatic, more; but if otherwise, less:

less: to those in whose fluids pituitous viscid humours abound, more; but where bile is predominant, less. Likewise their different degrees of sensibility ought to be attended to; for those who upon taking such-like substances are not affected to a great degree with painful irritation, must, in order to obtain the ends proposed, take them in larger quantities; whereas those, to whom such-like acrid substances are productive of extreme painful sensations, should take them in small quantities, and continue the use of them for a great length of time; and therefore, the milder alkaline preparations, such as soap and lime-water, may be more convenient.

6thly, There are others, who, from an unaccountable antipathy in their natures to particular things, cannot bear even the smallest quantities of those
alkaline

alkaline acrid substances; with those, therefore, other methods must be tried, and such medicines given as have, from repeated experience, been found remarkably serviceable in such-like complaints; for the choice of which I can only at present refer them to practical writers.

I should have now proceeded to communicate such farther remarks relative to this subject as have occurred to me from my own observation, and the credible information of others; but as a very bad state of health, and other necessary avocations, have prevented me from finishing even this small treatise in the time and manner I at first intended, and as I am greatly importuned not to withhold any longer my remarks from the public, to which some are pleased to say my little treatise will be of great use, I have thought proper

per to comply with that request, and promise, with all convenient speed, to publish what farther I know, or what shall be communicated to me by others concerning this subject.

The second part will chiefly consist of remarks on the nature and properties of alkaline fixed salts and substances; on indications necessary to be attended to in the different periods of this disease; the various symptoms concomitant to each particular paroxysm; the management of patients according to their different ages, constitutions, peculiar habits and customs; and lastly, the helps necessary to be made use of for the relief of the troublesome, painful and dangerous complaints of persons who cannot take alkaline salts and substances, and at those times when even other acrid and strongly stimulating diuretic medicines are not only impro-

improper, but may be attended with ill consequences.

And this I shall do with the more chearfulness, as I hope thereby to disabuse mankind, and prevent persons from submitting to the illiberal treatment they often meet with from retailers of secrets.

THUS far I had proceeded by medical conjecture and chymical investigation, when after the greatest part of this treatise was printed, I had an opportunity of making inquiry, and of ascertaining by testimony what I had before only advanced from probable deduction.

The medicine which Dr. CHITTICK administers, he does not deny that he inherits from his brother, who used it before him : to his brother it was given, according to an account sent me from Ireland, by General DUNBAR ; I have received the genuine receipt in these words :

“ Take one tea-spoonful of the strongest
 “ soap-lye, mixed in two table-spoonfuls
 “ of sweet milk, an hour before break-
 “ fast, and at going to bed. Before you
 “ take the medicine, take a sup of pure
 “ milk, and immediately after you have
 “ swallowed the medicine, take another.

“ If you find this agrees with you for
 “ two or three days, you may add half as
 “ much more to the dose.”

This agrees exactly with such information as had been given me before, by another hand.

Having

Having now brought this valuable secret to light, and put into the hands of the low as well as of the high that medicine which I believe to be of the greatest efficacy against the most painful of all diseases, I sit down with the pleasing reflection, that I have contributed something to human happiness.

F I N I S.

ERRATUM.

Page 21. line 2. for *quantity* read *quality*.

...now from this ...
...and ...
...as well as ...
...which ...
...against the ...
...the ...
...I have ...
...to ...

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...

...

