

A dissertation on sea-water : with the regimen proper to be observed in the use of it. Together with some practical hints on drinking the spaws, or any other medicinal waters. In a letter from a physician in the country to his friend in the town.

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A

DISSERTATION

ON

SEA-WATER,

With the Regimen proper to be observed in
the Use of it:

Together with some practical Hints on drinking
the SPAWS, or any other Medicinal Waters.

In a Letter from a Physician in the Country
to his Friend in Town.

Optimè noscens, optimè curat,
Reason and Experience make the Physician.
CELS. APH. per SPRENGELL.

L O N D O N,

Printed by JAMES BETTENHAM,
And sold by W. RUSSELL at *Horace's Head*,
near *Temple-Bar*, and the Booksellers in
Town and Country.

(Price One Shilling.)



T O T H E

Right Rev. Father in God,

W I L L I A M

Lord Bishop of *Chichester*.

My Lord,

UPON finishing the
following Dissertation
I did not know any one to
whom I could address these
first Fruits of my Labour, so
proper as to yourself, not
only as my being near related
to your Lordship, but, as a
Physician in the Diocese over

A 2 which

which you preside: hoping for your kind Acceptance and Approbation of the same.

And, how far I may prove unequal in this Attempt, I leave to you and others to determine: though I flatter myself (if so happy as to meet with your Patronage) that, the Humanity of the Design, and the Integrity with which it is executed, may jointly be a Means to palliate the Censures which its Defects might otherwise draw upon it.

That

[v]

That you may long live
the Ornament of the Station
you so worthily possess, is
the sincere Desire and hearty
Wish of,

My LORD,

Your Lordship's

Most obedient

Humble Servant.

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the Ornament of the Station
you so worthily possess, as
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Wish of,

My Lord,

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Humble Servant.



T H E

P R E F A C E.

*W*HAT gave Rise to my writing and publishing the following Treatise was upon first coming into this Part of the Country, and my frequent Visits to Brighthelmston finding that the Use of Sea-Water became daily more and more in vogue, as appears from the Company which eve-

ry Season resort thither from all Parts: And, entirely thro' the Instigation of Dr. Ruffel of Lewes, to whom the Town and Country in general must own themselves greatly indebted, for his first introducing the Use of the same there; and whom I have with the greatest Deference and Respect taken upon me to mention in several Places of my Dissertation.

But, as it can't be thought from the Multiplicity of Practice that he has, his Patients can equally partake of the Benefit of his Prescriptions and Attendance, any more than

than too great a Number of Scholars can, under the Instruction of one Master, let him be ever so eminent, skilful, or diligent in his Profession, it being impossible that he should faithfully discharge his Duty by all of them.

Which the more greatly induced me to endeavour to make known my Intentions for the Public-Good by this Undertaking ; and, if the Method therein advanced should prove any Ways serviceable to Mankind (as I flatter myself it will) my Design will be fully answered. It might possibly be urged, that, an old
Prac-

Practitioner, who is supposed to have had more Experience, that his Practice must be more secure; and therefore commonly the first applied to; which does not always follow. Neither does his Number of Years entitle him to any greater Share of Knowledge in his Art; as it is manifest, that, Gentlemen, who have been constantly employed in Ships of War as well as Hospitals both at Home and Abroad, have not only greater Opportunities of improving themselves in the Physical as well as Chirurgical Science; but, (without asserting any Falshood) may aver, they
meet

meet with twice the Opportunity for Practice and Experience that others of the same Profession (in triple the Time) might have had. I do not bring this Comparison by Way of Reflection on any particular Person; only, that the World should be undeceived as to that too common and prevailing Opinion, and be able to entertain a more just Notion in regard to Navy-Surgeons, (agreable to an Article of their Plan here inserted) having myself served formerly as Surgeon in his Majesty's Navy.

The Remedy I have likewise

recommended in the Body of this Treatise by the Name of Le Grand Ceinturon, or Zona Medicabilis, as answerable to the Virtue of Sea-Water ; which I do not take upon me to declare as my own ; but, had given me by one of the reverend Fathers abroad : And, what I since found upon repeated Trials to be very successful in the Disorders there mentioned. The Corpuscles of which will be made to appear on several Occasions to act more powerfully by getting in at the Pores of the Skin, than if the same had been taken at the Mouth. As also

also the Dissolvent for the Stone by Injection into the Bladder, otherwise called, The Grand Lithontriptic, whereby I have in many Cases given great Relief, and obtained some Cures from my own Experience, as I shall more particularly describe in another Tract (entitled) Medico-Chirurgic Memoirs and Observations, founded upon many historical Cases of Cures, and proved from the Success of near thirty Years Practice; which so soon as Opportunity will permit me to get ready for the Press, I likewise intend to publish.

Names,

Names of the Authors both ancient and modern who have any Ways made mention of Sea-Water, Salt and Water, or any other medicinal Water in their Writings, as come under the Publiſher's preſent Knowledge; alphabetically digeſted for the Satisfaction and Curioſity of his Readers.

Ancients.

Moderns.

Aëtius	Boerhaave
Aretæus	Boyle
Antonius Muſa	Bourges
Angelus Sala	Barkeley
Athenæus	Baynard
Braſavolus	Butler
Bolducius	Cheyne
Cardenus	Cook
Cælius Aurelianus	Duncan
Celfus	Floyer
Dioſcorides	Fuller
Fab.abAquapendente	Guidot
Foreſtus	Grew
Galenus	Glyſſon
Gefnerus	Hoffman
Haleſius	Heiſter
Hildanus	Keil
Hippocrates	Lower

Ancients

Ancients.

Marcilinus
 Marrobius
 Marcellus
 Oribasius
 Paræus
 Paulus Ægineta
 Plinius
 Plutarchus
 Prosper Alpinus
 Riverius
 Senertus
 Suetonius
 Samonicus
 Scribonius

Moderns.

Manwaring
 Morgani
 Mead
 Oliver
 Parry
 Prat
 Ruffel
 Shaw
 Smith
 Speed
 Willis
 Wynter
 Wainwright
 Whytt

DISSERTATION

ON

SEA-WATER, &c.

In a Letter from a Physician in the Country
to his Friend in Town.

S I R,

AS no one Method in the Cure
of any Distemper can be as-
certained, without a thorough
Knowledge of the Disease and its
Symptoms; neither can it be said
to promise Success without a due
Observance of the Non-Naturals*,
a pro-

* Which are reckoned Six: *viz.* 1st, Air;
2d, Meat and Drink; 3d, Sleeping and Watch-
ing; 4th, Motion and Rest; 5th, Excretion
and Retention; 6th, Passions of the Mind; so
called because they are neither of nor against
Man's Nature; and yet, without their Use,
human Life cannot subsist. Nor happily, but in
their Regularity; for, in the Quantity, Qua-
lity, Manner and Time of using them consists

a proper Regimen in the Use thereof, and a right Application of what is ordered.

But, in order to a further Explanation of this Matter: As it is well known that the *Cortex Peruvianus*, or Peruvian Bark, is the only and most sure Remedy in the Cure of an *Intermittent*; yet, without a proper Regulation and due Observance in the Administration, it often fails of Success. So, in Regard to Sea-Water, &c. without being properly administered (I may say) oft Times does more Hurt than Good. Which has induced me to send you some few practical Hints thereon, as they have occurred to me in the several Cases wherein I have had an Oppor-

the Method in a great Measure of preserving and restoring Health.—That inestimable Gem! always the most valued, when the least possessed, and which no temporal Blessing can be put in Competition with! For without that Comfort no Enjoyment can have its Relish.

tunity of experiencing the same many Years past, both at Sea and Land; before any One in these Parts had wrote upon that Subject. More especially from my Situation as having been a Navy-Surgeon, and agreeable to the second Art. of that judicious Plan lately settled by the Navy-medical Society, which I take upon me to insert (verbatim) for the Benefit of those into whose Hands it might not otherways chance to fall.

IId. “ That as one considerable
 “ Purpose of this Undertaking, is
 “ to pursue particularly such Branch-
 “ es of Medical Knowledge as fall
 “ more immediately under the Ob-
 “ servation of Navy-Surgeons, who
 “ may be reasonably presumed to
 “ have Advantages for some parti-
 “ cular Disquisitions, peculiar to
 “ their Situation; such as an Oppor-
 “ tunity of enquiring into the Na-

“ ture of Sea-Diseases, and any spe-
 “ cific or material Difference be-
 “ tween them and those at Land;
 “ of observing any particular Effects
 “ of Medicines at Sea; the common
 “ Effects of the principal Operations
 “ of Surgery on that Element; espe-
 “ cially where any remarkable Diver-
 “ sity occurs from their general Events
 “ on Shore; and, any different Suc-
 “ cesses of the same Operations in dif-
 “ ferent Climates at Sea and Land;
 “ the Effects of Sea-Air and Diet in
 “ general, in various Diseases, and
 “ the particular Changes of the Con-
 “ stitution produced by them, under
 “ the Co-operation of different Sea-
 “ sons and Climates; the various
 “ Distempers endemic on their dif-
 “ ferent Stations, and any remark-
 “ able Diversity in the Symptoms,
 “ and the general Event of the Dis-
 “ ease between Natives and Stran-
 “ gers; with the usual Method of treat-
 “ ing such Disease, or its ordinary

“supervening Symptoms, by Prac-
 “titioners of the best Note and
 “greatest Experience in those Coun-
 “tries, and the most frequent Con-
 “sequence of it. It is therefore
 “strongly recommended to them
 “to be carefully attentive to those
 “very material Articles: And, fur-
 “ther to improve every Opportu-
 “nity of informing themselves of
 “the popular Methods of treating
 “different Distempers in these Places,
 “where Physic is little cultivated;
 “of attaining the natural History of
 “the Country; the Weather; the
 “Animals; Plants (especially all indi-
 “genous Physical ones) and Fossils;
 “to endeavour to discover the Process
 “and Manufacture of any Drugs in
 “it; and, to furnish themselves
 “with the best Collection of such
 “Productions, as they can conve-
 “niently procure. But, to prevent
 “the Multiplicity of Volumes with-

“ out adding to the Stock of useful
 “ Knowledge, it is agreed that no
 “ other Cases or Observations in Phy-
 “ sic or Surgery shall be published,
 “ but such as may be instructive in
 “ their own Nature, or rendered so,
 “ by judicious and extensive Reflec-
 “ tions deduced from them, in or-
 “ der to the Establishment or Con-
 “ firmation of general Axioms.”

To be possessed of only knowing
 the Virtues of a Remedy does not
 render it the more beneficial or use-
 ful; but, by Observation and Expe-
 rience of it first had: And, might
 be not unjustly compared to a young
 Student in Physic at his first setting
 out: Who, being unacquainted with
 the *Materia Medica*, any more than
 knowing that *Gentian* and *Rhubarb*
 are two different Drugs, through
 Want of Application and Experience
 in either, his Practice must become
 not only obscure, but, very hazard-

ous to the Lives of those who should unluckily happen to come under his Care.

How far the Moon has an Influence over the Tides of the Ocean, is well known to almost every common Sailor, or Person on the Sea-Coast: And, even that it has the same over the Fluids of our Bodies, and the Advantages accruing to the Practice of Physic from this Theory, no reasonable Person can deny. For whose further Instruction on this Subject I would refer him to Dr. *Mead's* Treatise, *De Imperio Solis ac Lunæ in Corpore Humano*. As also to *Cook's* Anatomy, Vol. 2d. from Page 210 to 216. where may be found many more Speculations on this Head in his fifth Chapter of the Air, &c. not unacceptable to the Curious. Which leads me to the next Consideration in the Use of Sea-Water, and ought to be regulated thereby,

as I shall prove in the following Remarks.

To suppose that Bathing in the Sea; and Drinking the Sea-Water at one and the same Time be necessary towards removing all Distempers of the Body, is quite as absurd as to expect by Purging and Sweating (two direct Opposites) to force Nature to a Compliance; or, to think that we are to encounter a Disease *Vi & Armis*.

But the Times proper to be used and the different Effects they have on the Body (separately) will be made to appear from the following Reflections.

Every one the least acquainted with Natural Philosophy or the Animal Oeconomy knows that through Immersion in cold Water the Solids of our Bodies are so suddenly contracted by the joint Impulse of the two Fluids, Air and Water, which

(thus lessened in their Capacities or Diameters) help to redouble the Heat and Circulation of the Blood, being as soon followed by as great a Relaxation (manifest from the Glowing that presently succeeds putting one's Foot or Hand into Cold Water at any Time) arising from the Impetus or Effort of Nature in opening the Obstructions to the Relief of the Body; and renders the drinking it at that Time entirely useless, and contrary to the very Intent of Nature. She the more readily at that Instant endeavouring to throw off any excrementitious Matter by an encreased Evacuation through the Miliary Glands or Cutaneous Pores than by any other Means: Which conduces to remove the Foundation whereon the common Complaints of Mankind (as vagous Pains and Aches, Heaviness and Debility of any Sort) do ordinarily depend. And, ought rather to be

be encouraged (in my humble Opinion) by wrapping the Body up in dry Flannels, and going into a warm Bed, taking a Draught of Muscadine, Malmsey, Madeira Wine, or Sack and Water, with a few Spices mulled, in order to support it. That Discharge being allowed to be above double to all other Excretions of the Body; and, the least Suppression (as is well known) immediately turns to our Disadvantage.

Wherefore, the Time most fitting for Bathing, is about six, seven, or eight o'Clock in the Morning, on a clear Day, when the Spring-Tides are coming on, at any Time from between Half Flood to Half Ebb (as the Sailors term it) going in always upon an empty Stomach. When after the Body has been immersed twice or thrice in the Space of a Minute or thereabouts, and wiped thoroughly dry, (for, according to

Wainwright “ the perspirable Faculty can and does incontestably resist the Admission of cold Water by the Pores ; which, when salt, would neither be so wholesome or agreeable to take it in that Way)” ’twould not be improper for the Patients to put on a dry flannel Garment made strait (not unlike Trowzers) and a long Gown or Robe of the same Material over all, and be immediately conveyed in a close Sedan or Chaise to their Lodgings ; to be put into a warm Bed, between a Pair of Cotton Sheets or fine Blankets ; giving a Draught (according to the Age and Strength of the Patient) of Wine mulled with Spices and a little Sugar, as I before observed : And to remain in that State near two Hours. But, in Order to the better cleansing and deterging the Cutaneous Glands and Emunctories, hot and cold Bathing

ing used together or immediately succeeding one another, would be of utmost Efficacy *.

Warm Bathing is also (in the most regular Management) a Preparative for the Cold; and, in many Cases very necessary to follow. For, when the Humours are become thereby more fluxile, the contracting Power of the Cold Bath will often perfect the Cure, prevent catching cold, that a long Relaxation by Warmth subjects to; and renders insensible Perspiration more uniform and beneficial.

The contracting Power of the one (when we prepare the Bath ourselves) may be improved with a Mixture of Vitriol, Nitre, and Acids; the Temperature of the other, with Sulphur, Bitumen, or common Salt. But, there's that Advantage

* Dr. Oliver on Bath Water. p. 107. and Morgan's Practice of Physick. p. 354.

in the Sea-Water, that it may serve for both Purposes, from the Continuance in it, with the Motion and Pressure the Repercussion of our Strokes gives it.

As soon as the Body is recovered from the Sweat, a light and easy Breakfast (such as the Party likes best) may be provided; using gentle Exercise, as Walking, or Riding in a Coach or on Horseback, about an Hour or two afterwards. At which Time they might also take of any Medicine prescribed them by their Physician: And, the same repeated in the Afternoon some time after Dinner, with Exercise in the open Air provided the Weather be favourable) for an Hour or two. Thence, to the Assembly, where they may partake of the delightful Amusements and Recreation of the Place, especially Dancing; which (used with Moderation) is undoubtedly

edly a most wholesome Exercise, and many considerable Advantages might be obtained from it with Respect to our Health.

Which Method of Bathing is to be repeated every other Morning for three Times a Week ; beginning (as I before hinted) when the Spring-Tides are advancing. But, after the third Bathing, 'twould be then not improper to take the next Morning early in Bed, about a Pint, or at different Times in the Space of two Hours three Tumbler Glasses* of Sea-Water † (more or less in Proportion to their Age and Strength) ordering themselves for that Day as in taking other Purgatives.

The next Day to re-enter on the

* A Tumbler Glass containing between five and six Ounces, or two-thirds of half a Pint.

† To render which the more palatable, they may take after it Carraway Comfits, Candied Lemon or Orange Peel, the better also to relish the Swallowing.

Bathing-Course, so as to maintain the same for nine Mornings, taking the Sea-Water in like Manner as before between the Bathings; this is the whole that is to be observed in the Use thereof. Only, with this Remark. That, for young People, the best Season is just before and after the New-Moon; and, for Others more advanced in Years, just before and after the Moon is at Full. At any Time from the Beginning of May to the End of September, as the Weather and Opportunity will permit.

Likewise in Summer Afternoons Bathing in the Sea may be profitable for the Gentlemen, and made a temperate Exercise by Swimming; provided it be not used upon a full Meal or after any violent Motion, and they tarry no longer in it than can be borne untired and with Pleasure. For by an Irregularity

in this as in other Things, the Body is made pale and bloated; and causes Disorders often, which physically us'd, it cures.

Dipping in the Sea, or cold Spring-Water, where the former cannot be had, has always been esteemed the best Remedy in restoring the Weakness of Childrens Limbs when grown feeble or any ways ricketty; which being caused by a sharp salt Humour, is by these Means best evacuated, and the Laxity of the Solids braced, by being afterwards committed to their Bed or Cradle; and there permitted to perspire freely for an Hour or more: And, when cool, taken up and shifted. But, there is this Caution in respect to Children; that, a cold Immersion be used either so very young, that the Child may be unapprehensive of what is doing; or not till five or six Years of Age: When, I think the

Remedy might be recommended so as to agree with their own Judgment; at least, not be apt to terrify so much: which sometimes by frightening them in their tender Years, has given Birth instead of Cure, to Convulsions. But, the Custom they have in the North, of dipping their Children when very young, (even from their Birth) cannot be sufficiently commended.

I must not forget to mention, that, preparatory to the above Course, how needful Bleeding and Purging in some Habits might be. Especially, the latter, consisting of Lenitive Electuary, Manna, Cremor Tartar, and Salts; or the Infusion of Senna with some purging Syrup. A Practice at present the most approved, and which ought always to precede this or any other great Operations, in preventing any ill Consequence that might happen

C

thro'

thro' Want of their Prima Viæ or first Passages * being cleansed thereby ; and in order for its easier Admittance into the Constitution by the Lacteals. Not but that in many Cases, let the Medicine or Method proposed be ever so improper in itself, or ever so unseasonably administered, the Strength of Nature may sometimes get the better of both, and the Patient by that Means luckily escape. But, this is by no Means curing, neither can Nature's successful Effort be an Excuse for our Ignorance. As it is most certain, that every Medicine, be it ever so good, must always be administered in the most just Dose and at the most proper Times of the Disease to make it of any Advantage to the Patient. “ And, “ who sees not, that these Reme-

* By which are comprehended the Stomach and Intestines.

“ dies, excellent and of great Effi-
 “ cacy if judiciously administered,
 “ may prove by a promiscuous and
 “ unskilful Use or Application of
 “ the utmost Hurt and Damage to
 “ Mankind. Thus are the Inten-
 “ tions of Healing wickedly per-
 “ verted, and the Instruments of
 “ Health wrested out of the Physi-
 “ cian’s Hands; so that what was
 “ contrived and designed by them
 “ for the public Good, becomes by
 “ this great Abuse a public Mis-
 “ chief*.”

The Time requisite for a Conti-
 nuance of the same, is five or six
 Weeks at least, sometimes three or
 four Months; nay a Twelvemonth
 or more, according to the Judgment
 and Direction of the Physician; if
 the Distemper be chronic or stubborn.
 For, what appears weak and trivial
 at first, may, by a Perseverance,

* Use and Abuse of Physic. Page 31.

prove of great Efficacy in the End.
 “ As dropping of Water continual-
 “ ly, wears the hardest Stone; your
 “ Tread, the paving Pebble; and,
 “ repeated Strokes put Heat into
 “ Iron.”

Almost the like Method is to be pursued in Regard to the drinking any Medicinal-Water; particularly, of that famous Mineral Spring or English Spaw* situate about half a Mile N. W. from Brightelmston†

* Spaw or rather Spa (so celebrated through Europe as to give all other Medicinal Springs their Name) is in the Bishoprick of Liege, a mountainous Country, abounding with them.

† A Town that might vie with any other in the Kingdom for its pleasant and agreeable Prospects, a wholesome Air, and a dry Soil; the Situation of which bordering upon the Sea, and being bounded on the North by the South Downs which are most beautifully described by the learned and ingenious Mr. William Hay, in the following Passage of his Poem called Mount Cabure, which I have taken the Liberty to transcribe.

Thrice happy Mountains which no outward Storm
 Or foul Eruptions from within deform,

in Suffex. Which upon a late Trial seems to partake of Alum, Vitriol, Steel, and a small Portion of Bitumen or Sulphur.

But, the Difficulty of obtaining any certain Knowledge of the Contents, makes it the more necessary by a long and sufficient Experience of its good and bad Effects to determine it; Respect being had to the Age, Constitution of the Patient, and Nature of the Distemper.

Though *Hoffman* observes, that hot and cold Springs have the same Ingredients, Virtues, and Effects; their Goodness principally owing to

No Rocks like Rags in Poverty they wear,
But a rich verdant Mantle through the Year;
Where most irregular they please us most,
As Forms in graceful Negligence when lost.
No Refuge yield to Bird or Beast of Prey,
Safe o'er them Flocks, with Swains as harmless stray;
The Flocks so num'rous which they sustain,
They clothe the Mountain first and then the Swain.
Here *Britain* view thy native Wealth the Fleece,
As rich as that which *Jason* brought to *Greece*;
This as much sought for now as that of old;
And, though not Gold itself, produces Gold.

the Element of Water. And, that other pure Waters, without the Mineral, taken in like Doses, would answer the same End*. And, that its Purity which gives an Excellence to one before the other is tried with a few Drops of the Oil of Tartar per Deliquium, or a Solution of Quick-silver in Aqua Fortis, *viz.* four or five Drops to two or three Spoonfuls of Water. Which Way of Examination is the most effectual, even so as to discover the least Degree of Saltiness in any Spring-Water. Though, Rain as well as Snow-Water (allowed to be the lightest of all natural Waters) are not destitute of Saltiness. Whence the common Trial of its making a Lather cold with Soap, denotes it to be as wholesome for our Drink or other Use as any.

The essential Principles of which are said to consist of four Parts.

* Hoffman, p. 56, 110, 147, 171, &c.

First, their Elementary Parts; secondly, their Saline; Thirdly, that universal Acid called Æther*, Air†, or Mineral Spirit; and lastly, an Earth or Sediment, containing with it a Proportion of Vitriol of Steel. Water therefore (the most light and pure‡) as far as any Thing can be

* Æther, by which is to be understood an Air situate in the upper Regions (*απο τῆς αἰθῆρης*) composed of the most minute Corpuscles, or a Swarm of Steams or Effluvias, moving in a determinate Course betwixt the North and South Poles, according to the Laws of Magnetism, and is justly called the Medium of Light and Spring of all Motion, capable of impregnating Bodies that pass through them, or that any Ways come within their Reach.

† Air, signifies the thin, transparent, compressible and dilatable Fluid, wherein we breathe and move; that surrounds the Atmosphere of the Earth to a considerable Height, and differs from Æther in refracting the Rays of the Celestial Luminaries.

‡ Though seldom or never free from imperceptible Insects, which are best destroyed, and the same rendered yet more wholesome, by first boiling it before it is drank. Especially in the Summer Months, and hot Weather; when they most principally abound.

infallible, is the Foundation of Cure in all Distempers, where the vital Principle is not too much impaired by Age; as we see all Animals (whose sole Drink it is) have their Strength and Health better established than the human Race, who have most foolishly deviated into a voluptuous Way of Living; particularly in their Use of Wine, Brandy, and strong compound Liquors. The certain Source (I may say) of most of our Chronical and in a Manner Endemial Distempers.

“ *Vinum, Venus, exotica sunt*
 “ *primi Parentes Morborum,*” Gout, Stone, Cholic, Rheumatism, Consumption, Tremor, Palsy, Apoplexy, and Melancholy; evident in that other Nations unexercised in this Folly, scarce know what they mean. For the same Reason, and because we can take them with the same Air and Food we have been

accustomed to, we ought I think to prefer with Providence our own native to foreign Fountains; which often by the Direction of a wise and skilful Physician, become more serviceable. For, as nothing is more necessary in a Course of these Waters than setting out right at first; so nothing requires more the Experience and Judgment of a Physician, than the accommodating the previous Preparations, the Quantities to be drank, and the Medicines to be taken with them, to the Distemper and the Constitution of the Patient. These once settled, the rest generally go on successfully.

The Quantity taken at the Beginning may be about two half Pints only, at two or three several Draughts, between the Hours of six and ten in the Morning; And so to arrive by Degrees to the Number of three, four, five, or six in a Day;
ob-

observing to diminish the Dose in like Proportion, a little before finishing the Course. “As the Stomach
 “will be thus better reconciled to
 “bear it, and the whole Mass of
 “Blood more expeditiously altered
 “thereby*.” Nor is it improper or unusual with some to take half a Pint, the last Thing just going to Bed. “For the Water taken going
 “to Rest, is not only better distributed; but remains longer in the
 “Blood, than when the Body is in
 “an upright Posture and in frequent Motion†.” But there are various Constitutions that demand peculiar Directions according to the Circumstances which may occur: And no general Rule can be laid down that will comprehend all of them.

* Tent. Medic. Phys. Jac. Keil. Pag. 39.

† Wynter on Bath Water. Pag. 49.

In weak Stomachs, or in cold Weather, which require it to be given warm, you might put a Flask well stopped into a *Balneum Mariæ** using moderate Exercise, as walking or riding, in the Morning, after drinking; so that the Waters may pass off in a Stool or two before Dinner; which ought to consist of such Meats, Fish, or Fowl as are of very easy Concoction, avoiding all Meats of slow or hard Digestion: And, never to exceed two Glasses of Wine with their Meals; nor at any Time else a stronger Potable than small Ale. Such a Conformity and Way of Living (added to the Spa-Course) seldom fails of compleating a Cure in many.

In tender People who cannot attend the Spring-Head without the

* Denotes placing it in a Kettle or some broad Vessel, (with a little Hay round it) to be infused, or rendered warm, by the Heat of boiling Water.

Hazard

Hazard of catching cold (than which there is nothing more pernicious during the Course) a Whey is often substituted by boiling a Quart or three Pints with a little Nutmeg, and at the End throwing in half a Pint of New Milk. Or the Water alone exhibited in the Manner before set down.

To brisk them up you may add a little Rhenish, with a few Drops of Elixir of Vitriol, Spirit of Sulphur, or Nitre; and when intended as a Purgative, dissolve Manna with a little Glauber's Salt, Cremor Tartar, Syrup of Roses or such like in the first Draught.

A Succedaneum might be also provided to answer the Virtues of the Spa, by digesting in a Bolt Head upon a Sand Heat, one Part of good Filings of Iron, with ten Parts of good distilled Vinegar for about two Days. Four Drops of which Tinc-

ture being let fall into eight Ounces of pure Spring-Water, make an artificial Spa-Water: Which must be administered soon after it is made; for, if kept too long, it loses much of its Briskness and Force.

An Intermission for four, five, or six Days might be no Ways unnecessary, lest they become too much the Nature of Diet. And Evacuants of any Kind ought to be forboren, but on urgent Occasions. As when by too long a Course, or an inadvertent Use, many ill Symptoms are produced, that may require it.

Before I conclude, it may not be amiss to just touch upon the Use and Benefit of *Le Grand Ceinturon* or *Zona Medicabilis* (lately invented for the Cure of most Chronic Ails) which I have often made sufficient Trial of in Disorders arising from an acrid Serum of the Blood (as will be hereafter described and properly advertised

vertised in the public Papers) in order to the better establishing the Cure, when the above Method of Bathing and Drinking Sea-Water had not been able to accomplish it.

At the same Time must beg Leave to take Notice, that I would willingly have sent you my further Thoughts on the above, and other topical Remedies; with a brief Abstract of a Diffolvent for the Stone by Injection into the Bladder*; altogether founded on Principles of both Reason and Experience, and mechanically accounted for, was it not through Fear that I might by the

* As the Great *Boerhaave*, and many others were of Opinion, such a Menstruum would one Day be found out; and the best Arguments (according to the Notion of a late very great Philosopher) that are brought to shew the Stone to be incurable without cutting seem quite inconclusive; and as further very reasonably appears also from Dr. Whytt's ingenious Essay on the Virtue of Lime-Water in the Cure of the Stone.

ill-natured world be unjustly censured of Empiricism.

Though as Dr. *Shaw* makes mention in his Preface to *Boyle's Experiments and Observations*,

“Whoever publishes a Collection
“of Remedies well adapted to the
“Occasion, approved by Experience,
“easy to be procured, and cheap in
“the Purchase, cannot but deserve
“well of Mankind.”

Not but that Sea-Water might be both externally used, and drank almost at any Time without Bathing; where the Body labouring under Cacoethic Ulcers and many other scorbutic Complaints, that require cleansing and purging to subdue the same*. As it will equally answer the

* As Dr. Russell very judiciously remarks and strongly recommends in many Places of his Book *De Usu Aquæ Marinae*, to have the Parts affected, often and well washed with Sea-Water or Salt and Water made warm; which greatly conduces

the Virtues of common purging Salts, which I had once an Instance of trying, being compelled by a long Cruize (our Salt and other purgative Medicines quite expended) of making Use of Sea-Water in its Stead. And which answered our Purpose every whit as well. But the Time and Manner even in that it is proper to have a Regard to.

Another Instance I can bring from an Accident that befel us on the same Cruize; being reduced to a very great Scarcity of Fresh-Water, and our Men daily falling down sick, requiring a greater Number of Vomits to be given (which and Bleeding being the two first Things for the most Part very rationally prescribed on the Attack of Fevers and other acute Distempers) were duces to the Healing thereof. As I had indeed before experienced with Success in the *West-Indies*, where they had been always deemed incurable.

obliged to make Use also of Sea-Water to work them off, which succeeded very well, and would have been (I'm sure) attended with a much better Effect. But, such is the Disposition and Ingratitude of our common Seamen! though resolute enough to engage an Enemy, yet, will not be prevailed on to take what is most proper for them; but, rather inclined to give us bad Language and often very grossly abuse us for our intended Good Services.

The Party's own Urine also fresh made, which I have found upon Trial to be no Ways inferior in the like Cases; and likewise internally used in the Cure of many Disorders*. And as Cardan relates;

* My Manner of exhibiting which is to order about half a Pint or a little more to be taken in the Morning early in Bed, to be repeated for three Mornings successively; then to rest three and take it again: And so on, till they have compleated nine Times. And, if possible, just before and after the Moon's Changes; more especially in the Seasons of Spring and Autumn.

*Est autem Urina tenuis valde Substantiæ ob Calorem adeò, ut quamvis salsa sit, attamen levior existat. Quam Aquâ, non tamen Omnis. Ob id Urina Ventrìs Inflationi multum prodest, ac longe magis Aquâ salsâ. Tenuitate enim penetrat ad Intima, securaque Salis vim defert, quâ Flatus discutitur & Viscera confirmantur**. And, what the Hon. Mr. Boyle thought a most noble Subject to work upon; and had drawn up a Set of Titles for the Natural History of Human Urine†.

The Virtues of Brine are not less in a Gangrene by Way of Fetus, and mixed up with the Farinas into a Cataplasm according to *Heister*‡. And the same, in the Plague, as described by *Hildanus*||. Which

* De Subtilitate Lib. xvii. pag. 625.

† Vol. III. Id. pag. 540.

‡ Institution. Chirurgic. Vol. I. p. 323. in Cap. de Gangrænâ & Sphacelo.

|| Cent. 2d. Obs. 34. de Muriâ in Peste p. 187.

likewise, as Mr. *Boyle* gives us to understand, was a constant Antidote with a certain experienced Physician, during the Time of the Great Plague at London, to take every Morning fasting a little Sea-Salt dissolved in a few Spoonfuls of Fair-Water.

Moreover, *Riverius* in his 452d Observation proves that *Paræus* had given Anchovie Pickle with great Success in the Plague by itself, and sometimes mixed with Urine. Whence the most frequent Use at this Time of Salt of Wormwood &c. with Juice of Lemons, Spirit of Sulphur, Vitriol, or any other Acid, by Us called *Riverius's* Febrifuge Saline Mixture, and by him taken from *Crollius*, is chiefly prescribed in most Fevers; especially of the Intermittent Kind, and which seem to partake of any Malignancy.

Lambinus indeed in his Comment upon the 8th Satyre of *Horace* Lib.

ii——*ut Attica Virgo cum sacris Cereris, procedit Fuscus Hydaspes Cæcuba Vina ferens, Alcon Chium Maris expers. i. e. Aquæ Marinæ expers.* ὁ τε θαλασσωμενον. Though, in the same Place says, that *Athenæus* a Peripatetic Philosopher of *Cilicia* in the Time of *Augustus* asserts in the first Book of his Writings,

Veieres consuevisse Aquam Marinam in Vina infundere, fortasse ut essent salubriora. Nam hujusmodi Vina nullas Cruditates gignunt, Ventrem solvunt, Stomachum aliquantum mordent, atque incitant, Flatus non ingenerant, ad Cibus concoquendum adjuvant.

Verba Athenæi sunt hæc;

“ Οἱ δ’ ἐπιμελεστέρον τε θαλατῶμενοι
 “ οἶνοι ἀκραιπάλαι εἰσι, καὶ κοιλίαν
 “ λυγρὴν, ἐπιδάκνυσιν, τε τὸν στομάχον,
 “ ἐμφυσήσους, τε καὶ νεργαζόναι, καὶ
 “ συγκατεργαζόναι τὴν τροφήν.

And, as Dr. Ruffel further makes manifest by vouching the Testimony of Celsus in Page 220. of his Latin Edition.

“ *Duas fuisse apud Veteres Aquæ*
 “ *salsæ Species, quarum utrasque ad*
 “ *Alvum solvendam dabant. Alte-*
 “ *ram earum, Aquam pictu Mari-*
 “ *nam, Natura facile suggessit:*
 “ *Alteram, quæ adjecto Sale fieri*
 “ *consueverit, illius Vice Medica*
 “ *substituit Ars.*

“ That there were two Sorts of
 “ Salt-Water amongst the Ancients
 “ which they gave to open the Body.
 “ One of which (to wit) Sea-Water,
 “ as Nature easily afforded; the
 “ other, by Addition of common
 “ Salt, which was often by Art sub-
 “ stituted for the former.”

And, again to the same Purpose in Pag. 48. *Duorum Generum a Veteribus datam fuisse salsam Aquam, ut Alvus libera servaretur:*

*Alterum Natura, Alerum suppedi-
tavit Ars**.

So that the Modus Operandi in both is much the same; and very little different in Composition. The one being an artificial Solution of common Salts in Spring-Water only†; and the other altogether natural. “ Its Saltness being produced, “ not only from the Rocks and “ other Masses of Salt, which at “ the Beginning were, or in some “ Places may yet be found either “ at the Bottom of the Sea, or at “ the Sides where the Waters can “ reach them; but, also from the “ Salt which the Rains, Rivers,

* Cels. in Cap. de Alvi Duct. Lib. 2. Cap. 12.

† In preparing which or any other saline Mixture, it is worthy of Observation, and become now a general Caution; that the Vessel you employ be of neither Brass nor Copper (but of Silver, Iron, Tin, or Earth) lest it attract some poisonous Quality from the Metal, that may be very disagreeable and injurious to the Stomach.

“ and other Waters dissolve in their
 “ Passage through many Parts of
 “ the Earth, and at length carry
 “ along with them into the Sea*.

The Virtues of which and its Productions (in common Use as well as medicinally applied in the fundry Disasters incident to the Body) was I to enumerate, would be more than the largest Volume could contain. But, more of these I will present you with in my next; and, a Method of extracting fresh Water from Salt, the most beneficial to Navigation in long Voyages, and consequently to Mankind; lately communicated to me by a Friend in Town, and proved upon Trial to be more expeditious and successful, and with less Expence of Fewel than by a common Distillation.

It would be also doing the greatest Injustice to the Memory of that truly

* Boyle's Experiment, Vol. III. Pag. 218.

pious and philosophical Divine Dr. *Berkeley*, late Bishop of *Cloyne*, was I to pass over in Silence the Advantage the World has reaped from his Writings; especially, from his *Siris* or Dissertation on Tar-Water; as daily appears from the Use of it; which upon the Declension of Fevers attended with the Scurvy at Sea, I had often given with the greatest Success.

The Names of the Authors which I thought proper to have prefixed, render it quite unnecessary to bring any further Quotations to prove the Antiquity of the Use of Sea-Water. More particularly as it hath been before lately so well introduced and explained by Dr. *Russel* of *Lewes*, and Dr. *Speed* of *Southampton*; who are (in my Opinion) much to be esteemed for their Assiduity and Care in endeavouring to revive a Method that was so much practised in former

Times and ever thought of great Use to Mankind, and still capable of greater Improvements: Dr. *Russel* ingenuously owning in Page 80 of in his Latin Edition, that the first Hint he had of the Use of Sea-Water was from an accidental Discourse between him and Mr. *Webb*, a Surgeon in *London*, upon a little Book entitled, *Comitis Domestici*, published in the Year 1730, wherein Sea-Water is recommended as the most proper Purge for Sea-faring People, as Mr. *Webb* has since experienced, and by whose Advice the Doctor first made Trial of it and brought it into Practice.

But, as I just before took Notice, and agreeable to a Saying of *Hippocrates*;

*Laudandi Omnes quod
Alia atque Alia investigare sint
conati.*

I re-

I remember to have lately read in the Writings of some Author, how dangerous it was to propose any Novelty in Practice; and, that it was thought better to suffer Thousands to perish under the common Treatment, than to save them by deviating from the beaten Track. Which might possibly be the Fate of this my present Endeavour; wherein as my sole Aim is and has been altogether for the public Good, in exhibiting these my practical Notions, joined with the Opinion of others, concerning the Use of Sea-Water; and though not set forth in a Latin Dress (as lately done by other Gentlemen of the Faculty) will I hope not the less fail to meet with its due Encouragement. It being but a Part of what I intend, if by this Specimen, it is allowed what I have written, be rational, useful, and instructive.

“ For (according to Dr. *Lan-*
 “ *grish*) He, and only He deserveth
 “ the Name of a good Physician
 “ who always deduces his curative
 “ Indications from the Cause of the
 “ Disease and the Symptoms that
 “ attend it. And, as the Causes
 “ of Diseases are more simple and
 “ plain than they are generally
 “ taken to be, so it is most Times
 “ no difficult Matter to cure them
 “ by the Use of a few and fre-
 “ quently plain Remedies. For,
 “ those who prescribe a Multitude
 “ of Medicines, seldom have clear
 “ Ideas of the Causes of Diseases;
 “ but are diffident and wavering in
 “ their Opinion: And, for Want
 “ of a sure Basis to found their
 “ curative Indications upon, they
 “ rely on a Farrago of Medicines,
 “ in Hopes that some of them might
 “ be successful, but very often prove
 “ destructive*.”

* Modern Pract. Phys. Prefat. Pag. 53.

And,

And, the same Anecdote may (with no Impropriety) be applied or adapted to external Medicaments also, as Balsams, Unguents, &c. in curing of Ulcers on the Legs or elsewhere: The often changing of which not only renders them much worse, but, shews great Want of Judgment in the Surgeon's knowing how to proceed. Whereas, by a constant, regular and uniform Method one or two Sorts of Medicine shall suffice for the whole, and be able to accomplish a Cure in a much shorter Time.

The Inconveniencies attending any other Manner of using Sea-Water, must be great; at least not so liable to succeed: As I have already and can make further evident, agreeable to these my present Suggestions, and hope neither you, nor any one else can blame me in thus delivering my Sentiments freely on a Matter,

wherein the Lives of so many fair
and useful Subjects are concerned.
And, should what I have now
offered be of any Service to you and
them, it will be a sufficient Recom-
pence for all the Pains taken by,

S I R,

Your very humble Servant,

And should what I have now
offer'd be of any service to you and
them, it will be a sufficient recom-
pense for all the pains taken by

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Your very humble servant