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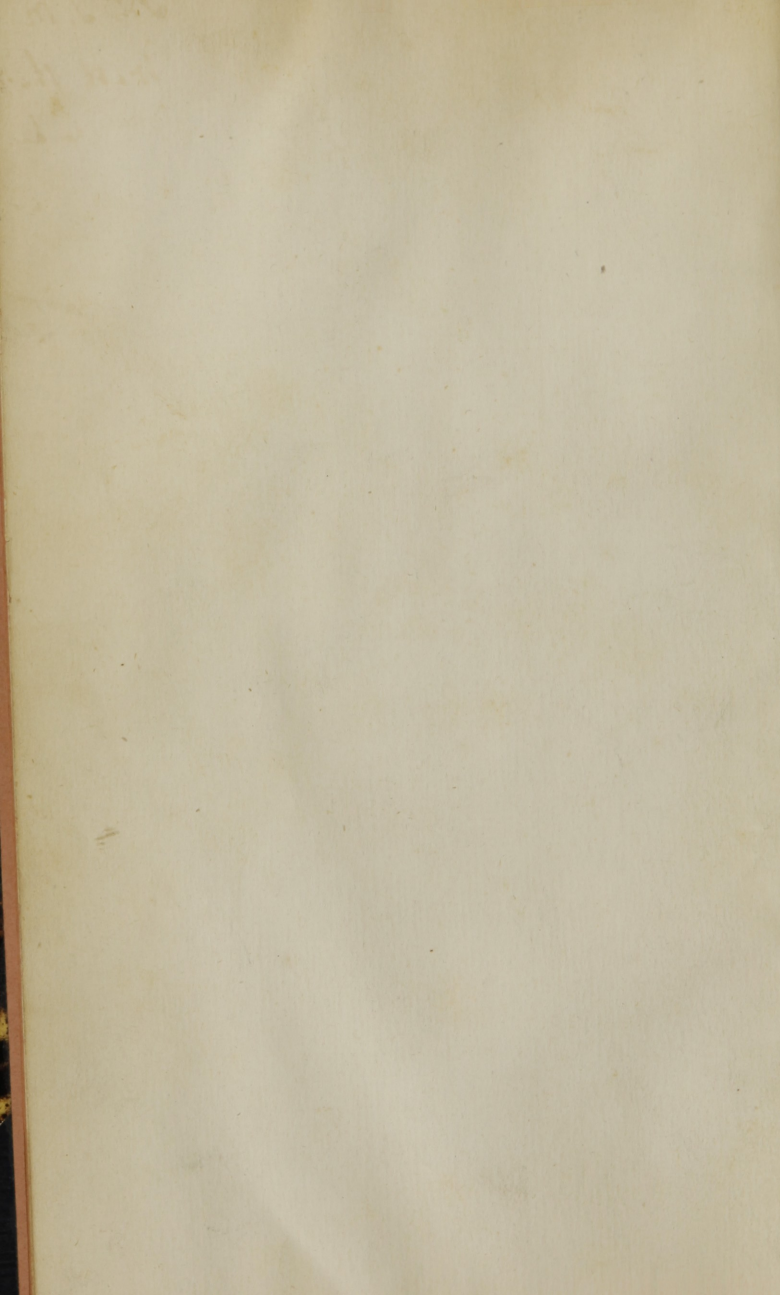
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No. 66674



AN ESSAY

*Dr. J. M.
with the
of his
K.*

ON THE EXPEDIENCY OF

INOCULATION

AND

*MS not to be
cut the leaf*

The Seasons most proper for it.

HUMBLY INSCRIBED

TO

The Inhabitants of Philadelphia,

By LAUGHLIN MACLEANE, M. D.

Ες δε τα εσχάτα νέσηματα, αἱ ἐσχάται θεραπείαι ἐς ἀκριβέην κρατίσαν.
HIPPOCRAT.

Tua res agitur Paries cum proximus ardet.

HORAT.

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P R E F A C E.

WHOEVER is a sincere Wellwisher of Mankind, and desirous of being an usefull Member to the Community, will, at all times, risk a little of his own private Advantage, when it appears for the public Good.—I shall make, then, no further Apology for venturing to communicate the following Pages, than, that I imagined the Publication of them at the present Juncture might be serviceable, the Small-pox having been, more than commonly, alarming this Season,

It is a very difficult Matter to preserve the Connection of a regular Treatise in an Essay of this Nature, much more to attain to such a Form, as will please the Judicious Reader. I shall, therefore, study Matter more than Method, and I hope my Endeavours will meet with Indulgence, at least that I shall escape any severe Censure, in case I am found to advance nothing contrary to sound Practice, and the Welfare of the Society.

I do not presume to offer an Essay so lame for the perusal of any Gentleman of the Faculty, my utmost Ambition in this Paper is to demonstrate the Importance of Inoculation, to those alone who have not made any part of Physic their Study; for this reason I have endeavoured to write in the plainest manner, avoiding all terms proper to Physic, as much as was consistent with any tolerable Style; and explaining such as I was forced to use, which the learned Reader I hope will pardon for the sake of those less versant in Letters: Yet have I, in some sort, attempted to merit even the Countenance of my Brethren, by supporting every thing, which I have ventured to assert, by the best Authority. This was required of me much as a young Man, more as a Stranger.—In this Intention most of the Notes are added, and as they are calculated only for those who have made some Progress in Medicine, I have inserted them in the Language of their Authors, the Essay itself being connected without them.

The History of Inoculation, with some Thoughts on the Methods of Preparation and Cure, tho' not immediately necessary to my Design, I have occasionally interspersed, where ever the Nature of the Subject seemed to require it; but in as brief a Manner as possible, and that for many Reasons, out of which let the following suffice.—To give a regular Treatise was by no means my Purpose.—No general Rules can well be assigned for Preparation, seeing this depends intirely on the Judgment of the Physician, Constitution and Habit of the Patient, and even

the Circumstances of Time and Place; § so that it is very possible a Man may practise Physic his whole Life-time, without meeting with two Patients exactly alike in every Particular. — The same Rule holds good also in the Method of Cure, with this further Addition, that what ever Treatment would be proper in the natural attack of the Disease, that, and that only, will be expedient here: And the Cure of the Small-pox is so fully set forth by such great Names as Sydenham, Boerhaave, Mead, Freind, Huxham, Baglivi, Hoffman, and many others, that without considering the Presumption, it might be thought superfluous, in me, to multiply Words on this Head.

Though this Disease was unknown to Hippocrates, Celsus, and the Ancients, yet have I endeavour'd to corroborate what I advance by analogous Quotations from them. — In short, I always have courted the Hippocratic Physic, and will ever continue to do so, from whence, as the most accurate History of the Changes and Affections incident to the human Frame, the most rational Methods, preventive and curative, may be deduced for all Distempers to which Mankind are liable; tho' numberless Diseases, yet unheard of, should arise.

§ Τῶν νέσων ἀλλαιῆν ἢ κακῶς περὺρᾶσι; καὶ ἡλικίᾳ τινὲς πρὸς ὄρας, καὶ χωραὶ, καὶ διαίτας

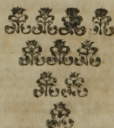
HIPPOCRAT. Sect. 3. Aphor. 3.



EXPLANATION of Words which occur in this ESSAY.

- Variolous*.----- belonging to the Small-pox.
Petechiæ.----- Purples; livid Spots.
Hæmorrhages.----- Effusions of Blood.
Diarrhœa.----- A Flux; violent Looseness.
Indigenous.----- Which are produced at home.
Exotic.----- Foreign; which are produced abroad.
Infusion.----- Graffing; Inoculation.
Fomes.----- The Fuel or Seeds of any thing.
- Chyle*.----- } A milky Fluid secreted from the Aliment by Digestion, in order to supply the Waste of the Blood.
- Clinical Lectures*. } Which are given at the Bedside of the sick; that Precept may be illustrated by Practice.
- Strumous*.----- }
Scrophulous.----- } belonging to the Kings-Evil.
- Cutaneous*.----- belonging to the Skin.
Virus.----- Poyson.
- Prognosis*. }
Prognostic. } } The Judgment formed from the Consideration of all the Symptoms of a Disorder taken together.
- Miasmata*.----- noxious, hurtfull Particles.
- Attenuants*.----- } Medicines which render the Humors of the Body thinner.
- Viscidities*.----- Toughness; Gluiness.
Epidemic.----- Common among the People, universal.
Endemic.----- Peculiar to a particular Place, or People.
- Cursorry Disorders*. } Accidental, not depending on the Qualities of the Soil or air.
- Pituitous*.----- Watery; Phlegmatic.
- Lentor*.----- } much the same as Viscidity; sometimes it signifies Clamminess, Ropyness.
- Æther*.----- } An imaginary subtil Element, generally supposed a purer sort of Air, seated above our Atmosphere.
- Aura*.----- } A subtil Air or Breath, (not that of the Lungs.)
- First Passages*. }
Primæ Viæ. } } --are in Anatomy the Stomach and Guts.
- Antacids*.----- Contrary to, prone to destroy, Acids.
- Prophylaxis*. }
Prophylactic. } } ---Prevention, Preservative.
- Idiosyncrasy*.----- } That Temperament of Body peculiar to any Man arising from his own particular Structure.

- Panacea.* ———— A Remedy for all Disorders, an universal Cure.
- Empirical.* ———— Belonging to a Quack.
- Stimulants.* ———— { Medicines which rouse, incite, or give a Spur to
the Solids.
- Alkali.* ———— { A Title given by the Chemists to all Substances
which excite a Fermentation when mixed with
Acids; generally however applied to Salts; these
Salts were first prepared from the Herb Kali,
Glaswort, and hence the Name.
- Per-vigilium.* ———— Obstinate Wakefulness.
- Subsultus.* ———— Twitchings, generally of the Tendons.
- Heetic.* ———— { A slow feverish Indisposition tending to a Con-
sumption.
- Oromazes.* ———— { The Heathen God, particularly worshipped by
the old Persians.
- Arrimanius.* ———— The Dæmon or Devil of the Persians.
- Tabid.* ———— Very consumptive, wasted, melted away.
- Hygieine.* ———— { That part of Medicine which pertains immedi-
ately to the Preservation of Health.



An ESSAY on the
Expediency of INOCULATION &c.

IT has been remarked that greater Numbers perish by the Small-pox alone, than by the three other grand Scourgers of Mankind, the Sword, Pestilence, and Famine united.—To resist a Disease so fatal, many Methods of Cure and Prevention, have been projected and practised, but to very little Advantage.—*Boerhaave* was of Opinion, in which he is followed by many of the present Physicians, that it was possible to prevent the Eruption and of consequence the Suppuration of the Small-pox, and to conquer the Disorder in the Bud by destroying the Fever; imagining that the Eruption and Suppuration of Pustules subsequent to the Fever was not in reality the essential variolous Disorder as most People conceive, but merely the Effects of it. †—To this thought Doctor *Rutherford*, the learned Professor of Medicine at *Edinburgh*, seems to assent, and really it appears very probable.—This He proposed to effect by a Specific, as Agues are carried off by the *Peruvian Bark*. But where is the Specific capable of doing this? He honestly confessed that he could guess at none, having tried many things in vain. Nor has any One since been more successful.—At this Method Doctor *Huxham* seems to allude in the following Passage; “It should seem then, could we
“ preserve, or produce, a certain peculiar Disposition of the Blood
“ and Humors, we might elude the Force of the Infection; And
“ this indeed is talked of by some, but I think upon a very slight
“ Foundation.—Some particular Preparations of the Bark and
“ Mercurials, by way of Antitode, have been thought successful,
“ and I have known some Instances that inclined me to think so,
“ but I am far from being satisfied so far as to advise, or depend
“ on them.—In truth, in different Constitutions, the very same
“ Medicine shall have very different Effects, and it would be madness to give the Bark and cordial Corroborants to one of very
“ strong

† *Cognito hoc morbi statu, (variolarum primo Stadio) indicatio videtur oriri hæc primo, ut Stimulo inflammatorio ablato, sanetur Status præsens et impediatur ulterior ejus Progressus, et proinde caveatur futura Suppuratio, Gangræna, &c.---Stimulus videtur auferre posse correctione per Specifica, ita dicta, vel methodo universali antiphlogistica.---Correctio specifica niti debet invento Remedio opposito illo veneno contagioso, quod tam parva mole susceptum, reliqua parit ut Effecta.* —APHOR. 138. &c.

" strong rigid Fibres, and a very dense viscid Blood, by way of
 " Prophylactic, or Preparative; though they might be of much
 " service in a weak lax state of Vessels, and a poor watry Blood.
 " —Would Mercurials be proper in a too loosely-cohering dis-
 " solving state of the Blood? Verily some bad Effects have been
 " sometimes noted on the use of them, particularly Petechiæ, Hæ-
 " morrhages, and profuse Diarrhæa's in the ensuing Pox; though
 " I am sensible, in other Circumstances, they may be very usefull.
 " —In sum then, whatever can be done rationally in this way,
 " must be with a view to mend what is faulty, or supply what is
 " defective, in the Constitution, so as either to fortify it against the
 " Attack of the Disease, or to prepare it the better to cope with it,
 " when it actually seizes.—Perhaps these few Hints may not be
 " altogether unworthy the Consideration of those especially, who
 " have the Preparation and Management of Persons to be inocu-
 " lated." †

SAVING Opium, we know but of two specific Medicines in Na-
 ture, that is Medicines which operate by some secret and unknown
 Quality, to wit *Jesuits Bark* and Mercury, and those we have just
 found to be insufficient: It is not to be doubted however, but there
 are many specific Remedies, could we but find them out, nay that
 there is scarce a Disease, against which all-bountiful Nature has
 not provided a peculiar Antidote; but as the justest Reasoning can
 afford us no manner of Insight into the Qualities and Operations of
 Medicines, a Knowledge which can be attained to by Experience
 alone, We must allow Time and Chance to have more share in
 bringing these to Light than human Foresight; Chance only hav-
 ing brought us to the Knowledge of the few, with which we are
 acquainted.—Indigenous Medicines, however, are too often as
 preposterously neglected, as Exotic Drugs are unseasonably prefer-
 red, by Us.—Is it not reasonable to suppose that the Creator of
 the World hath enriched every Country, with whatever Remedies
 the Diseases peculiar to the Soil and Climate of Each would re-
 quire; and also that Medicines very proper for Disorders incident
 to one Part of the Globe, shall yet be very improper for apparently
 similar Distempers in another;

Differunt pro Natura Locorum genera Medicinæ.

CELSUS.

Many Instances of this singular Regard of Providence to our Neces-
 sities, may be produced from the Natural History of even such
 Drugs as we already know; but a laudable Industry would bring

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us to the Knowledge of many more.— I have some where read, but cannot now recollect my Authority, that the Miners in *Hungary* being one time seized by a malignant fever and flux, Nobody at length could be prevailed upon to work the Ores, tho' very rich, till one of the Sick accidentally discovered, that a Stratum of red Earth, intermixed with the Veins of Ore, was an effectual Remedy for the Complaints occasioned by the noxious Effluvia of the Mineral; hence the great Fame of the *Terra Strigoniensis* in certain fluxes.

WHILST the great *Boerhaave* was recommending a Preventive, a Method, diametrically opposite, began to be commonly known and practised in *Europe*, viz. not to shun but seek the Distemper, which, tho' it might appear at first sight, and does so yet to Many, the furthest from being justifiable of any Means perhaps that ever were used, yet an almost universal Success has proved it of all the Advantages that could well be expected from Prevention itself.— This Remedy is termed Inoculation, a word that needs no Definition; and is not of such a late Invention as is generally imagined, for the Operation appears to have been frequent for some Centuries in the *East*, particularly among the *Circassians*, who trading in Women to supply the Seraglios of the great Men among the *Turks*, fell on this method of preserving the Beauty of their Females, encouraged thereto by the mildness of the Symptoms, which always attended the variolous Infection, while the natural Small-pox never failed, other Circumstances being supposed alike, to handle the most delicate Complexions and finest Skins the most roughly.— But tho' the Method by Incision was not known in *England*, till about the Year 1720, yet something very analagous seems to have been practised by the Inhabitants of *Wales*, for time immemorial, as the concurrent Testimonies of several Gentlemen of Credit and Veracity, Natives of *Wales*, sufficiently evince, particularly Counsellor *Owen*, Doctor *Williams*, and Surgeon *Wright*, as related in the 357th N. of the Philosophical Transactions.— The Custom I speak of was called buying the Small-pox, and was thus performed; The Persons willing to procure the Distemper bought one or two pennyworth of the infectious Matter, agreeing for what was contained in a stipulated Number of Pustules, more thro' matter of form than any mercenary compact, and either rub'd this matter smartly on their Arms, held it, till it dried, in the Palms of their Hands, or pricking themselves with a Needle, instilled it into the Part; from whence all the good Effects followed which now attend Inoculation.— The oldest People then in *Wales* declared, that the Custom was usuall all the Days of their Fathers, and that no Person knew from what time to date its Original.

THIS

THIS Operation has done, immense Service to the Public in general, by saving the Lives of Thousands; and little Injury to Individuals, as very few have suffered by it: Yet one Miscarriage has more weight in deterring unthinking People from it, than innumerable Successes have to encourage them to it.—While human Understanding remains so limited, the best of human Inventions must despair of universal Approbation; hence many reject they know not why: And since in reality absolute Perfection is not granted to any thing sublunary, the best of Earthly Blessings may be abused; hence many convert the Good into Ill.—To assert then the Benefit of Inoculation in general, and answer the Cavils and Objections of those who condemn it rashly and intirely on the one hand; and to point out the Dangers which they who run into it blindly and immaturely, are apt to fall into, on the other; is my Design. And happy shall I esteem myself for the Pains I have taken, if they contribute even to the Recovery of one Person, who would otherwise have perished by this dreadful Disorder; let the acceptance which this Paper may meet with, in other Respects, be what it may.—

THE Method I propose to follow, in what I have to offer, is;

1st, To give the Opinion of some of the most eminent Physicians, concerning the Small-Pox by Infection, who practised when it was introduced into *England*, or who have mentioned it since.

2^{dly}, To endeavour, to answer the Objections that have been, or are yet, raised against it.

AND lastly, to consider the Seasons most proper for it.—In all which, as is natural to what is commonly called an Essay, I shall frequently take the Liberty of digressing, but without quitting Sight of the main Subject.—

No Man, of common Honesty or the least Humanity, would give his Opinion contrary to his Judgment, in any Case where the Life or Health of any Individual, much less of the Community, was at Stake; but there is yet another Reason not to doubt the Candour of Physicians, and that a strong one, when they speak in Praise of Inoculation, I mean, that such Opinion is contrary to the Interest of their Pocket: for before the Practice of Inoculating was introduced, the Small-Pox was certainly the surest and largest Penny in the Doctors Purse, He being as certainly called for as the Disease came; but, since that Date, the Case is quite altered with him, for what reason, the Success of the Method alone can tell. And now every Country Apothecary, nay even Nurses confidently esteem

esteem || themselves very equal to the Task.--This is certainly a very dangerous Procedure, if every Man may be allowed to understand best his own proper Business; but it is at the same time one of the most convincing Arguments that can be brought for the Usefulness of Inoculation, that it succeeds when even administered injudiciously; and that this has often been the Case, no unprejudiced Person will go about to deny. I do not say however that no Person but a regular Physician or Surgeon is proper for the Business of Inoculation, but I say that very few are; and that the Qualifications of any Man ought to be very great and very obvious, to deserve our trust, without having laid in a proper Foundation for the Knowledge of Physic and Surgery, by a regular and well grounded Education, and a thorough Knowledge of Anatomy; without which all Medicinal Prescription is Guess-work. There are few Persons who would not be very loth to trust a valuable Watch into the hands of a clumsy Workman, who had never served a proper time to the Trade, to rectify the Springs; and yet such is the Infatuation of most People, that they every Day permit the noble Economy of their own Machine to be botched and bungled, by Persons that are not acquainted with one Movement of the Structure. —I associate Physic and Surgery, because it is impossible to become an eminent Surgeon without being at the same time a tolerable Physician; the Knowledge of the one, at least in Theory, should always accompany that of the other, for they are to each other a mutual Support; and a Deficiency in the Theory of the one, always renders the Practice of the other imperfect. But neither one nor the other, that I know of, in any sort belongs to the Business of the Apothecary, which intirely consists in the perfect Knowledge of Simples and their Preparations, and in a just Method of Compounding according to Prescription. The Truth is, these three Branches of Medicine, which, when Physic was rude, were united under the same Professors, would never have been separated, had it not been found a Matter too difficult to reach Eminence in any of the Professions, and spare time requisite to excell in the others: Nay so far did the first Improvers of Physic extend this Affair of a Medical Division, that they allotted particular Physicians for the Study of particular Distempers, to which alone their future Practice was intirely confined. † This Regulation however could

B 2

not

|| I mean the Inconsiderate among them: for the more Prudent and Conscientious always decline meddling with a Business which does not pertain to them, and which therefore it cannot be expected they should understand; As for those *Qui non didicere quid sit scire, nullius rei Sibi non arrogat scientiam.*

QUINTILIAN.

‡ vide ARISTOTEL. Politic. 3. Cap. 15. HERODOT. Lib. 2; Cap. 84.

not stand, for tho' it might bring great Light upon Disorders, yet it could induce few to cultivate the Science, because the Physician himself might starve while he was studying how to make others live.—The more modern Division into the three Professions, Medical, Surgical, and Pharmaceutical, has maintained its Ground long, and is likely to do so, as it is founded on the mutual Advantage of both Parties, as well the Sons of *Æsculapius*, as those who stand in need of their Assistance.

Quam Quisque novit artem in hac Se exercent,

said *Cicero* on a much less interesting Occasion, than one wherein the Life and Death of Millions are concerned. I beg pardon for this long Digression, but as the Health of the Public is so nearly interested in the Subject, an Apology for it is the less necessary, there being few, very few, Medicines † which, when taken into the Habit even by the most healthy, do not either manifest Injury or Service to the Constitution.—But to return, I shall begin with the Opinion of the accurate *Huxham*, who so eminently supports the Fame and Dignity of his Profession; in his incomparable Essay on Fevers, a work of immense Value, and which cannot be too often perused, as, in it, He has so judiciously corrected the few Errors of the renowned *Sydenham*, who in some cases pushed the rational Method of Physic, which he had happily restored, a little too far, a fate, as already observed, not uncommon to the best of things; In his Essay on Fevers, I say, he has these Words, “Innumerable
“ Instances however have now sufficiently evinced the great Success
“ and Advantage of this Method, Inoculation, and, granting all
“ that Prejudice and Party have said against it, the Danger in the
“ natural way is at least ten to one, of what it is in this.” †

“ THE Hazard in this Method, says Doctor *Nettleton* who was
“ one of the first and most judicious Inoculators, is very inconsiderable, and in Proportion to that in the ordinary way, by accidental Contagion, so small, that it ought not to deter any Body
“ from making use of it.” †

Doctor *Shaw*, Physician in ordinary to his Majesty, in his new Practise of Physic, published at a Time when Inoculation had got into Disrepute, “by (as himself expresses it) some Errors in the
“ Choice

‡ *Medicamentum non semper Aegris prodest, nocet semper sanis.*

CELS. L. b. 2. Cap. 1.

Aegrotantes in pejus aequè incidunt, si a Medico imperito; Medicamentis importune exhibitis illorum Perspiratio diverteretur, ac si ab Erraticis Aegrotantibus

S SANCTOR. Sect. 1. Aphor. 47.

† Page 134.

‡ *Philosoph. Transact.* No. 370.

“ Choice of the Subject, some in the management afterwards, and
 “ some untoward Accidents in the Distemper itself,” nevertheless
 bestows on it the following Character; * “ The Small-pox given
 “ by Inoculation appear to be the distinct kind, the Symptoms
 “ here being generally light and favourable; the Pustules few and
 “ not apt to pit or mark the Face; and the Danger little thro’ the
 “ whole course of the distemper.”

THE Sentiments of Doctor *Rutherford* on this Head as taken
 from his own Mouth in his Clinical Lectures for the year 1753 tho’
 comprised in few Words are, with me at least, of the greatest weight,
 “ Above thirty years, says he, has Inoculation been practised in
 “ this Island (*Britain*) and with good Success, for few or none
 “ have died of it, where the Experiment was fairly tried, that is to
 “ say, where the Patients Blood was in a proper State, and Him-
 “ self free from any other Disease.”—My Obligations to this
 great Man as my Preceptor in the healing Art, require, since I
 have had occasion to mention him, that I stop here, to pay him the
 Tribute of an unfeigned Gratitude; a Tribute due to his Worth,
 particularly from his Pupils, who can never sufficiently acknow-
 ledge the Advantages they have reaped from his Labours, above
 all from his excellent Institution of Clinical Lectures, where they
 daily saw him put in Practice on numberless Patients the salutary
 Precepts which he had before taught them in his practical Class.
 If great Abilities constitute, if a tender Heart and extensive Charity
 adorn, the Real Physician, no man ever deserved the Title better,
 no man ever graced the Science more.

THE great Doctor *Mead* in his Treatise on the Small-Pox has an
 entire Chapter on the Advantages of Inoculation, to which, as
 being too long for insertion here I refer the Reader.

BUT the strongest Argument in favour of Inoculation is drawn
 from Facts, an Argument which admits of no Reply, and against
 which all Reasoning would be vain and absurd.—By this Argu-
 ment chiefly, nay almost solely, did the celebrated Doctor *Jurin* ob-
 viate all the Cavils of the first Opposers of the Variolous Infition;
 proving evidently, by his ingenious Tables, and the Inferences na-
 turally deduced from them, “ that, nearly one fourteenth Part of
 “ all that are born die of the Small-pox;” if not saved by Inocu-
 lation.—But as all still-born and abortive Children were included
 in the Bills of Mortality, upon which these Tables were formed,
 and as many Thousands die without ever having the Small-pox;
 Convulsions

Convulsions, Teething, Rickets, &c. being observed to carry off Children to the Number of 386 out of every 1000 in the Bills of Mortality; If the same Proportion should still continue, that was observed in these Tables, calculated for forty two years before Inoculation was known, and eighteen Months after it was practised, in *England*, for so soon after did Doctor *Jurin* write, we must expect; "That of Persons of all Age, taken ill of the natural Small-pox there must die of this Distemper, one in five or six, or two in eleven."

"THAT of Persons of all Ages inoculated without Regard to the Healthiness or Unhealthiness of the Subject, as was practised in *New-England*, on the first Knowledge of the Method, there will die only one in Sixty."

"THAT of Persons inoculated with the same Caution in the Choice of the Subjects, as had been used in *England* by the several Operators one with another; (some of whom however were not very proper as will appear from the Tables) there will die only one in Ninety one."

"BUT if those two Persons hereafter mentioned in the Third Table, were allowed to have died of other Accidents or Diseases, then, we shall have Reason to think, as far as any Judgment can be made from our Experience in *England*, that, provided proper Caution were used, None at all will die of Inoculation, as we are informed is the Case in *Turky*, where out of many Thousands, that in the Space of forty Years, had been inoculated in and about *Constantinople*, by one Greek Woman, not so much as one Person miscarried. This, Doctor *Le Duc* asserted, who was a Native of *Constantinople*, and had been himself inoculated there under the Care of his Father an Eminent Physician in that City."

FOR a further Account of this Matter see the 374th No. of the Philosophical Transactions; The Tables, to illustrate the Inferences, I have inserted here.

TABLE I.

Years	Total No. of Burials	Died of the Small-pox.	
		In all	In 1000
1667	15842	1196	75
1668	17278	1987	115
1669	19432	951	49
1670	20198	1465	73
1671	15729	696	44
1672	18230	1116	61
1673	17504	853	49
1674	21201	2507	118
1675	17244	997	58
1676	18732	359	19
1677	19067	1678	88
1678	20678	1798	87
1679	21730	1967	91
1680	21053	689	33
1681	23971	2982	125
1682	20691	1408	68
1683	20587	2096	102
1684	23202	156	7
1685	23222	2496	107
1686	22609	1062	47
20 Years	398200	28459	71½
Each Year at a Medium	19910	1423	71½

TABLE II

TABLE II.

Years	Total No. of Burials	Died of the Small-pox.	
		In all	In 1000
1701	20471	1059	53
1702	19481	371	16
1703	20720	898	43
1704	22684	1501	66
1705	22097	1095	50
1706	19847	721	36
1707	21600	1078	50
1708	21291	1687	79
1709	21800	1024	47
1710	24620	3138	127
1711	19833	915	46
1712	21198	1943	92
1713	21057	1614	77
1714	26569	2810	106
1715	22232	1057	48
1716	24436	2427	99
1717	23446	2211	94
1718	26523	1884	71
1719	28347	3229	114
1720	25454	1440	57
1721	26142	2375	91
1722	25750	2167	84
<hr/>			
22 Years	505598	36620	72
<hr/>			
Each Year at a Medium	22982	1665	72
<hr/>			
42 Years	903798	65079	72
<hr/>			
Each Year in 42 at a Medium	21519	1550	72

TABLE III.

INOCULATED by

Doctor <i>Nettleton</i> .	61
<i>Claudius Amyand</i> , Esqr. Surgeon	17
Mr. <i>Maitland</i> , Surgeon	57
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Out of this Number the Opposers of Inoculation affirm that two Persons died of the Inoculated Small-pox; The Favourers of this Practice maintain, that their Death was occasioned by other Causes. *

THE Reverend Mr. *Mather's* Account from *Boston*, March 10, 1721, was " that of near 300 inoculated there, 5 or 6 died upon " it or after it, but from other Diseases and Accidents, chiefly " from having taken the Infection the common way by Inspiration, " previous to the Transplantation. †

HAVING now strengthened myself by the Opinion of Men eminent in their Profession, I shall more boldly endeavour to answer the Objections of those who oppose this Practice of Inoculation. These may be reduced to the following Heads, to which for Methods sake I shall reply in order.

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* By the Accounts of the Hospital for Inoculation in London, it appears that no more die of Inoculation under proper Management than 1 in 150. And surely the Danger may be estimated greater in a crowded noisy Hospital, than in well-aired private Rooms. But the amazing Success which has attended this Operation in *Antigua*, while the Infection has been so malignant and fatal here, might, without any further Argument, convince any unprejudiced Reasoner of the Utility of the Method, and the Obligation which every conscientious Parent lies under of practising it for the Good of his Children; for if I am well informed, and I receive my Intelligence from a Gentleman in this City of known Honour and Veracity, above ten Thousand Persons have been this Season inoculated in that small Island; in which Number the Proportion of those who died of the Disorder was to that of the Survivors, as one to eight hundred. † See *Philosoph. Transact.* No. 347.

It is objected

I. THAT the Disorder raised by Infection is not the Identical Small-pox.

II. THAT in Consequence of this the Small-Pox may be caught after Recovery from the Operation.

III. THAT it is Presumption to inflict this, or any other Distemper.

IV. THAT our Fate is already decreed, and therefore Inoculation, if not sinfull, must at least be unprofitable.

V. THAT in case of bad Success, Remorse must occasion very great unhappiness.

VI. AND that the Seeds of other Disorders may be introduced with the variolous Matter.

II. THE two first were the earliest Objections against the variolous Infection, and are so much connected, that one being overthrown, the other must fall of course; to save Time and Words I shall therefore consider them together. When Inoculation first came in vogue these were terrible Objections to it, and deterred many, because they were a Matter, not of Reason, but of Experience; which alone could prove their Insufficiency, all Reasonings a priori being dangerous in Medicine: but now they have lost so much Ground that they scarcely deserve a serious answer, after almost forty Years Practice, in which there has not been found the smallest Deviation of the Symptoms from their usual Appearance in the ordinary Seizure of the Distemper, when equally mild, or equally severe; nor can the most prejudiced Enemies of this Method, produce one unexceptionable Instance of a genuine Attack of the variolous Fever after Recovery from the Small-pox by Inoculation, nor one sinister Accident immediately dependent on it. Which I think sufficiently demonstrates that Infection produces the real Small-Pox, and that Persons inoculated are no more liable to a second Visitation of this Disease than those who have had it in the natural manner.-----One or two Relations, it is true, have been given of Persons having the Small-Pox after Inoculation, but they were found on Enquiry to be ill-grounded, and no more than every day happened to People very conversant with the Sick in this Disorder; for Nurses who handle variolous Patients may be said to have the Small-pox often, if the Appearance and Suppuration of a few Pustules on those Parts which come into frequent Contact with the Sick,

Sick, but without a fever or any ill Symptoms, may be called the Small-pox. And this is all that could ever be proved to befall any Persons after Inoculation, and that only Two or Three out of many Thousands.-----A remarkable Instance of this Sort happened to myself. The first Person I Inoculated had a larger Number of the Pocks, and of a worse kind than I could have wished; Uneasy, least I should miscarry in my very first Attempt, and the more so as the Person afflicted was very dear to me, I was particularly assiduous in my Attendance, scarce stirring from the Room, but in order to sleep, and trusting very little to any one, so that I almost performed the Office of a Nurse myself. (The consequence was that about the time when my Patient was out of Danger, Pustules began to appear on my Hands and Arms, and suppurating with a considerable degree of Inflammation went regularly thro' all the Stages of the natural Disease, without any apparent Fever, but not without Pain: And if this happened to me who have had the Disorder in as severe a manner naturally, as most People who have recovered from it, having lost two Brothers, beside one rendered lame, by it, at the very time when I narrowly escaped Death myself, it may well have been the Case with One or Two of the Inoculated, who were so mildly handled by the Disorder as to leave it uncertain whether they had taken the Infection or not.---) I had the Curiosity to keep some of the matter of these Pustules, which came to so extraordinary a head on myself, to try whether it would communicate the Distemper in the way of Inoculation, but could find Nobody willing to risk the Experiment, so that there yet remains Room for doubt with me, whether such matter can convey the Small-pox, but I am rather inclined to believe it will; tho' I freely acknowledge my utter Ignorance as to the Cause why the blood will not receive a fever after the first Infection. This Ignorance however is of the less moment, as such Knowledge would not contribute to the real Improvement of the Art.---The first Cause of the Disorder itself is equally unknown, and what has hitherto escaped the Penetration of the most subtle Physicians, is likely to remain always a secret to me: Besides it has ever been my Opinion that there is something not a little imprudent in the Investigation of all first Causes; which are placed many Degrees above human Comprehension.-----They who have dared to conjecture any thing concerning Matters so profound and uncertain, differ widely among themselves: some blaming I know not what Pollution of the Blood, while we continue in the Womb; some accusing certain morbid Affections and peculiar Acrimonies of the Fluids; while others more plausibly alledge, that in different Climates while the same Causes constantly act, various Disorders are produced (*ενδημιοι*) proper to these Climates, which Disorders afterwards may be propagated by

Infection. But for my part I am not ashamed to own that here again I know nothing of the Matter; and provided I know the second and proximate Causes, I think I know all that is usefull, or can instruct me in the Cure of Disorders; further Insight into these Matters pertains more, if it pertains to any body, to the Philosopher than the Physician.

III. THE chief Argument urged against Inoculation by scrupulous Persons, is from Conscience. It is Presumption, say they, to tempt the Almighty by inflicting Distempers without his Permission. So say I; but the great Success of the Practice not only shows the Permission of God for, but his immediate Blessing on our Endeavours, by the extraordinary Recovery of so many more in this, than in the natural way, as it is called, of the Disease. To prove their Assertion it will be necessary for them to shew, that this Method is displeasing to God; but this I am apt to think, they will find no very easy Matter. If even as many Persons died of the Small-pox by Inoculation as without it, we might have reason to conjecture, that our Practice was not only displeasing to God, but punished by him, as in that case the many Advantages of Preparation, Youth, Confidence, &c. which we have manifestly in our favour cannot defend us from his Wrath: They might then say, that the Sins of the Fathers were visited on their Children and we should all be more ready to acquiesce, and to desist from a Practice against which God had, so plainly, manifested his Displeasure. But if on the other hand we may, with equal Authority, conclude, that the use of these second Means is pleasing to our Creator, and blessed by him, with the most extraordinary Marks of his Favour, as our Success warrants, may we not very fairly retort this Argument of Presumption? and certainly not to use the Means put in our power, but supinely to expect all Blessings to be poured on us, without the least Effort on our Part, argues Presumption in a double Sense.-----Much of this Nature are the Objections made to the use of Mr. *Franklins* Invention for defending Us from the fatal Effects of Lightning; certainly an Invention of the most signal Benefit to Mankind, whether we consider it as respecting our Persons, our Buildings, our Fleets or our Magazines; and yet such is our Superstition or Sloth, or Presumption, not to call it worse, that we reap very little Advantage from it; scarce One in a Thousand, I might say ten Thousands, seeming to understand the Importance of so noble a Discovery. I might here argue, I hope without any Imputation of Irreligion, that God having subjected the Works of his Creation to settled Laws, Deviations from those Laws will seldom take Place; in other Words, we will seldom, or never, find any unsteadiness in such Causes and Effects as come within the Compass of our Understanding.

standing. Thus Lightning, under the Regulation of these general Laws, being always observed to strike the highest Buildings, as Steeples, the loftiest Trees as Oaks, will be ever observed to do the same. Mr. *Franklin* regarding this, and finding that the electric fire tended more to pass thro' certain Species of Matter, than others, for on what Supposition else shall we account for the melting of Swords while the Scabbards which contained them have remained uninjured, happily took the Hint, and by discovering what Substances were the most proper to attract and convey this destroying fire, by placing these attracting Substances higher, and continuing them lower, than the Substances to be defended, He fell upon the most rational Method of Safety that could well be devised against the electric Stroke. And, I again venture to repeat it, He who doth not avail himself of these means of Security, but relyeth on his own Sufficiency or Obstinacy, is the Person guilty of Presumption, and by it the most likely to offend God, who hath, in a great measure, left the Means of our own Safety to our own Sagacity, and will therefore be pleased with our honest Endeavours to attain that End. Let us not then neglect the most obvious means of our Preservation in the natural Course of Things, but let us, at the same time rest contented and assured, that when it shall please God to inflict his Punishment on us, by the Stroke of Fire, of a Disease or of any other Instrument of his Wrath, all our Endeavours can be no Obstacle to his Will; nor let us ever design them as such.

IV. THE Advocates for Predestination reject the Custom of Inoculation, because, say they, if it be decreed that We shall perish by the Small-Pox, our Endeavours can be of no avail to reverse this Decree. It is neither my Design, nor Talent, to enter into or reconcile Metaphysical Points of Controversy, especially one concerning which the World hath ever been, and is ever likely to be, so much divided. But this I beg leave to offer, that, provided there be a Decree in the Case, I can very well conceive this Decree to be conditional, without implying any, the least, Contradiction. What I mean is most easily explained by an Example, as for instance, may it not be decreed that I shall have Success, (in recovering we shall suppose from a Disorder) provided I make use of the Means which are put in my Power for that End, but that I shall not succeed in case I neglect these Means.-----If Example is stronger than Precept, with these Opposers of Inoculation, I could recommend that of the Inhabitants of *Boston* as very worthy of Imitation, who maintain Predestination as firmly and practice Inoculation as universally as any People under the Sun; the Havock made by the natural attack of the Small-Pox forcing them into, and their great Success continuing them in, a method so salutary.

V. IT is a very common Objection of Parents, that, did their Children die by Inoculation they could never forgive themselves. This Argument specious as it may appear is not only frivolous to the last degree, but conclusive against itself. Because the Danger being ten to one in the Natural way, Parents, in case their Children die of the Small-Pox, have ten times the Reason never to pardon themselves, for not giving them the chance of surviving the Disorder by the help of Inoculation. Besides when any Action is done thro' an intire Conviction, that it is not only just but expedient, Want of Success can never deserve, tho' it too often meets with, Censure.

VI OTHERS, and indeed with more Shew of Reason, are averse from Inoculation, through fears of introducing the Fomes of other Disorders into the Habit, along with the Variolous Matter; and such perhaps as could not be driven out again, but might, if entailed on Posterity, be worse not only than the Disease here spoken of, but than Death itself; the Kings-Evil (as it is called) for instance. On account of these Fears, it was that, some Persons have recommended the giving of the Infection by the Nose, a Method certainly attended with Consequences more to be dreaded than those against which it was designed to guard.

To these it may be answered, that provided the requisite care be taken in chusing a proper Pock, and from a healthy Subject, very little, if any, Hazard will be run on this Score. What is a Physician good for, or why do we employ him, if we do not judge him capable of distinguishing a healthy Constitution from an un-sound one? It may be objected, that it is no very easy, if not an impossible, matter, to make this Distinction in a Person ill of the Small-pox. To this I reply that, a prudent Physician will chuse his Pock from a Patient whom he has known in Health, if possible; where this cannot be done, he will enquire from Persons whom he can confide in: Besides as the properest Subject from whom the variolous Infection can be taken, is one who hath neither a great Load of the Pox, nor is much oppressed by the Disorder; any different cutaneous Disease will be easily discovered. But the Disease, which is thus particularly alarming is of a Nature not to be concealed, nor disguised, and when very visible Marks do not betray it to the Knowledge of the most ignorant, the Habit of Body, nay the very Eyes of the Person affected seldom fail to discover it to the more skilfull. Further it is my Opinion that strumous Disorders cannot be caught by Contagion, nor communicated but by hereditary Taint. For though a Man, or Woman may, and in general do, hand down this Evil to their Children, yet we never find that they infect each other, there being no instance of a
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My Man or Woman being hurted by sleeping in the same bed with their Spouses, though One of the Two were scrophulous even to the last degree.

FOR these Reasons then, I imagine that all terrors on this head are groundless, in as much as this Disorder depends on some immediate fault in our own Structure, either first arising in ourselves or derived to us from faulty Parents. And this I take to be the Cause why we so seldom succeed in the Cure of the Evil; the Fault not lying so much in bad Juices, as in faulty Glands, which cannot separate good Juices. It is true we may palliate the Malady by thinning the Humours, and correcting their Acrimony, thus procuring them an easier passage through the vitiated Organs; but as soon as we cease from our Palliatives, so soon will the Disease recover its former Virulence, the Original Cause remaining unaltered. And this Opinion may be very well reconciled with all the Stages of this Distemper, I ever saw; whether its Attacks remained partial or became universal, happened sooner in Life or later, continued invariable or remitted.-----As to Diseases of less moment, such as cutaneous Disorders, provided they should be introduced into the Blood by means of the Pock, they would either be expelled along with the ensuing Malady, or might be conquered afterwards by proper Medicines. But in my Opinion there is little Danger of this: for the variolous Virus seems to me, to be of a Nature too subtil to mix with other Matter, and appears rather capable of destroying, all inferior degrees of Infection, than a proper Vehicle for its Conveyance: to which thought I am the more inclined by having frequently observed the Itch carried off by the Small-pox, as well when the Disease was very mild, as when it was remarkably severe.-----This is corroborated by a similar Observation mentioned in the Philosophical Transactions; * “ Those
 “ that have had ugly Ulcers long running upon them have had
 “ them healed up. Some very feeble, crazy, consumptive People,
 “ upon this Transplantation, have grown healthy, and got rid of
 “ their former Maladies.”

THE Method proposed for avoiding these Inconveniencies, by conveying the Infection through the Organs of smelling, appears too full of danger, to be countenanced by any prudent Person; for by these means we introduce the very subtlest Effluvia of the pocky Matter, and those alone, into Parts the most delicate, and most immediately necessary for Life, to wit, the Brain, Nerves, and Organs of Respiration. After such Practice have we not reason to expect

pect Deliria, Convulsions, Suffocations, and the worst of Symptoms? But what do we gain by such Practice? Truly very little. For this is the very Manner by which the Disease attacks us in the natural way, and one of the greatest Causes of its Fatality: for this Reason chiefly do the Symptoms run higher in the Natural than Artificial Small-pox, if I may use the Expression; and for this Reason are Convulsions more frequent in the one than in the other.—It may not be improper here to observe that most Physicians agree in drawing a good Prognosis from Convulsions, † when they seize young Patients, and that early after the Attack of this Disorder, on the contrary, they allow that nothing can indicate more Danger when they happen late, or to Persons grown up, but they do not so well agree in assigning Reasons for these Prognostics.—The Doctrine is good, because we have it confirmed by the best Master, Experience, which therefore makes the Knowledge of the Cause of less Moment, if any thing can be called of little Moment, which may serve to instruct us in, and regulate our Practice.—To me it seems probable that the Nerves being in a particular manner oppressed by the offending Miasmata received by Infection, Nature induces these Convulsions, and the subsequent Encrease of the Fever, as the most effectual Method of throwing them from the Nerves into the Circulation of the Blood, for their utter Expulsion, and that the Nerves of Children being more tender than those of Adults, they will not only be irritated to expell the Poison on a smaller attack, but will, by yielding more, suffer less Damage from its violence. †——But when Convulsions happen late the Disease has got

† ὁπόσοισιν οἰδήματα ἐφ' ἔλκεσι φαίνονται ἢ μάλα σπῶνται ἢ δὲ μάλιστα νῶνται τετῶν δὲ ἀφανιδέντων ἐξ αίφνης, τοῖσι μὲν οπισθεν, σπασμοί, τέσανοι τοῖσι δὲ ἔμπροσθεν, μανίαι, ἢ οὐδυναὶ πλεονεῶς ὀσείαι, ἢ ἐμπύκναις, ἢ ἄσθεντερίνῃ ἢ ἐρυθρά. ἢ τὰ οἰδήματα.

HIPPOC. Lib. 5. Aphor. 65.

An accuracy in Prognostics to which few now a days will pretend to have attained.

† Πυρετὸν ἐπὶ σπασμῶ βέλτιον γενέσθαι ἢ σπασμὸν ἐπὶ πυρετῶ.

HIPPOCR. Sect. 2. Aph. 26.

Because the Convulsion is judged by the fever, as he afterwards expresses it in the 57th Aphorism of the 4th Book. ὑπὸ σπασμῶ ἢ τεταναῶν ἐνοχλημένῳ, πυρετὸς ἐπιγενομένῳ λυεῖτο νόσημα.

Atque hæc sunt Convulsiones, (nempe supradictæ) in Quibus de Salute sperandum est, ac multo plus, si in Pueris fiant, qui quo facilis Adultis, cum ob erudum Alimentum, quo abundant, tum quia partes nervosas infirmas habent, convelluntur, eo minoris periculi malum accerunt, at multo facilis hos superveniens febris juvabit. Ex quo neque Convulsiones in febribus hoc capientes, ita sunt detestandæ, in Adultis vero solent esse perniciosæ, quatenus fiunt plerumque rescicatis atque arefactis a febrili calore nervosis partibus, quo

nihil

got too deep Root, to be easily shaken off, and generally proves fatal: for here the Convulsion is the Effect, not a partial Cause, of the Fever; and an Encrease of the Cause can never remove, but must rather augment, the Effect.—Besides when Convulsions happen early in a Disorder, they often proceed from a Sympathy of the Parts, as when an acrid Matter offends the Stomach, These a Vomit speedily removes; oftener from Repletion and Crudity of the Humours, and these the Fever, by attenuating the Juices, and expelling the peccant Matter, seldom fails to overcome; but when they make their attack late in the Disease, they proceed, for the most part, from Viscidity and want of Moisture, which Vices the Fever will hourly encrease, by constantly wasting the thinner parts of the Fluids.

HAVING thus, in as brief a manner as I could, endeavoured to prove the Advantages of Inoculation, by obviating the Objections against it, It remains now that I say a few Words on the Seasons most proper for putting it in Execution, the Knowledge of which is so essentially necessary to found Practice, that Nothing can be rationally performed without it.

THERE is not perhaps a more difficult Point in the whole Practice of Medicine, nor one less attended to, than to determine with accuracy on the Season of the Year and Habit of the Patient, most likely to promise Success in this Undertaking. *—And the strictest Regard to the Temper of the Air is in an especial manner necessary for every one who would consult either the Safety of his Patient or his own Reputation; seeing that we never fail to find the reigning Epidemic manifestly conjoined with the subsequent Disease, whenever we bring on the Small pox imprudently, that is on an unfit Subject at an unfit Time. As I have all along striven to enforce whatever I advance by the best Authority, whoever is at the Pains to consult the Writings of Sydenham, Mead, Huxham, Hoffman, Wintringham, Ramazzini, &c. will find the reasonableness of this Assertion; their Works universally teaching us that the prevailing Epidemic of the Season, whether Fever, Flux, Quinsy, or

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nihil perniciosius.----- Scire namque licet ejus modi Effectum, si modo curabitur, humectationem poscere. Ceteram curatu per arduum esse vel potius qui curari omnino non possit, si febris occasione est contractus, succedit maxime exitiali Phrenitici. Nec sanatum Quempiam ita Convulsorum, aut Ipse vidi, aut alium narrantem, audivi.

Prosper. Alpin. de prælag. Vit. & Mort. Lib. 3. Cap. 7.

* *Αἱ μεταβολαὶ τῶν ὁρέων, μάλιστα τίκτεσι νοσημάτων καὶ ἐν τῆσιν ἁρήσιν αὐτῶν μεγάλα μεταλλογῶν, ἢ ψύξις, ἢ θάλψις, καὶ ἄλλα κατὰ λόγον ἔσως.*
HIPPOCR. Sect. 3. Aphor. 1,

whatever it was, almost always symptomatically supervened the 'cur-
 fery Disorders of the Year, especially the Measles and Small-pox;
 " Upon the whole then, says *Huxham*, it is evident that the previous
 " State of the Body and Disposition of the Humors greatly con-
 " tribute to determine the Quantity, and Quality of the Small-pox.
 — This may be very much owing to that peculiar State of the Air
 " inducing such and such Qualities into the Solids and Fluids,
 " which render them liable to such and such peculiar Fevers; for
 " we find one Constitution of the Atmosphere disposeth to inflam-
 " matory Fevers, another to the slow nervous, remittents, inter-
 " mittents &c. and a third to the putrid, malignant or petechial.
 " Now when the Contagion co-incides and co-operates with such
 " or such a Constitution, it will be productive of such or such a
 " kind of Small-pox, or rather of such or such a kind of Fever
 " with the Small-pox ——— Indeed I think I have frequently ob-
 " served the common Epidemic Fever manifestly concurring with
 " the Small-pox, and that the Various Contagion only diversified
 " the Disease; or rather the Epidemic Fever was co-incident with
 " the Small-pox on the same Subject. This was the Case very of-
 " ten in the Years 1740, 1741, and 1745, When a violent Epi-
 " demic Fever of the Pestilential kind raged here (*Plymouth*) chief-
 " ly among the Soldiers, Sailors, and Prisoners, who had com-
 " monly the most evident Symptoms of the malignant Fever with
 " the Small-pox, which therefore proved exceeding fatal among
 " them; whereas many Persons in the Neighbourhood, that had
 " no Communication with the Hospitals, and were otherwise tole-
 " rably healthy, had a very favourable kind."

Air being so immediately necessary to the Life of all Animals,
 that no Creature, almost, can live when deprived of it, even for a
 few Minutes, certainly the different States of its Temperament,
 whether morbid or sound, are of the greatest Consequence to
 Health, and should be studied, not only diligently but indefati-
 gably, by every Person, who proposes to reach any Excellency in
 the Art of healing, or preventing Disorders. And this Practice is
 as old as Hippocrates, witness his intire valuable Books of Epi-
 demics; nay to such a length did this great Father of Physic push
 his Researches into the different Constitutions of the Atmosphere,
 that he deduced not only the different Distempers incident to Man-
 kind in different Climates, but their very Manners and Dispositions,
 from the Variations of Air peculiar to Each. And he who does
 not well consider the Consequences that will arise, not only from
 the secret and inexplicable Changes incident to the Constitution of
 this Fluid, but also from the more obvious Mutations in its Gra-
 vity, Elasticity, Moisture, Dryness, Heat, Coldness, and other
 sensible

sensible Qualities, will ever be deficient as well in discovering the Causes of acute, and even chronic, Diseases, as in accounting for his want of Success in their Treatment.

Eum recte curaturum esse, dicunt, quem prima origo Causæ non fefellerit.—*Nam, Æstimatio Causæ sæpe morbum solvit.*

CELSUS in Præfat.

But let us hear Sydenham, who can speak more to the Purpose on this head than I can presume to do. “ If one were to examine all the Branches of Physic, nothing perhaps would appear so surprizing as the different and perfectly dissimilar face of epidemic Diseases, which do not so much relate to, and depend upon, the various Seasons of the same Year, as upon the different Constitution, of different Years. And this manifest Diversity of these Diseases still further appears, not only from their proper and peculiar Symptoms, but also from the different Method of Cure they respectively require. Hence it is clear, that these Distempers, tho’ to less accurate Observers they may seem to agree in their external face, and certain Symptoms in common, are, in reality, of very different and dissimilar Natures; and these kinds of Diseases differ so extremely, that the same Method which cures in the middle of the Year, may possibly prove destructive at the Conclusion of it.” †—This Doctrine is confirmed by Huxham whose Authority I cannot too often induce; “ Different Constitutions of the Air, says he, have different Effects on the most healthy, much more on the Sick and Weak, and of course on Diseases. It hath been long observed that one Constitution of the Atmosphere promotes, another retards the Progress of epidemic Disorders, particularly of the Small-pox; which at one time begin in the remotest Corner of a Town or City, and soon ravage the whole, at another are carried into the very heart of them, and yet presently cease. The Plague itself is commonly stopped by a Change of Air, from hot and moist, to cold and dry. The very state of the Blood greatly depends on the precedent and present Constitution of the Air, and it hath been proved that the Contagion has different Effects on different States of the Blood.—A due Consideration therefore of the present and preceding Constitution of the Air, is of no small Import in our Method of Cure.” †

BUT a particular Regard to the Constitution of the Air can in no Country be more necessary than in this; for as the Extremes of Heat and Cold are felt here pretty violently, We may be said to live by

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‡ Swan’s Sydenham. P. 4th.

† Essay on Fevers. Page 144.

turns in very different Climates ; * And these Changes from very hot to very cold and the contrary, are oftentimes so sudden as to render this the case, not only in the same week, but frequently in the same day. Hence arise the Agues, Fluxes, Pleurifies, and other Autumnal || epidemic Disorders, to which the lower Sort of People especially are so much exposed, as they never fail to encrease the Causes of these Distempers, by frequent Heats and sudden Coolings, to which also the baneful Custom of drinking simple cold water, when warm, does not a little contribute:—Whoever considers the immediate and sensible Effects, not to mention the more remote and abstruse, on which endemic and epidemic Diseases seem to depend, of Heat and Cold, not only on human Bodies but on all Modifications of Matter whatever, will readily acknowledge the different Treatment, which Disorders called by the same Name will require under different Circumstances: for in reality these Disorders are far from being the same, but as different as the Treatment which they require. And in thus prescribing not for the Names, but the Nature of Diseases does the Distinction lie between the real Physician and the Quack.

It is the Office of the Air which we inspire to cool the immoderate fervour of the Blood ; and to contribute to its Supply, by agitating and blending the Chyle with it in the Lungs : Thus at once preserving the Circulation and preventing Putrefaction. Hence the Influence which the change of Seasons has on the Health of all Animals. —By the Summer's Heat the Fibres are relaxed, the Texture of the Blood is loosened, and the Strength of the Vessels is diminished. Heat expands every thing, even Iron, much more than our Humours ; but the Rarefaction of the Blood, and the Relaxation of the Vessels lessen the Momentum of the circulating Fluids ; Hence Strength and the natural Secretions fail.

WHEN the Temperature of the Air is hot and moist, the Compages of the Fibres is almost resolved ; for to relax is the Property of both

* Si aeri calido frigus superveniat. illa die. supposita eadem bibendi. Liberto. e. tertiam partem circiter Perpirationis exire prohibet, quæ nisi fiat sensibilis. facile ad Putredinem vel Cachexiam disponit.

Prohibita Perpiratio facta ab improvisa frigiditate, magis nocet Debilibus. quam a sensim prohibita.

Si Corpora a repente transferantur ab aere calido in frigidum, læduntur, quia rediuntur majoris Ponderis, quam par sit ; a frigido in calidum, læduntur. sunt enim minoris Roboris. S. Sanctor. Sect. 2. Aphor. 9. 11. 12.

|| Εν τῆσιν ὠρῆσιν ὅταν τῆς αὐτῆς νύκτος ὅτε μὲν θαλάσσης, ὅτε δὲ Ψυχῆς γίνονται, Φθινοπωρινὰ τὰ νοσήματα πρὸς δὲ χειμῶνα χεῖρ. Εν τοῖσι καθεσῶσι καὶ γῶσιν ἢ ὠρῶσι τὰ ὠρῶσι ἀποιδῶσιν, ἐν αἰέσι κατενεκνῆες αἱ νόσοι γίνονται ἐν δὲ τοῖσιν ἀκαταστατοῖσιν, ἀκαταστατοί, καὶ δυσκίτοι.

HIPPOCRAT. Sect. 3. Aphor. 4. 8.

both Heat and Moisture. * This occasions a pituitous sluggish blood, and the Body becomes dull, bloated, and languid. §

BUT if the Air be hot and dry, and of consequence elastic and heavy, the Velocity of the Blood is violently increased, the serous and thinnest Particles are dissipated, the remaining part becomes inspissated, unfit for Circulation, and hastens to Putrefaction.

ON the other Hand Cold contracts all the Vessels of the Body, which for this Reason act more forcibly on the contained Fluids, the Elasticity of the Fibres being increased the Humours are more intimately mixed and their motions accelerated; hence while the Cold is moderate the due Secretions and Excretions are rightly performed. —But excess of cold for this very Reason is as dangerous as Excess of Heat.

WHEN the Air is cold and moist it very much impedes Perspiration; for Cold constricts, and Humidity clogs, the Pores. But if it be very cold and very dry, the Cavity of the Vessels will be remarkably diminished; this every Person knows by his own Experience; a Ring which can scarcely be got upon the finger in a warm day, drops off in a cold one. Constriction of the Vessels proportionably augments their Strength and Elasticity, the Blood will react on them with equal Proportion, and being violently agitated an inflammatory Lentor is hourly induced.

THE Situation and Qualities of the Soil occasion great Diversities in the Heat and Cold of Countries; thus several Parts of *China* tho' situated nearer the Line than the most Southern Parts of *Pennsylvania*, scarce know what Heat is, being perpetually chilled by the vast Beds of Nitre which lie near the Surface of the Earth, for whole Provinces together; as we read in the natural History of this Empire by *Pere Du-Halde*.

I have said it is necessary to study and observe even the secret and inexplicable Changes of the Air, because it is certain that this Fluid may become utterly unfit for the Continuance of Life, and yet retain all its sensible Qualities unaltered. This is proved by daily Experience, and demonstrated by the easy and well known Experiment of the Air-pump. —What this so subtle Pabulum Vitæ, this divine
Something

* vide Huxham de ære and morbo Epidemie. in Prolegomen:

§ *Aer cænosior convertit insensibilem Perspirationem in Ichorem qui re-
tentus, et deinde non resolutus, magna ex parte in Cachexiam facessere solet.*
S. Sanctor. Sect. 2. Aph. 6.

Something (*ἄξιον*) of *Hippocrates*, is, whether it be the Acid so much talked of and so little understood by *Sylvius* and Others, the *Æther* hinted at by Sir *Isaac Newton* and embraced by Doctor *Robinson*, the celebrated Electric Aura, or neither of all these, I do not pretend to say; But I say that it is indispensably our Business to observe all Changes in the Disposition of the Air tending to produce or banish Epidemic Disorders, and to regulate our Practice accordingly.

I have perhaps said so much on this Article of the Air, that to make myself thoroughly understood, it may seem requisite I should say more; but as I have already trespassed, both on the Patience of the Reader, and my present Design, I shall draw to a Conclusion with a few practical Remarks, deduced from the foregoing Doctrine. —† The safest Times to inoculate seem to be after the Disease has ceased or before it has commenced to rage naturally; for in the first case, the Air no longer continues, and in the last, has not yet begun, to favour its Attack: In these Cases, if we may reason a priori, the Danger seems, *cæteris paribus*, next to None. On the other hand the unsafe Time is manifestly during the Violence of the Distemper, and if ever I would advise against Inoculation it should be during such an Epidemic Constitution of the Air, for if there is the least Room to tax us with Presumption, it certainly is when we bring the Disorder on a Person improperly prepared; and for due Preparation a healthfull Air is, perhaps, the most requisite Article. — It is our Business then in such a Dilemma to remove out of the Sphere of Contagion, and even this must be done with the greatest Caution imaginable, as all Changes are to be brought about by Degrees: † This want of Caution, joined to Fear, I take to be the Cause why People who timorously fly from epidemic Diseases, especially the Small-pox, are so apt to catch them immediately on their Removal from the Place infected; for as the Seeds of this Distemper are thought to be connate with us, this sudden Change of Air and Hurry of Spirits may easily and readily bring them into Action; Nor need we have recourse, in accounting for it, to Sympathy, or that Power which the Mind is allowed by many * to have of affecting the Body conformably to what it

‡ *Morbus qui vocatur Variolarum est ut plurimum Epidemicus, verno tempore primo incipiens æstate crescens, languens Autumno, hyeme sequenti fere cedens, vere iterum eodem ordine reediturus, Quo citius in hyeme incipit eo violentior, quo serius eo mitior, erit Mali Natura. Hinc liquet quo anni tempore periculosior.*

BOERHAAV. Aphor. 1379.

† *Neque ex salubri loco in gravem, neque ex gravi in salubrem transitus satis tutus est. — Cum Quis mutare aliquid volet, paulatim debet assuescere.*

CELSUS. Lib. 1. Cap. 3.

* MALBRANCH. Recherche de la verité. Tom. 1. Liv. 2. Chap. 7

it feels in Imagination. But where this Removal is impracticable, either on account of this Constitution of the Atmosphere being very general and wide extended, or that our Circumstances or other Affairs will not allow of it, it is evidently our Business to prepare ourselves for, and await the regular Attack; guarding with care against all Intemperance in Food, † Fatigue, Watching, Study, &c. neither indulging Cares, nor harbouring Fears, all which are ever found not only to favour the Violence, but hasten the Approach, of this Disease. And this Method is certainly very agreeable to Reason; for we are not certain, though the Infection should be very general, that we shall be seized by it this Bout, but we are pretty sure, that if we bring it on so untimely, we shall run a great Risk from the noxious Temperament of the Air.—This Practice is supported by the best Authority; among Others Doctor *Huxham* is “persuaded that if Persons regularly prepared were to receive the
 “variolous Contagion in a natural way, far the greater Part of
 “them would have them in a mild manner; for undoubtedly a very
 “bad sort of Small-Pox many times arises from an overfullness
 “of Blood, Acrimony of the Humors, or great Loads of foul
 “Matter in the first Passages; and very frequently Errors are committed in Diet, Exercise &c. after the Infection is first taken,
 “which often prove of fatal Consequence in the Event. From
 “these those that are inoculated are, or should be, guarded, and
 “hence the great Success of that Operation.”

BUT if any Constitution of the Air is attended in the general by a favourable kind of Pox, no time can be more proper than this for Inoculation; and the golden Opportunity should be watched with the greatest care, and embraced with the greatest Alacrity.

THE intermediate Seasons are, before the Advance, and during the Decline of any Constitution of the Air tending to bring on the Disorder; the Danger being always greater in Proportion as we advance nearer to, or recede less from the State of the Disease, or that Point of Time when it hath attained to the greatest Violence, and from which by the natural Course of things it must immediately decline.

TIMES

‡ *Qui comedit magis quam oportet, alitur minus quam oportet.*

S. Sanctor. Sect. 7. Aphor. 39.

Magis nocet nimius Animi affectus, quam nimius Corporis Motus.

Sect. 3. Aphor. 56.

Somno solito breviorē semper aliquid Perspirationis prohibetur, quod nisi sequentibus diebus pleniorē Perspiratione compensetur, imminet febris Periculum.

Sect. 4. Aphor. 30.

TIMES absolutely improper and on no account to be relied on are, at, and for some time after, the † Summer and Winter Solstices.——But here it must be noted, that, the Height of Summer is a much more dangerous Season for Inoculation than the Extremity of Winter, as Heat tends to induce the Disorder epidemically, but Cold has the contrary Effect; So that in Winter the Hazard arises from the Rigour of the Season alone, whereas in Summer the Danger is doubled by the Vehemence of the Heat and Disposition of the Air.

NOTHING can be worse calculated for promising Success in Inoculation than the preposterous Method, which too many give into, of preparing all their Patients for the Small-Pox after one and the same Manner; nor can any thing be more offensive to common Sense. Some bold Spirits bleed, purge and vomit all that come in their way; some pretend to do Miracles by Absorbents (sweetning Powders as they are called;) Others on every occasion fly to Preparations of Mercury: And Many are wonderfully fond of the Bark.——These various Methods can be only proper or improper as Circumstances require or forbid their use. Mercury however and Absorbents are the most general Nostrums; the indiscriminate use of the former has already been taken notice of in a * Quotation to which I refer the Reader, I shall therefore confine myself now to the Consideration of the latter.

ABSORBENT Powders are quacked without Rhime or Reason, to use a homely Phrase, not only on Children but on Patients of all Ages, all Tempers, and all Constitutions, in order to prepare them for subsequent Inoculation. What is the Consequence? Where Acidities abound, these insipid Earths are very usefull; where the Habit of Body is already sound, not only these but all other Medicines are detrimental; † but where ever, as is very often the Case, especially with Adults, the Humours are inclined to Putrefaction, they are absolute destruction. Harris was a very great Man, he did great Good by these very Medicines to many Infants, but a favourite Notion will lead even the greatest astray, and it is very certain that

† *Saluberrimum Ver est, proxime deinde ab hoc hyems, periculosior Æstat, Autumnus longe pericul. sissimus Tempestatibus vero optimæ æquales sunt. sive frigida sive calida: Pessima quæ variant maxime, Quo sit ut Autumnus Plurimos opprimat.* CELSUS Lib. 2 1.

Εν φθινοπωρῶ οὐ ζυτῶται αἱ νεῖσοι, καὶ θανάτω δέονται το ἐπίπαν ἢ ἢ δὲ ν᾽ γινώσκοντο, καὶ ἢ ἢ ἢ θανάτω δέονται.

HIPPOCRAT. Sect. 3. Aphor. 9.

* vide Page. 7.

‡ *Medicamentis uti nisi in vehementibus Manus supervacuum est.*

CELSUS. Lib. 4. Cap. 19.

that he extended the use of these Antacids beyond Bounds, even in the Disorders of Children: And when an Error is the Error of a great Man it is the more dangerous, because it never fails to lead many Others after it. — Most Children indeed are troubled with Acidities in the first Passages, but all are not, and few grown Persons are: We should therefore have evident Demonstrations of this Acidity, to indicate Absorbents; as wan Complexion, sour Eructations, sour Smell of the Fæces &c. for these Substances when they do not meet with an acid humour in the Stomach, and first Passages congregate into hard indissoluble Lumps, the natural mucus of the Intestines serving to form them into a very firm Cement; hence the whole Intestinal Canal is crusted over by a sort of gritty Plaister, as frequent Dissections have made evident, † the Mouths of the Lacteals are therefore obstructed, and of Consequence the Chyle cannot be taken up, and conveyed into the Blood in sufficient Quantities, which for want of this necessary Supply must tend more and more to Putrefaction, and occasion all the Evils, consequent of it. — And as to the febrifuge Virtues of these Powders, the Notion I fancy is now-a-days as much exploded as the other Dreams and Whimsies of their Inventor *Helmont*.

THIS Custom of using an universal Preparative for the Small-Pox it was the more necessary to make mention of, because it seems to be countenanced even by some Persons of the Faculty; for, this very Year a certain Gentleman in *London*, who stileth himself a Physician, advertises and sells Powders not only to prepare all Persons who will buy them for the Small-Pox, but to cure the natural Disease in all its Stages, let the Symptoms be what they will: And these very Powders I suppose will shortly be imported here as well as the many Other Quack-Medicines † by which the World has so long been, and is likely to be, imposed upon, for while there can be found Men wicked enough to tamper with the Lives of their Fellow-Creatures, there will certainly be found Numbers simple enough to believe them honest, and trust them. But, which astonishes me more, *Nicolaus Rosen* a grave Doctor of Medicine, and a Graduate I think of *Leyden*, has not scrupled to publish his *Pilulæ prophylacticæ in Variolas*; the Recipe and a translation of his Directions for its use, as taken from the *Leipsic Transactions* are as follows.

“ R Calomel. Camphor. Extract. Aloes. aquos. à gr. xv. Resin.
 “ Guaiac, gr. xxv. M. f. Pilul. pond. gr. ij.”

E

“ EXHIBIT

† vide ZWELFER in Pharmacop. August, p. 66. Miscellan. nov. curios. Decad. 2. An. 6. and ALBERT. Dissertat. de Atroph. Sect. 10.

† See a certain Advertisement which has appeared often in our Newspapers of late.

“ EXHIBIT these Pills for four or five Weeks, once in each Week; the Dose for Persons two Year old, is three Pills; for those three Years old four Pills; for five Years old six Pills; for elder Persons a grain of Calomell must be added, but for Infants the Quantity of Camphor must be diminished.”

CAN these Medicines suit all Constitutions, at all Seasons? Verily I think even the Proposal of them mighty Empirical; nay the very Directions for the Administration of them are erroneous, unless Remedies are to be proportioned to the Years, and not to Strength and different Peculiarities of the different Patients. Without Doubt the Medicine is a powerful one when indicated, but for that very Reason must be the Reverse under different Circumstances, which hath occasioned my taking so much Notice of it.

ABSOLUTE, universal, perpetual, Medicinal Precepts, preventive or curative, are not consistent with sound Reason, because of the Mutability to which all human Affairs are subjected. The Idiosyncrasy of Patients, the Variety of Symptoms, and the Irregularity of Seasons, sufficiently demonstrate the truth of the Assertion, and demand the utmost Skill of the Physician to vary his Medicines as Circumstances require.—To distinguish then the particular Constitution of the Patient, the Nature of the Symptoms, and the Medicines adapted to both, is the Province of the rational Practitioner, and not the vain Search after, or vainer Trust in chimerical Panacea's, which never did, nor ever can exist.—This was the Opinion of *Celsus* † seventeen hundred Years ago, inculcated through every

† *Vix ulla Præcepta perpetua medicinalis Ars recipit.----- Interest enim fatigatio Morbum. an sitis, an frigus; an Calor, an Vigilia, an Fames fecerit; an Cibi vinique Abundantia, an Intemperantia Libidinis.---- Neque ignorare Medicum oportet quæ sit Ægri Natura, humidum magis an magis siccum Corpus sit, validi Nervi an infirmi, frequens Valetudo an rara, eaque cum est. vehemens esse solet an lenis, brevis an longa.----- Non eadem omnibus etiam in similibus Casibus opitulantur.----- Hippocrates dixit mederi, oportere communia et propria insipientem.*

CELSUS. in Præfat.

Ante omnia scire convenit Naturam Corporis: quia alii graciles, alii obese sunt; alii calidi. alii frigidiores: alii humidai, alii sicciores; alios adstricta alios resoluta Alvus exercet.----- Raro Quispiam non aliquam partem imbecillum habet.----- Quod contra consuetudinem est nocet, seu molle seu durum.

CELSUS. Lib. 1. Cap. 3.

Omne Auxilium Corporis aut demit aliquam materiam aut adjicit, aut evocat aut reprimit, aut refrigerat aut calefacit, aut durat aut mollit.--- In mittendo Sanguine non tam annos Medicus numerari, quam Vires Ægrotantis aestimare debet.--- Alvus si vehementius fluit, aut sæpius ducitur hominem infirmat.

CELSUS. Lib. 2. Cap. 9. 10. 12. 18.

Natura repugnantem nihil Medicina proficit.--- Ex toto non sic Pueri ut Viri curari debent.

CELSUS. Lip. 3. Cap. 1. 7.

every Page almost of his Works, of which see a Specimen below, and continues yet the Opinion of all those who deserve best of the World in the Profession. And He that would excel not only in these, but all Branches pertaining to Medicine must be daily conversant with the Writings of the Ancients, as well as the Moderns. Such a Man will seldom find himself at a Loss for particular Rules on particular Occasions; And he who undertakes the Care of the Health and Lives of the Public without resolving to undergo this Fatigue most faithfully, will never, I should think, bring his Conscience to acquit him of the Crime of Arrogance, or something much worse, though he may conceal his Idleness from the Knowledge of the World, “As for those, says the good *Huxham*, who will neither read nor reason, but practise by Rote, and prescribe at a Venture, I must seriously advise them to peruse the sixth Commandment.”

THERE is no less reason to complain of a dangerous Sameness in the Cure of the Small-Pox, than in the Preparation for them; especially among the lower People, with whom it is a maxim that nothing more is requisite for the cure of this Disorder, than, a good Nurse, a slice of Bacon for the throat, and Milk-Punch, or the like to keep the Pox from the Heart as they term it. But I will venture to say that there is no Disorder whatever in which there are surer Grounds for the Physician to proceed on, nor one wherein he will find more occasions to vary his Medicines; for though the Cause of the Disease be utterly unknown, and its Effects in general very different and variable, yet when we come to consider these Effects with regard to the particular Species of the Pox, and Habit of the Patient, we will find them quite regular and constant, and may draw a surer Prognosis, and have plainer Indications, perhaps in this, than in any other Distemper. But I was amazed to find the following Paragraph in a Paper worthy of Admission into the Philosophical Transactions; “About the seventh day, says Mr. New-
 “man, † the Patient feels the usual Symptoms of the Small-pox
 “coming upon him, and he is now managed as in an ordinary
 “putrid fever; If he cannot hold up he goes to Bed; if his Head
 “achs too much we put the common Poullice to his feet; if he be
 “very sick at Stomach we give him a gentle Vomit; yea we com-
 “monly do these things almost of Course, whether we find the Pa-
 “tient want them or not, and we reckon the sooner we do these
 “things the better.” If this be not downright Quackery, I would be glad to know what Quackery is. But to return to what I blamed, chiefly among the lower People, I shall mention one Error for
 all;

all; It is a Practice almost universal, (and which to omit they would esteem a-kin to Murder) to give Spirits, Brandy, Saffron, and the like, Cordials as they call them, to promote the Eruption of the Pustules; and that without once considering whether the Fever be high or low, the Patient young or old, weak or strong. These People do not discover that this treatment is Death unless the Fever be really too low, which is not often, though sometimes, the case; and when the fever is too high, the Circulation of the Blood is so rapid that little or nothing can be secreted from it or thrown into the Capillaries, and of Consequence the Eruption, instead of being promoted, must be vastly retarded: Here the Indication is, to lessen the fever, by, bleeding, cooling, diluting, subacid Drinks; bathing the Extremities in warm emollient Liquors, which open the Pores and draw a flux to the Parts, by the Rarefaction which they occasion, in the Vessels of the Limbs to which they are applied, &c. and not to heighten it absurdly by Cordials, which by preventing the Eruption, oftentimes occasion Death before the fifth or sixth day.—When indeed the Pulse is languid, the Oppression on the Spirits great, and the Countenance pale, cordial warm Medicines, and Blisters, are not only proper, but indispensably necessary, to assist Nature in driving the Disorder from the Vitals to the Extremities. But I am going beyond my Purpose.

THE Symptoms attending the Small-pox by Infection being exactly similar to those arising from the natural Disease, but infinitely milder, the very same Remedies, when any Medicines are requisite, which are indicated in the one, are, in corresponding Circumstances, proper in the other. For the intire curative part of this Distemper, I therefore refer the Reader to the excellent Writings of Sydenham, Freind, Mead, and especially Huxham; from which last I must however insert one practical Caution, because I have observed it too often neglected, since I have had access to the Sick in this Disorder; I mean the infernal Practice of blistering by Rote, whether there be an Indication for it or not: Treating of putrid malignant Fevers this excellent Author goes on thus; “ What I have
 “ said of volatile Alcalious Salts leads me to a Reflection on the
 “ promiscuous use of Blisters in these Fevers, which by Some are
 “ esteemed the only Anchor of Hope in such dangerous Cases;
 “ but I think they are many times too hastily and improperly ap-
 “ plied, especially in the Beginning, when the Fever runs high,
 “ and doth not demand a further Stimulant; for the Action of the
 “ *Cantharides* is not merely on the Skin, but affects the whole ner-
 “ vous and vascular System: Now when the Irritations and Vibra-
 “ tions are already too great, as frequently happens in the Begin-
 “ ning of such Fevers, they are very injudiciously applied. Besides
 “ the

“ the Salts of these Flies operate much in the same manner as the
 “ volatile alcali Salts, and certainly tend to promote the Dissol-
 “ lution and consequently Putrefaction of the Blood. It is true in-
 “ deed Nature may sometimes want a Spur, nay often doth, parti-
 “ cularly towards the Decline of these Fevers, when the Solids
 “ grow torpid, the Circulation languid, the Spirits effæte and the
 “ Sick comatose : here Blisters must be applied, and are of exceed-
 “ ing great use, at whatever time of the Fever such a train of
 “ Symptoms comes on. — But in the above circumstances I have
 “ very many times seen very pernicious Effects attend their too ear-
 “ ly Application ; as obstinate Pervigilium, Delirium, Suppression
 “ of the Urine, Tremors, Subsultus. † &c.”

THERE is one thing more, which I hope I shall be excused for mentioning, as no Writer, that I know of, has taken sufficient notice of it : It is far also from being foreign to my Design, as it respects not only the Preparation of Children for the Small-pox, and the Completion of their Cure after them, but their very Health at all times ; I mean the bad Custom of putting young Children to sleep with old Folks : It is very certain that the Growth and Strength of Children must be much impaired by such Treatment, for elderly Persons, whose Integuments are become dry and spongy, will imbibe a great deal of moisture from these young and sappy Bedfellows, and that in Proportion to the greater age of the one, and the tenderer Years and Constitution of the other, which consequently must greatly diminish the radical Heat and Pith of the little innocent Sufferers ; Many a Child has died tabid for no other reason, and I myself have seen two or three rescued from dying Martyrs to the Health of their aged Nurses, when their very Vitals were almost extractèd. † This Custom then being prejudicial at all times, must be additionally so after the Small-pox, for all Patients are for some time after their Recovery from this Distemper inclined to be hectic, and have more need under these Circumstances of receiving Nourishment, than of parting with the small Stock of impoverished Fluids which the Disorder has left them.

THIS Method of external Nutrition was very well known some thousand Years ago, as appears from the Case of *David* and the *Damsel*, * and I wonder it has not met with more Regard from the Cultivators of Medicine since.

As

† HUXHAM Essay on Fevers, page 118.

‡ *Tam copiosa est Corporis Exhalatio in Dormientibus, ut non solum Egri cum lanis cubant es, sed Sani inter Se bonas vel malas Dispositiones Sibi invicem communicent.*

S. Sanctior. Sect. 4. A. 18.

* 1. Kings. Chap. 1. v. 4.

As a Recapitulation of the whole I shall conclude with the following Allegory, which I hope will be found just and of easy Application.

IN a certain Island of *India*, says the *Persian* Historian *Zadi*, lived a People called *VARIOLARII*, long were they high in the favour of *OROMAZES* who showered on them all manner of temporal Blessings. As long as they listened to the Dictates of *VIRTUE*, under whose immediate Care *OROMAZES* had placed them, they retained their Purity of Manners, and Age and Sickness were unknown among them; but no sooner did they hearken to the Insinuations of *VICE*, a Stranger whom *ARRIMANIUS*, envying their felicity, had sent in from a neighbouring Nation to corrupt them, than they began openly to disobey the Mandates of *VIRTUE*, banishing *WISDOM*, *SOBRIETY*, *EXERCISE*, and *SIMPLICITY*, her favourite Servants, and preferring in their Stead, *FOLLY*, *INTEMPERANCE*, *SLOTH* and *SENSUALITY*, the Ministers of *VICE*. *OROMAZES* enraged at this Ingratitude, resolved that in their Practices they should find their Punishment, and recalled *VIRTUE*, permitting *VICE* and his Train, who had thus crept in, to settle among them. The Malice of these Fiends was most amazing, for no sooner could a Woman conceive in any part of the Island, than one or other of them was sure, by Stratagem, Force, or otherwise, to gain Admission to her Bed, and beget a spurious Issue, to be born at the same Instant with her natural Offspring, and to continue its mortal Foe; there being scarce an Instance, in many Centuries, of any Infant coming into the World without such a monstrous Brother, whose unnatural Enmity Death alone could terminate; and one of the Two never failed to fall into the first Combat, which happened frequently even in the Cradle.

THIS Progeny of *VICE*, and his COMPANIONS, were called *VARIOLÆ*, and did not in the least degenerate from their SIREs, in a particular Manner bearing envious Rancour against the Fair, whose Beauty upbraided their Deformity; insomuch that, though otherwise arrant Cowards these spitefull *IMPS* would suffer Death, at any time, with pleasure, so they could but rob their amiable Sisters of their Youth and Beauty, let their Share of these be ever so small.

THE *VARIOLÆ* were, from the very Womb, crafty and insidious, ever unwilling to engage on an equal footing, but slyly waiting all Opportunities of taking their hapless unsuspecting Brethren at a Disadvantage.

THE Havock committed by these mercileſs Savages was at length ſo terrible, and theſe unhappy Iſlanders were become ſo completely wretched; ſuch as gained the Victory remaining for the moſt part maimed and deformed, for an eaſy Conqueſt was ſeldom known, and their Scars, contrary to the Rules of War were far from being held honourable, being Brands to remind them of the Happineſs which they had forfeited, that *OROMAZES* took Compaſſion on their miſerable Condition, and ſent down the Nymph *HYGIEINE* to their Aſſiſtance.

SHE it was who firſt taught them to be brave and ſeek the Enemy, if not through Courage, which they ſeemed to have forgot, at leaſt through Policy; telling them that no Paſſion was ſo ſervile as Fear, conſequently none of which Men ought ſo much to be aſhamed; that She knew Cowardice alone occaſion the Loſs of many a Victory, and not unfrequently baffle all her Aid, where otherwiſe ſhe could foreſee but little Danger. She alſo inſtructed them, further than they had yet known, in the Nature of their Enemy, and their own Power; making it appear that the *VARIOLÆ* had this Peculiarity in their favour, that, *cæteris paribus*, the longer they deferred their Attack, the Match became every day more unequal, their Strength encreasing amazingly with their Years: on the other hand ſhe diſcovered to the *VARIOLARI*, certain Preparations which were friendly to them, but deadly to the Foe, inſtructing them in the Times fitting for an Attack, and furniſhing them alſo with new and proper Arms for the Fight, againſt which She foreſaw the *VARIOLÆ* had little Dexterity to defend themſelves. At the ſame time adviſing Parents, to prepare their Children according to her Directions, and force the Enemy upon them, without obſerving any Points of Honour with Raſcals who avowedly picqued themſelves on Deceit and Treachery.

HYGIEINE, notwithstanding her whole Endeavours were bent to ſerve this wretched People, found yet too many of them ready to oppoſe her, Puſillanimity ſwayed Some, Superſtition by- aſſed Others, a lucky Eſcape from the Foe weighed with many; and not a few, ſhame to tell, among her outwardly profeſſed Friends, were ſecretly bribed by the Enemy. The Conſequences however, ſays *Zadi*, were, that they who liſtened to *HYGIEINE* almoſt always gained the Battle; They who diſobeyed her, ſeldom eſcaped with Life, ſeldomer without Maim. So that at length the the Salutary Effects of her Meaſures left her few to oppoſe them, and they who did, ſcarce ever failed to repent it.

Postscript.

SINCE the foregoing Essay has been committed to the Press, I have had the Pleasure of perusing two Pieces on the same Subject; the one a regular Treatise in French by Doctor *Tissot* of *Montpelier*, the other an Academical Discourse by Doctor *Thompson*, formerly Physician here. I have had the Satisfaction to find that, in general, what I have advanced is agreeable to the Sentiments of both these Gentlemen; but as my Plan, as well as Argument, is somewhat different from either of theirs, though tending to promote the same Cause, I have been persuaded not to suppress my Copy. There have also been two or three other Pieces lately published on the same Subject, in different Languages, but these I have not had the good fortune yet to have seen.

Errata.

Page 4. Notes, for *καὶ ἡλικίας*, read, *καὶ ἡλικίᾱς*. Page 7. Notes for *aufferre*, read, *aufferi*. Page 9. line 11. for *so*, read, *to*. Page 10. line 18. for *respect*, read, *respects*. Page 11. Notes, for *nullnius*, read, *nullius*. Page 17. line 32. for, shall more, read, shall the more. Page 24. Notes, line 2. for *ἀφανισθέντων*, read, *ἀφανισθέντων*, line 4. for *ἐμπροσθεν*, read, *ἐμπροσθεν*, for *πλευρῶν*, read, *πλευρῶν*, for *ὄξειαι*, read, *ὄξειαι*, line 4. for *δυσεντερῖν*, read, *δυσεντερῖν*, line 7. for *πυρετῶν*, read, *πυρετῶν*, line 10. for *λυεῖτο*, read, *λυεῖτο*, line 14. for *æcernunt*, read, *decernunt*. Page 25. Notes for *licet*, read, *licet*. Page 28. Notes, line 7. for *redauntur*, read, *redduntur*. line 12. for *ἐυαδέες*, read, *ἐυαδέες*. for *κατεκρινεες*, read, *κατεκρινεες*. Page 29. Notes for *ære* and, read, *aere et*. Page 30. Notes for *ln*, read, *in*. Page 32. line 15. for *absortents*, read, *absorbents*. line 20. ditto Notes for *ὕγινοτάτον*, read, *ὕγινοτάτον*. for *ηκίσα*, read, *ηκίσα* Errors in the Pointing sparsim.



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