(5)

Some *Observations* ON THE *New Method* Of Receiving the Small-Pox BY *Ingrafting* or *Inoculating*.

By Mr. *Colman*.

Containing also
The REASONS, which first *induc'd* him to, and have since *confirm'd* him in, his favourable Opinion of it.

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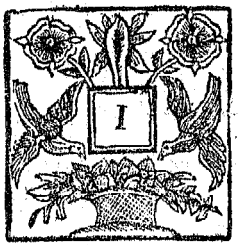
TO THE

Reverend & Learned,

Mr. *John Leverett*,

Preſident of *Harvard College* in *Cambridge*, in New-England.

SIR,



I Humbly preſent You with the following *Obſervations* which I have made in my Viſits among the *Sick*, in in the late Months of Diſtreſs and Mortality, that have paſs'd over us, whereby I have been determined (ſo far as I am) in favour of the *New Method*, ſo much ſpoken againſt by many, *ſcil.* the receiving the *Small-Pox* by *Ingrafting* or *Inoculating*.

IF You judge the Publishing them may be a Service to other *Towns*, and particularly unto *Cambridge*, which is so much Your Care whither this sore *Distemper* seems to be so fast spreading it self, I pray You to permit them to appear under the Protection of your *Honoured Name*; for honest and harmless as they are, they may need the best which the *Country* can afford.

WHAT GOD has so much *owned* among us by his Blessing, and so many of his *Servants*, the *Fathers* of their Country, see reason daily to *adore* and *praise* Him for, should be reverently regarded by every one, and shall be by

SIR

Your most Humble &

Obedient Servant,

Boston, N. E.
Novemb. 23.
1721.

Benjamin Colman.

Some *Observations*

On Receiving the

SMALL-POX

BY

Ingrafting or *Inoculating.*

WHEN I first had the Account of this common Practice in the *Levant*, and of the wonderful Success of it there, given by *Gentlemen of Learning* to such a Body as that of the *Royal Society in London*, I could not but give Credit to their *Testimony*, in a Matter of fact whereof they were Eye-Witnesses. Immediately the *little Phylosophy* I am Master of led me into the *apparent Reasons* of the thing. The more readily & easily *these* occurr'd to me, the more I was affected with the Goodness of *GOD Almighty* therein to a Miserable World. I immediately tho't with myself, and said to some *Superior Persons* in the Town, (who possibly may remember it) What an astonishing Mercy to *Us* in this Land, this Dis-

Discovery of a *Gracious Providence* might prove. The more I mus'd upon the thing, and discours'd upon it, the more light I had, or seem'd to my self to have. It appear'd to me as rational as it was surprising, and gave me great pleasure in the prospect of so great a Benefit to Mankind. For I had not forgot the terrors of the *Small-Pox* when it was here the two last times, Nineteen and near Thirty Years since; tho' it was nothing so Mortal either time as it had been before, (1678.) and has been now again. Besides it being now nineteen Years since the *Small-Pox* had been in the Town, it gave us a very dreadful prospect of Distress and Deaths, whenever it should come among us; all the Children and all the Young People born in the Town, or come into it from the Country, within that long term of time having it before them. Now in proportion to the distress fore seen and expected by us, my Joy naturally rose upon the Discovery of such a Way of Relief as seem'd Opening before us, by the favour of GOD to us. In this simplicity of heart (I speak before GOD who searches it) I gave into a kind Opinion of this *New Method*; My Affection to my *Country* and the saving the *Lives* of my People being the Sole Motive to me, under the *Glory* that should thence redound unto the Name of GOD. I freely spake my Tho'ts in Company and on Occasions as it seem'd proper to me, and when some publickly demanded of us, "*Whether People could trust in* GOD *in using this Means of self-preservation*? I openly answer'd (among my *Brethren*) in the *Affirmative*, that I judg'd they might. This was after that Dr. *Boylstone* had begun the practice,

practice, which I never put him upon, nor had I light to dissuade him from it. According to my hope and Expectation it succeeded; altho' the first Experiment was the most discouraging; for Mrs. *Boylstone* being in the Country and the *Doctor* taken up abroad among his Patients, the Children were too much exposed & neglected, and from my house (which faces into the Doctors yard) One of them was seen three or four days after their being Inoculated dabling in the cold water under the Pump. This or the like disorders in the first Inoculated *Child* threw him, as well they might, into a high and threatning fever. The cause was apparent to the Dr. and so did not discourage him, nor at all disgrace the practice with us that saw it. It was a pleasure however to see that the Small-Pox might be communicated, as the *Gentlemen* from the *Levant* had informed us. The next Experiments were made with more care, and accordingly more answered the Accounts which they had given us of a very *light fever* and *few pustles*. By this time the *Town* was full of the Sickness, and the Deaths that began to multiply led a few more into this *Means of safety*; as they hop'd by the favour of GOD to find it. The Blessing of GOD went along with it; they found *ease* and *sweetness*, and lay praising GOD on their Beds, or rather sat up in their Chairs doing so. Their friends stood smiling about them. Their tongues were filled with laughter, and ours with Thanksgiving on their account when we went to see 'em. We saw them recover fast; the communicated Distemper working uniformly upon them, and as one would desire. We saw this with wonder and

Joy

Joy at what GOD had wro't for us. We saw *Scores* thus recover, even as many as went into the happy practice, and it appear'd to us more and more to be *the Lord's Doing and marvellous in our eyes.* They were as discreet and religious a number of People, and Persons of as good sense and understanding, and of as much caution and fear as their Nei'bours, who made these Experiments; and they did it with meekness and humility, patience and silence, and many prayers, under much provocation from too many. Only *one Gentlewoman* has yet died out of an *hundred,* who have now passed thro' the Operation. But as you must needs suppose in a Town so full of Infection as this has been, some ten or twelve of this number appear'd to have taken the Infection in the common way; (among whom the Person deceas'd was evidently one) and accordingly they had it of the *Confluent* Kind, or in a fulness of the *distinct* sort, not known among the Inoculated in the *Levant.* This will be so far from seeming strange to you, that indeed it would be next to a *Miracle* had it been otherwise. At the same time it must be allowed, that a good number of those that passed so favourably thro' the Inoculation, would probably have had it very favourably in the common way. But that so many should pass so favourably and *easily,* as well as *safely,* thro' the Inoculation; while their Nei'bours had so many in every hundred that *suffer'd* so much, as well as *died,* is a sufficient Distinction put by Providence on the Method which we praise GOD for; and commend unto others, as GOD has commended it unto us.

FOR

FOR my own part I would not willingly, (at least unnecessarily) say a word that should *grieve,* much less *offend* any one, in this present *Essay,* which I honestly mean to *serve* my Country, and not provoke my Nei'bours. I have no *Interest* to serve by appearing for this Practice; but the contrary. If I knew any thing in prejudice against it, which might *justly* be said, GOD knows I would offer it. *Boston* can now little be served by it, to what it might have been a few Months past, and I may seem to have been too long silent. But what I have seen of this dreadful Visitation, from one Sick and Dying Chamber to another, (and it may be scarce any one has seen more) awakens me now to write for the sake of *other Towns,* where the Sickness is prevailing, or whither it may come; that *they* may not put from them *the Mercy* of GOD in this particular, as it seems to me that *we* have done. I can call upon *my Brethren,* the *Ministers* of *Boston,* who the most of them have at times pass'd from the many sad Spectacles of Woe, Corruption, Anguish and Distraction, to the Chambers of the *Inoculated,* to say in what ease and sweetness and serenity *these* have lay. As the passing out of darkness into light, or from a tempestuous Sea into a Calm Haven, or from a place of horror, into a Garden of pleasure, so it has been to us. A thousand Comparisons here offer themselves to mind, which I suppress because they would seem *odious* to some, however just in themselves.

I come now to say, *What I have seen in the Chambers of the Inoculated;* for I have made it my Busi-

ness

ness to visit some of them, and *to observe the Work of GOD to his praise*; And what I blame in others is, that they have not visited them, and without prejudice or passion, or regard to any private Interest or pique, informed themselves as they might easily have done of this great Thing which GOD has brought to light in our Day; and if I may serve to set it in any true light before others, I shall account my self honoured of GOD therein.

KNOW then, That the *Incision* which the *Dr.* makes in the Arm or Leg, are the least you can well imagine, and but Skin deep; the quantity of the *variolous matter* which I have seen him use to good effect, has been but a single and very small drop upon a bit of Lint. After twenty four hours we threw it entirely away and put on a dressing of Cabbage leaf from day to day: for six and sometimes eight days the Patient continues perfectly well; then a gentle Fever rises, accompanied with all the Symptoms of the Small-Pox, but in a low degree, an aching head and back, and pains in in the bones, *&c.* This makes him dull and heavy for a Day or two, and presently he finds himself well and the Pock appears, rises, turns, and goes off without any more illness or pain, save what the burning and soreness of the Pock may occasion to him, or some external Fever in the Flesh without any inward one. For the first six days I have found the Issues opened very little; and seem'd to vent but little; yet in some bodies more than in others; but as the Fever comes on and the Pock begins to appear in the Skin, the Incisions of their own accord begin to open and discharge,

charge, and as the Pock fills and ripens the Issues every Day widen and run more and more, till at the turning of the Pock the sixth or seventh Day, they come to their fullest flowing; and after two Days more they gradually decrease and abate and quickly heal of themselves under the same dressing of Cabbage-leaf, which had before drawn them. So *gentle* and *perfect* is *Nature* in this its own Work, without the Assistance of Medicine ordinarily, and almost any need of Nursing. Neither is there need scarce of a Watcher by night, no more than of a Nurse by Day, the Patient feels and eats so well by Day, and sleeps so well by night. He rarely complains of any pain in his Head, oppression at his Breast, sore Throat, or Thirst; and is seldome offended with his own smell.

BUT that which is the greatest Benefit by Inoculation, and indeed the apparent Cause of all the ease and sweetness experienc'd under it, is this, That as it *moderates the first Fever* and the Symptoms before the Eruption of the Pock, so it seems totally to prevent *the second Fever* at the turning of it, which is the fatal thing and time unto so many: The evident reason whereof is, because the *Oil* or putid matter that should be the Fuel within the Body for the flame or fever keeps running out from Day to Day at the Incisions: And besides, the Body not being cover'd with the Pock, and consequently not with scabs (and corruption under the same) when the Pock turns; as it has enjoyed a free perspiration by the Pores, so there is no foul mass upon it to return in, and mix with the juices and blood; by which it is that in the

the confluent and fluxy ſort, the Body is tainted a ſecond time, as well as the perſpiring (ſo neceſſary unto Life) is prevented. The Conſequence of this again is exceeding happy to the Inoculated, which is, That they have no After-blains and *boils* upon their bodies, which are ſo frequent and terrible after the ſuffering of the Small-Pox in the confluent kind: the reaſon whereof is apparent, Namely, Becauſe the Iſſues keep open and running at and after the turning of the Pock, and ſo diſcharge freely and fully all the Ill ferment or humour, which if it where in part retain'd in the body would cauſe ſwellings and boils. So that whereas there is in the other way very often a return *in* of ſome of the ejected poiſons, which taints the blood again; ſo here is an eaſy gentle perpetual flow *out*, with a continued perſpiration of the body, which prevents after boils, as well as the kindling any preſent conſuming flame within the patient.

It is now ſome Months, four or five, ſince many of the Inoculated are come abroad, and they find neither boil nor ſore upon them; but are in as good a ſtate of health as ever they enjoy'd in their Life: Nay ſome have found a much better Complexion and Stomach than ever they had before; and particularly my own *Child* has found ſo thro' the favour of GOD.

I can tell too of a Woman in the weakneſs of Child-bed, who eight days after her Delivery came under the Inoculation to avoid the Small-Pox the common-way, GOD ſending it then into the

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the houſe where ſhe was; and tho' ſhe had many more puſtles than is uſual in this Method, yet ſhe went chearfully thro' the Viſitation, and even gain'd ſtrength while the Pock roſe to as fine and large a head, of the diſtinct kind, as I ever ſaw.

When the Patient in the common way of Infection would have but *few* puſtles, he has to be ſure fewer, under the Inoculation: When he would elſe be exceeding *full* it greatly abates and leſſens the number of the Pock; and when it would be the *confluent* and fluxy kind we have all the reaſon in the World to think that it prevents the ſame, and brings on a *diſtinct* ſort; which ſort has but little danger attending it in the common way of Infection, and which only are proper to the Inoculation according to the Account given by the Gentlemen from the *Levant*. Sometimes the Inoculated whom I have ſeen have had a *large* and angry Pock and a good number of 'em too; ſometimes when there have not been many I have obſerv'd ſome of thoſe that have appear'd and riſen for two or three days to *ſink* away and diſappear; yet have they created no feveriſh diſorder when they have done ſo, which looks as if they diſcharged and vented themſelves by the Inciſions. Once I found a Young Man under the Inoculation full eno' to have given diſtreſs and danger as I apprehended, but his chearful eye and ſmiles immediately put me out of pain; profeſſing to me that he felt himſelf ſo well within, that were it ſafe or proper he tho't he could goe about his worldly buſineſs as well as ever in his Life. In others their fever has been high and burning

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burning in the flesh, when *inwardly* they have found no disorder; neither in head nor breast, but could breathe and sleep even as if in health, or next to it.

I boldly profess concerning as many as I have seen under the Inoculation, even when their Pock came to the height, *scarce the smell of sickness has passed on them*, in comparison of what others undergo in the common way. In some the Issues scarce smell at all, so much as to them that dress 'em. It has seem'd to me nothing more than what a Cabbage-leaf upon a *common Issue* must needs cause at the end of 24 hours. Where the Patient would have *many* Pock in the common way, and consequently have the more under the Inoculation, there the Issues must be supposed to run the more. Where the *Patient* is fullest under the Inoculation I affirm I could never smell their Issues at their Bed-side; no not when I have lean'd over their Bed on purpose to do it. Yet certainly the Issues do smell more or less as the degree of the Distemper is upon the Patient. And where the Infection is taken the common way, and the *Confluent kind* comes in the Eruption, there the Issues you may well think find much more to vent, and the Discharge is *more noisome*, like the running of the fluxy kind. But at the worst, even in *this case*, the hours excepted wherein *kidneys* have been sometimes applied to neck or feet, it is nothing, that I could ever find or hear, in comparison of that prodigious *stench* which is so common for many days together under the fluxy sort, wherein one can hardly bear the Rooms.

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It therefore appears to me one of the boldest *Impositions* on our Senses and Reason, that has been attempted since the Day wherein *Transubstantiation* was obtruded and forced upon the Christian World, to bear us down as some would, "*That the Inoculation has caus'd the dreadful Malignity and Infection* which has been in the Town. To say this to *Us* who have been call'd from day to day to the many *noxious Chambers*, each of which have had *poison* eno' in 'em to have spread the Town over, and which have been continually by day and night filling the Air with Infection by the Chimneys and doors, till at last the Windows have been thrown open too upon the Souls leaving the corrupted Body, —— requires an *Assurance* indeed. Our Nei'bours must forgive us if we contemn it as a most foolish Opinion, and ridiculous Imputation. We must call it so, if not worse; or we must forego our sense, and the common understanding which GOD has given us. On the contrary, I must constantly think that the Inoculation has been an Abatement, and Prevention of the greater Malignity that would have been by more of the confluent and fluxy sort. Besides, In-fact, the Malignity and Mortality has not been now so great, in proportion to our present numbers, as it was three and forty Year agoe, when in about fourteen Months we are told *Eight hundred* People died of it; which I suppose was a greater Mortality than if *Eighteen* hundred had died of it now. Some who were then Adult tell me what great numbers were then buried in a Week: Families were then desolated and broken up, and the very flesh rotted off the bones of some. And we at last find

find too by ſad experience, that They underſtood as well the managing the Diſtemper then as we do now: For when the Malignity comes to a Height, we find that we know very little or nothing what to do.

NOR does it appear to me at all reaſonable to think, that what the Iſſues of the Inoculated do diſcharge, is at all Malignant like what is vented by a fluxy Maturated Pock, and after it turns and lies ſtinking on the body: It is not filthy and putid, that ever I ſaw, like the running Pock: It has not the time to come to the venome of that before it is thrown out, and then it is immediately taken away; and conſequently as it arrives to no ſuch Malignity and Infection, ſo it can communicate none ſuch.

MUCH has been ſaid too, and dark hints given at times, about the *Purple Spots* in the skin, or *blewiſh ſtains* which have been upon many and commonly are the ſure and fatal ſigns of their approaching death. But as *theſe* are ſpoken of by them that have wrote of the Small-Pox before our days; ſo I very much queſtion whether the Bodies which I have ſeen ſo ſtained do yield any Malignant Infection equal to the corrupted and noiſome Bodies of others that ly and putrify under the fluxy kind. I am ſure to my ſenſes they have not at all ſeem'd equally noxious. And when I reaſon upon the *Cauſe* of theſe ſtains in the skin, it ſeems generally to be the ſuppreſſion of the Pock under it, which wants to come freely forth, but being obſtructed by the *Stagnation* of the Blood it riſes no higher than to diſcolour the skin; which tho' it may well argue more Malignity within

within and may give a more poiſonous breath to the Patient while he lives; yet Methinks the Pores of the Body do by no means breathe out the like Malignity as if the Pock riſes & breaks & ſtinks. How the caſe may be in *Spotted Fevers* I know not, and whether I am right in what I have here advanced I ſubmit to the *Phyſicians*, and am ready to ſtand corrected by their Judgment.

THERE yet remains three or four things which have occurred to me, which I think meet to obſerve or relate,

ONE is, That I am at preſent ſtrong in the Opinion, that thoſe Perſons who had taken the Infection before they were Inoculated, yet were greatly ſerv'd in their Sickneſs by the running of their Iſſues, which vented much of the Inflamatory matter that would have increas'd their Fevers. Some who have recover'd have tho't ſo themſelves, and ſo have all about them. And as to the Gentlewoman that died, her Husband has told me that in his opinion the Inciſions did much toward the preſerving his Wife ſo long, and ſo far as ſhe was preſerved thro' her ſore Viſitation.

NEXTLY, I would obſerve, That in caſe the Infection be taken the common way, and the Eruption would not have been in ſome Weeks; As we certainly know that it will ly in the Body ſometimes a Month before it breaks out; yet the infected Perſon coming under the Inoculation, it will bring on the Diſtemper at the uſual time of ſeven or eight days. Not only the reaſon but the neceſſity of this ſeems very plain; and it accounts for a Difficulty with ſome, which is, Why the Sickneſs comes at the period proper to the Inoculation, and

yet

yet it proves the confluent kind which is not proper to it.

I lately met with a *Treatise* on the Small-Pox wherein the *Author* advances this Rule or Maxim, "That all venemous Particles do first enter the "Body thro' the Pores of the skin, and so croud in- "to the Humours & juices, & thence into the san- "guin Parts. From hence he accounts why the "face & hands & feet are usually fullest of Pocks, "because those parts of the body are more open "and exposed for the admission or entrance of "those venomous Particles.

I carry'd on the *Hypothesis* in my own mind a little further, by that *Modern Observation* which has been made of a Multitude of *Animalcula* on every Pustle of the Small-Pox: *These* they tell us their Glasses have discover'd; and that our common Infection is by swarms of these. If so, Metho't these living Minute Particles, these Animated Atoms if I might so speak, may much more easily find their way into our Pores & so into our bodies, than if they were Inanimate.

But if one Hypothesis or other may be at all admitted, with this further & most reasonable tho't upon them, that these *venemous Particles* or *Animalcules* do also flow into our nostrils, throat and blood by our breath; then may they not give us a *Reason* why the Small-Pox communicated by Incisions in the way of Inoculation, does not produce *so many* Pock, and such a *flame* & *corruption* in the body, as in the common way of Infection it ordinarily does? Because in this way not so many enter, nor immediately into such parts of hazard and distress, as in the nostrils, throat & inwards?——

But

But I pretend not to argue, on *Principles* or *Premises*, which are themselves uncertain; and ly open to many Objections which I could never answer.

I will only add upon all a plain, but to me pleasing & informing *discourse* I lately had with a *poor Negro*, whom I found at work where I made a visit, and the *Gentleman* of the House told me the Fellow had been Inoculated in his own Country. Whereupon I put several questions to him, in answer to which he told me, That he liv'd in a great Town in his own Country, and when the Small-Pox came into it they did what they could to prevent the spreading of it; that the Families that were first visited usually died among them; but when the Sickness got into five or six houses, so that the People began to despair of being able to stop it, then all who had not had it went presently & receiv'd it in the way of Inoculation, (as we call it) and that not one more died of it thro' the whole Town.

We do not stay therefore (said he) till the Town be infected, and People have many of them got the Sickness within them, and then go & take it; but a whole place takes it in a Week & are well in a Week. (I use but some of his words here, giving the true sense of what he said to me.)

He went on in answer to the questions I put to him, and told me, "That he never knew of any blains or boils following this practice in his Country; that as to himself none had troubled him, any more than what others are subject to; & that He never heard of any bodies having it again in his Country; but to prove that his Country men think themselves as secure from it as any of us may do, he told me, That sometimes when Young men among them wanted to go a trading two or three hundred

Miles

Miles off, but were afraid becauſe they had not yet had the Small-Pox, it was common for them to enquire where it was, & go to the place & be Inoculated, & then go & trade any where without fear: When I ask'd him (what I did not at all ſuppoſe he could imform me in) How his Country-men came into the knowledge of this way of giving the Small-Pox? & how long it had been among them? he told me he knew nothing of thoſe things; he ſuppos'd it was long before he was born; and no doubt " but GOD told it to poor Negroes to ſave their lives; for they had not knowledge & skill as we have.

I believe I ſhall be ſcoff'd at for telling this *Simple* ſtory, but I think it very pertinent & much to the purpoſe here; and whoſoever ſeeks the Truth & deſires to be informed will not deſpiſe it. And he that has learnt any thing as he ought, has this ——to be willing to learn of the pooreſt *Slave* in the Town.

UPON the whole, I do not think that I at all go out of my *Line* in the preſent Eſſay. The plain intent of it is to ſerve unto the preſerving of Life, and to miniſter unto the comfort of Families. This is a Care beſeeming me, or any one elſe, if it be manag'd with modeſty & decency. My care to do it ſo, is I think viſible eno' in the preſent writing. I have avoided any appearance of ſeeming learned in *Phyſick*. I am not: Nor ſhall I matter it at all, if I have betray'd my Ignorance therein. I write with another deſign, & if that be anſwer'd I have all my deſire; or if it be rejected with ſcorn and revil'd I ſhall be ſatisfyed in *this*, That I have again endeavoured the Good of this People.

F I N I S.

ERRATA. Page 3. line 11. for *Pump* read *Gutter*.