

A dissertation on the effects of mercury on human bodies, in the cure of the venereal disease ... / by George Key, surgeon : to which is added, the extraordinary case of John Bodle, ... wounded at Clifton Moor, ... containing some animadversions on the use of the bark.

Contributors

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A

DISSERTATION

On the EFFECTS of

MERCURY

ON

Human Bodies, &c.



(Price One Shilling and Sixpence.)

D I S S E R T A T I O N

ON THE EFFECTS OF

M E R C U R Y

ON

HUMAN BODIES, &c.

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A
DISSERTATION
 On the EFFECTS of
MERCURY
 O N
Human Bodies,

In the CURE of the
VENEREAL DISEASE.

With a comparative View of the Methods by Salivation, Unction, and Purgation, and the more effectual Manner of Cure, by the Use of the MERCURIAL OINTMENT, without either Salivating or Purging, as practis'd at *Montpellier*, and now at *Paris*, by the learned Doctors *ASTRUC* and *CANTWELL*, whereby the Train of direful Symptoms attending Salivation are happily avoided, as also the Inconveniences of Purgation.

By **GEORGE KEY**, *Surgeon.*

To which is added,
 The Extraordinary Case of *John Bodle*, a Dragoon in Lord *Mark Ker's* Regiment, who was wounded at *Clifton Moor*, under the Command of his Royal Highness the Duke; containing some Animadversions on the Use of the BARK: Wherein it is proved, not to be that Universal Remedy in all Constitutions labouring under Gun-Shot Wounds, as asserted in a late Pamphlet on that Subject; and in the mean time pointing out wherein it is.

Together with
 Some Remarks and Observations of the Author, with Respect to the Effects of an INSTRUMENT lately invented by him, set forth in the Preface of the said Mr. *Bodle's* Case.

L O N D O N :

Printed for **T. OSBORNE**, in *Grays-Inn*, MDCCXLVII.

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of difficult Symptoms attending Salivation are
happily removed, as also the Inconveniences
of Purgation.

By GEORGE KEIL, M.D.

To which is added,
The History and Cure of the Venereal Disease, as
describ'd by the learned Doctor Astruc, who
was the first who published his Treatise on
the Venereal Disease, in the Year 1718, and
who was the first who introduced the Use of
the MERCURIAL OINTMENT, without either
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Printed for T. Cadogan, in Great Street, Macclesfield.

THE
P R E F A C E.

THE principal inducement that I have now in view, in publishing a short treatise on the use of Mercury, is to support and recommend a method, in which the cure of the Pox is altogether different from any now made use of in *England*. The great success attending it in *Montpelier* and *Paris*, when conducted by those gentlemen who are well acquainted with the nature of it, is an inducement, I think, sufficiently worthy the imitation of every one who would treat this disorder to the purpose; and, if these are not sufficient incitements to embrace such a method, I think the

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gentleness and certainty of the Cure, together with the avoiding all the inconveniences and bad consequences attending Salivation and Purgation, ought to be motives sufficient to oblige every practitioner to encourage and promote the same, not only as their own good but also that of their patients depends on it.

I know some Gentlemen may say, this method has been try'd in the hospitals of *London* without success; as for my part, I must candidly affirm, that if they have not succeeded, I am altogether doubtful of their true knowledge in this Method of Cure; a method, with which if they were a little better acquainted, they could not find in the least any room to complain against.

IN the mean time, they affirm, that the great success it meets with abroad, is principally owing to the goodness and warmth of the climate.

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I agree that this contributes greatly to the cure; but if, on the other hand, we consider the winter season in *France* and *Flanders*, that the climate is as cold, if not colder, than in *England*, and that the cure of the disorder, at this time of the year, has, by this method, always happily succeeded in these countries; why not then in *England*? As for my part, I cannot account for the miscarriage of it here any otherwise, than in a want of knowledge in the manner of conducting it; since, it is manifest, the cure has been oft-times performed in *London*, by this method; according to which I have happily cur'd many people since my return from abroad. I know, in *Paris*, that there are some few eminent physicians and surgeons, who pretend to cure the Pox, according to this principle, notwithstanding they are absolutely unacquainted with the manner of it, as I have had the opportunity of know-

ing, from their method of dispensing the Mercury, and exhibiting the frictions.

As to the trials made use of in our hospitals, I fancy they have not been many, neither do I think, had they succeeded, they would so well answer the hospital practice, on account of the great numbers daily under cure, the length of the time, and the great care requir'd; all which, I presume, would employ too much of the surgeon's time, and which he could not reasonably afford, without neglecting his private practice, unless very well recompenc'd for it.

THESE reasons, however, not at all essential, ought not to be in the least a hindrance to pursue this method, in private practice; because, as the livelihood of the surgeon depends here, he can give such attendance as is absolutely necessary; and as to the length of the time, which

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is sometimes 30, 40, or 50 days, the patient is happily recompenc'd for it, being sure of a certain cure in the end, and, in the mean time, enjoys all the liberties he can possibly desire, without being in the least incommoded, or expos'd to such dangers as attend Salivation, or the purging off of Mercury; for, according to the method I make use of, the patient is never emaciated, but, on the contrary, grows fat and jolly, and is in a condition to go abroad in four or five days after his cure; whereas, by Salivation, he is expos'd to many inconveniences; his body is greatly emaciated, and, after the Salivation is over, he is confin'd for a long time to his chamber, where he is oblig'd to nurse up, with the greatest care, his tender constitution, which at this time is susceptible of many changes, from the least impression of air; the avoiding of all which, as I before observ'd,

vi The *P R E F A C E*.

observ'd, is happily done by the method I make use of, and the length of time thereby amply recompenc'd, as also the surgeon, from the assurance of a suitable gratification, and a perfect cure, in which his honour and character are so nearly concern'd, and which may be always preserv'd by the method that shall be treated of in the following dissertation.

A
Practical Dissertation
ON THE
Effects of MERCURY
ON
Human Bodies, &c.

AS physicians do not generally agree about the nature of the Venereal Virus, 'tis sufficient for those who treat the disorder to know, that it causes concretions of a harder or softer consistence, proportionable to the degree of its malignity, to its delay in a body, more or less, obnoxious to its infection.

That it does not act on the red, but on the white and lymphatic parts of the fluids, is a truth which no one vers'd in the animal œconomy can deny: For the blood of those, tainted with this disorder, appears to the eye, as well as that of others not so infected; neither are they more subject to inflammations thereof; and should they even be affected
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with inflammations, they are, without having any regard to the effects of the Venereal Virus, as easily cured as those altogether free from it.

On the other hand, we may see many disorders, proceeding from an inspissated Lympha, yield to several attenuating remedies, which have not the least effect on the Venereal Virus, and therefore I look on this disorder to consist of concretions of a particular nature, capable to resist the power of all such remedies: These concretions are of a hard consistence, and small enough to circulate with the blood through all the vessels, but not through the Neuro-Lymphaticks, where stopping, they constitute the disorder.

By this hypothesis all the venereal symptoms are easily explain'd.

If these concretions stop in the Prostate Glands, they beget a clap; if in the glands of the skin, a pocky rheumatism; if in the groin, the common and well known tumours of that part. The inflammation attending this disorder arises from the pressures of the lymphatic concretions on the neighbouring blood-vessels, which pressure obliges the blood to stop therein, and the small nervous fibres, striking against the obstruction, are thrown into confusion, which immediately produces pain: Whoever has this point of doctrine in view, can easily explain all the other symptoms.

Before

Before we proceed any further, we own that many antivenereal remedies have been discover'd among the class of Sudorificks: The Sarsaparilla, Sassafras, Guaiacum, Antimony, &c. all which may (in the hands of a judicious person) cure a clap, or recent pox, but are quite insufficient when the Virus has once render'd itself master of its subject; which is soon manifested by the numerous attendants it produces on the surface of the body, and knows no other specifick but Mercury, which indeed is the most sure and efficacious in all other degrees of this infection.

We now proceed to the rise of its application against the Lues, and specifick virtue, by which it destroys it.

According to the account we have, *Jacobus Berengarius Carpenfis*, a *Neapolitan* physician, was the first who ever us'd Mercury in this disorder, and that in the following circumstance.

When *Charles* the eighth of *France* besieged *Naples*, that city was generally infected with the venereal disorder, imported thither by the *Spaniards*, who became first acquainted with the infection in the expedition of *Christopher Columbus* to the *West Indies*; and, as provisions grew scarce during the siege, the ladies of pleasure were turned out of the city, and had then no other resource than their enemy's generosity, who, according to their

usual politeles, received them and all their pestilential favours with open arms. But ever after the *French*, out of indignation, call'd the evil they received the *Neapolitan* distemper; and we call it the *French*, on account of their having been the intermediate factors between *Naples* and us. But what is pretty odd, the *Neapolitans* call it also the *French* distemper, and so they toss the infamy from to another; and thus it is, that children of one love are commonly of disputed parentage. Thus far for digression; now to our purpose.

In this general calamity several officers apply'd to him for succour, who having learn'd from *Dioscorides*, that Mercury was good for cutaneous eruptions, by analogy judg'd it was good for venereal disorders; and, in order to come at this new foe to the *European* world, compos'd an ointment of Mercury and grease, call'd Unguentum Neapolitanum.

He made use of frictions, and cover'd the body almost over with this ointment, which, being too strongly charg'd with Mercury, succeeded well in those, robust enough to resist so great a dose, whilst many of the more weak and delicate fell its unhappy victims. This disaster, not arising from the remedy itself, but from its being applied in too great a quantity, caused its long difuse, and made physicians lay it aside for other remedies, which

which they thought more safe, tho' less efficacious.

'Till *Didier*, *Chycoynau*, and other eminent physicians of the faculty of *Montpelier*, the venereal pest's greatest foes, reviv'd *Carpus's* judicious notion, and by justly correcting, have render'd it the only rational, and superior cure to all other remedies, as will fully appear in the explication of the actions of Mercury in curing this disorder.

Mercury is the great specifick to divide and attenuate all lymphatick concretions proceeding from the Venereal Virus. As these concretions are very small and hard, they insinuate themselves in time, almost into the minutest tubes and nutritive vessels of the body, and therefore require a remedy divisible into globules sufficiently small, and of a gliding nature, and that, in its greatest division preserves a specifick gravity superior to that of most other bodies.

Mercury alone answers all these views, as it is of a gliding nature, and divisible into parts extremely small, which is easily evinced by the smoaky exhalations arising from it when thrown on the fire. Next to gold it is the most weighty body we know, and is consequently the properest to attack, break, and destroy the concreted Lympha in its last intrenchments; and that, by means of its minute, smooth, and flowing particles.

It may perhaps be asked, may not gold, which is a heavier body, produce the same effects? No; for to reduce it to a state proper to penetrate into the human body, it must be divided, and this divisibility is obtained by Aqua Regia; during this operation, the particles of gold are impregnated with a saline substance, which diminishes their specific gravity; besides they have not the gliding faculty which is absolutely necessary to eradicate the Lues, as Mercury has.

A cubick inch of Mercury weighs fourteen times more than one of water, the Lympha weighs pretty near the same as the latter; whence it follows, that a globule of Mercury, however so small, weighs fourteen times more than a Lymphatick one of the same size; which consequently must yield to, and be broken by the former.

Mercury that conquers all Venereal concretions, cannot destroy those caused by the scurvy, but rather irritates them; and this I take to be the reason, the scorbutick concretions are of a more soft and spongy consistence than the Venereal; whence it follows, that the Mercury only penetrates and runs through, but does not destroy and break them; whereas the Venereal being smaller and of a harder texture (which plainly appears from the inefficacy of all other attenuants applied to this disorder) the Mercurial
globules

globules no sooner meet with them than they penetrate, break, and totally destroy them.

Besides, it is well known, that the Mercurial Particles are of a spherical figure, and always tend to be so; and consequently are the more capable to receive and preserve a given quantity of motion than if under any other figure, and it is by this theory alone we can explain how they penetrate into the very texture of the bones; fire cannot destroy them, for by whatever art one may use to change or torture Mercury, it can be still revived, that is, gathered together into globular particles, which proceeds from the hardness and bulk of its integrant parts, of which there are but few, if any, porous; and even in those, the pores are very small.

Pure Mercury therefore must be conveyed into the mass of blood to compleat the total destruction of the Virus; for all its preparations (such as the Ethiops Mineralis, nay, even Panacea, which is the best) are not sufficient to break the Venereal Concretions; because Mercury, joined to any saline body, loses its weight and hardness. It must nevertheless be allowed, that these preparations may cure a person of a happy constitution either clap'd or recently pox'd; but when the disorder is of any standing, the most celebrated Mercurial Preparations do but merely palliate the symptoms, and thereby render the patient's cure more difficult even by the most celebrated

brated method of *Montpelier*, which is what I follow. As for all the other methods used in Mercurial Preparations, they carry off the most light and easiest moved part of the concretion, but leave the more gross and heavy untouched, which growing harder and harder, aggravates the disorder, and produces daily new torments to the unhappy patient.

Mercury ought not to be given by the mouth, because it passes too soon out of the body by the intestinal canal: Therefore a very small quantity of it can only enter into the mass of blood, and as it proceeds from large into small vessels, does not sufficiently divide itself, so as to be able to penetrate into the smallest capillaries, and there destroy the venereal concretions in their last retreats; if so, as it evidently appears, what good can a patient receive from Mercury thus administered, since many of the most minute vessels in which the Virus lurks, remain unattack'd.

I repeat again, that the medicine taken by the mouth may sometimes cure a clap or recent pox: but when the pest is of a longer date, no sure refuge is then left but the *Montpelier* method, which indeed is the most sovereign, safe, and agreeable in all venereal cases.

Some persons may object, that in the preparations taken by the mouth, the Mercury enters the larger vessels in a very divided state; true, but its particles soon free themselves

ſelves from the vehicle that kept them ſe-
parate, whereby they eaſily reunite, and
conſequently become incapable of paſſing into
the Neuro-Lymphatick Capillaries, to de-
ſtroy in them the venereal concretions.

Others have preſcribed Mercury under the
form of ſmoak, by throwing Cinnabar on the
fire near which the naked patient is placed,
that the exhaling particles may inſinuate
themſelves into his pores: But as this method
not only overheats and rarifies the blood, but
greatly prejudices the lungs, its uſe is juſtly
abolished.

Some aſſert that crude Mercury taken by
the mouth under the form of pills, has cured
the venereal diſorder: But we know from
others that this method has been followed
with ſuch a great inflammation, that ſeveral
ſucceſſive bleedings could ſcarce ſtop its pro-
greſs.

From this variety of accidents, together
with the doubtfulneſs of cure, the only me-
thod is that which employs Mercury in form
of an ointment, and that by frictions pro-
perly conducted, after the neceſſary precau-
tions of bleeding, purging and bathing, which
is infinitely ſuperior to all Panaceas and Pti-
ſans, as they certainly overheat ſometimes
both blood and juices.

Carpus was the firſt author of this method,
which had ſometimes fatal conſequences by
his injudiciously throwing too much Mercury
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at a time into the body; whereupon, as I observed, others strove to deviate from this method, by inventing some of their own that they thought more safe: But reason and experience having since proved them ineffectual, has obliged the most judicious to return to it again, nor have they changed, but perfected the method of this great physician, which is preferable to all others, in as much as Mercury acts more powerfully by the skin than otherwise; as likewise does bathing, having more singular effects than all the water or other liquids that we can drink for many days together.

Mercury thus applied, enters in by the small vessels without suffering any change in the quality of its particles. By this method we can apply it in what quantity or to what part we please; But on the contrary, in fumigation, how can we determine its dose at this juncture, or even at any other time? All physicians and surgeons, deserving the title, agree, that Mercury should be applied by the way of friction, but differ greatly in the dispensing of it.

It was the general opinion, until the famous *Didier* of *Montpelier*, that frictions or anointing should be made use of until a salivation was excited, that the virulent matter may be thereby discharged.

But the inconveniences that this severe method of salivation draws after it, should deter
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deter from its practice all unprejudiced physicians and surgeons, since we see every day its direful effects, as shall be hereafter explained.

The Unguentum Neapolitanum or Mercurial Ointment, carefully prepared, is employ'd in this method; there the Mercury is divided into very small globules, capable of gaining quick admittance into the minutest vessels, and is rendered more perfectly so by the very power of friction and smallness of the pores through which they pass, while the heat of the body contributes so far to their attenuation, as to render them infinitely more subtile in their actions.

By this method all the finer parts of the Mercury enter into the blood, whilst the more gross form a sort of scurf on the skin, linnen, or flannels; which latter are carefully left on, that the mercurial particles thereto adhering, may be further attenuated by the continual heat of the body; but should those be taken off, the Mercury does not then so strongly exert its power; this manifestly proves, that some of the globules of Mercury that adhere to them, and that are rendered very subtil by the heat already mentioned continually enter the pores, which they no longer do when these are taken away. A practice that most gentlemen who salivate are oftentimes obliged to, in order to

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preserve the lives of their patients when the salivation runs too high.

Mr. *Fixes* of *Montpelier* is of opinion, that the mercurial particles do not immediately separate from the ointment, but jointly enter through the pores or absorbent vessels, and when conveyed to the blood, disengage themselves from the turpentine and grease, which are there diluted and dissolved.

The mercurial particles thus freed from their bonds circulate with the blood, and insinuate themselves into the greater Lymphatics, from thence into the small, and even into the texture of the bones.

From hence it is evident, that the cure of this disorder depends only on Mercury: 'Tis true, that in the dispensing of it much skill and judgment are required, and if properly conducted, can never fail in the cure of the most confirmed pox.

In the treating of which, we can reasonably look on a person passing through the remedies, as having all the blood frothing with the mercurial vapour; which great despumation produces in the humours of our bodies such an extraordinary change, that the venereal concretions are attenuated, and the contagious pest (if I may be allowed that term for the pox) absolutely destroyed.

Hence it manifestly appears, that in order to attack this disorder, we can hope for no assurance of success, but what is liberally conferred

conferred upon us by the power of Mercury beyond that of all other remedies ; It therefore behoves every practical physician and surgeon, to whom only I apply, always to convey by frictions into the mass of blood such a quantity of it as may be sufficient to destroy the infection, having in the meantime a particular regard that it run not off by stool or salivation ; and should it even have a tendency to the latter, they are not injudiciously to precipitate it by purgation, because, as I have just observed, the cure of the disorder now in hand consists only in a certain quantity of it properly administered.

Every one acquainted with the animal OEconomy must allow, that Mercury cannot act on the fluids of our bodies, unless intimately circulating with them, but if once profusely discharging itself through any of the common Emunctories, must undoubtedly leave many particles of the fluids wherein the pocky infection lay concealed, altogether un-attacked, and thereby render the cure totally abortive.

I know it is the common practice with most gentlemen who pretend to dispense Mercury without salivating, to precipitate it by purgation, when they find it to have the least inclination that way, that is, when a spitting ensues, and the mouth becomes sore through the effects of the Mercurial Globules ; but pray give me leave to observe, what good

can a treatment of this nature tend to, if a tyrannical disorder must be thus palliated and trifled with, and a patient tortured by reiterated purgations, which are, during the treatment exhibited from time to time according to the exigence of the symptoms. It is from a process of this nature, I say, the very end aimed at is altogether destroyed, that is, the cure of the pox rendered ineffectual.

As Mercury then is the only known specifick for the cure of this complaint, and that which is preferred for its excellencies, and made use of before all others, I would fain know wherein can its salutary effects consist when all the juices of the body are contaminated with the infection, if its action be destroyed, as is absolutely done by purging it off, and that perhaps at a time, when acting, or beginning to act on the pocky Virus.

Therefore I infer a cure to be always imperfect from a treatment of this nature, and shall regard the running off of Mercury either from its own natural disposition, or else by an injudicious administration of it from either the mouth or Anus, to be absolutely against the cure, since either equally hinder its effects; nor indeed is it possible that it should otherwise happen, if we but maturely consider the quantities of it that are daily spending by a profuse evacuation through some one of these

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these Emunctories, where by it leaves, as I have before observed, many of the infected Lymphatick Globules altogether unmolested.

And it is from hence that the patient and practitioner labour under the greatest disadvantage, but the latter, in order to remove his doubts, or rather to provide against the uncertainties he exposes himself to by this treatment, is under the continual necessity of making a vain repetition of the same frictions after purging, and that in order to charge the blood and juices with more Mercury, which is to be substituted in the place of that which he just purged off, notwithstanding he is sure the patient must undergo, from these latter frictions, the very same change as he did from the former, and that he himself, upon the appearance of the same symptoms of salivation, must have recourse, as before, to purging; if so, as is certainly the case, what must then be the consequence I shall leave every one to determine, as the practitioner thus changes his own views by doing and undoing at the same time, when trifling with an outrageous disorder, protracting the same, playing on a ruined constitution, and destroying all intentions of a cure, and that, by robbing the blood and juices of the very specifick he had just before thrown into them.

This is so certainly true, that it cannot admit of the least dispute; and if Mercury be the known specifick in the cure of this infection,

infection, as it incontestably appears to be from the recourse that every one who pretends to cure this complaint has to it, beyond that of all other medicines, it is then the business of him who dispences it, to do all that in him lies to keep it in the body till such time as it has perfected the intended cure, which is accomplished by its breaking through the pocky concretions, destroying the same, and scouring the Sanguiferous and Lymphatick Vessels from all their obnoxious impurities.

It is for this end only, that the delay of Mercury for some considerable time in our bodies, is a matter of the greatest moment, as the certainty of cure inviolably depends upon it; and unless the views of the practitioner in the conducting of it, tend to this purpose, he shall find his patient oftentimes sacrificed to perpetual miseries, and himself frustrated in all his attempts; to affirm this, there needs no other confirmation than the great number of living witnesses daily attesting the same, as they every day fall the unhappy victims to its tyranny, after vain and fruitless attempts from repeated salivations, and reiterated purgations.

Hence we may see the reasonable necessity of dispensing a remedy that carries along with it all its *specifick* qualities into the mass of blood, and how indispensably necessary it is to keep it in the body till such time as it absolutely conquers the disease: The advantages
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of such treatment we may easily conceive from the use of the cortex or Jesuit's Bark.

This remedy is a most noble and approved specifick in the cure of intermitting fevers; but should any man, after the exhibition of a dose of it, give a purge; or even should the disposition of the cortex be such as to run off by stool, would it not altogether prevent the good effects of the medicine, and change intirely the views of the practitioner. The fact is so apparently true, as to surpass the reach of contradiction; and the parity of reason so just, that it will, in every particular, hold equally good, with respect to Mercury; and should any method, different from what I sustain, succeed, it is merely accidental, if the disorder has been of a long continuance.

As to the purging off of Mercury, when it begins to act so as to produce a spitting, some reasons may be assigned in favour of that practice; but none, if any at all material, in favour of Salivation; notwithstanding, both deserve such strict censure, as to be altogether condemned, and ever excluded practice, the one being as diametrically opposite to the cure, as it is ruinous to the constitution; whilst the other is no less perverse, than attended with the most direful effects.

Witness inflammations of the mouth, swelled chaps, indurated glands, teeth loose, aching and painful, excessive and violent spitting, which

which sometimes runs so high, as to be never stopped; continual pain for a long time without intermission, and the intumescence of the tongue so great, that the mouth is not sufficient to contain it; the head and face swelled to a monstrous size; the patient sometimes delirious, and attended with violent convulsions; also with Dysenteries, Diarrhea's, Contortions of the bowels, Hemorrhagies, or Fluxes of blood, sometimes from the mouth, sometimes from the nose, sometimes from the Anus, and sometimes from the Pudenda or privities, and the jaws oft-times so firmly lock'd up through the contraction of their muscles, that the unhappy patient is not only in danger of famishing for want of proper nourishment, but also of being suffocated, from the great quantities of saliva shut up in the mouth; and the salivation so severe as to destroy the teeth, the bones of the nose, and sometimes those of the palate; and after all these sufferings, an imperfect cure, or the life of the patient perhaps falls the unhappy victim to its violent effects.

If these fatal consequences are not sufficient reasons to decry and condemn the use of salivation, I shall leave every unprejudiced person to determine. In the mean time, I hope the reader will excuse the digression that I have made from the reasons that may be assigned in favour of that method, used in the purging off of Mercury, when beginning

to salivate, since I have reserved it purposely for this place, as the most proper for it, after having given an idea of the many fatal effects caused too often by salivation, which, in order to prevent, they exhibit purging; and this I take to be the only reason assigned in favour of this practice, notwithstanding it bids as fair, if not fairer, for the prevention of the cure than the other does.

Now as both these methods are a hindrance to the cure, and the consequences proceeding from them rather destructive than beneficial, it is then a matter of the highest importance, to make choice of such a method as strengthens one with the greatest assurance of success, whilst in the mean time it remains altogether free from the impending evils attending the two former; all which are happily avoided in the *Montpelier* Treatment.

The patient, according to this method, is never made sick, neither is he so much as once purged after the first unction, 'till such time as his cure is perfected; he enjoys all the ease and liberty he can possibly wish for; he sits at table, eats and drinks freely, and shares the conversation of his friends; his mouth is not in the least made sore, neither does he spit more than usual, and is never depriv'd of a night's rest, but sleeps well whilst under cure, notwithstanding the quantity of Mercury given him is three, four, or five times more than in any other method,

thod, and from which treatment he may be assured of a perfect and radical cure.

I am well persuaded that objections may be started in opposition to this excellent practice, by some apprehending none of its good effects, but rather representing most dangerous consequences from the delay of Mercury in our bodies, as though it was never to be discharged from thence, pleading the necessity of those unprofitable means of purging it off, or spending it by salivation.

But, in order to obviate this particular to the advocates of this hypothesis, and such as are not acquainted with the animal O conomy, I would have them understand, that tho' I am against this violent and premature salivation, or purging off of Mercury, when the principal end is so successfully obtain'd by my method, that I prove it absolutely impossible for the Mercury to remain in our bodies; because there is no part of Matter can rest there that are non-constituent parts thereof, that is, which has not some principles to constitute or nourish some part of the human subject.

This is prov'd from the very aliments, which, after a proper digestion in the stomach, are reduc'd into chyle, a great part of which enters into the mass of blood, and, after having pass'd through a variety of secretions, their nutritious juices are by a most wonderful assimilation converted into the sub-

stance of our animal bodies, whilst the more gross and useless parts are discharg'd through their different emunctories, under the form of urine, sweat, spittle, &c. according to their several necessities.

And though the Mercury suffers no alteration through all the secretions it passes, yet it submits to the same laws of nature, as before observed, in the extruding faculties of the animal system; I shall therefore regard it as an extraneous fluid artificially thrown into the blood, which having no principles in it to constitute any part of the subject, is, thro' the expulsive power of nature, after having pass'd a variety of secretions, discharg'd from the body by insensible perspiration and urine, if properly conducted; but if injudiciously given, will run off by salivation, or stool, either of which are an absolute hindrance to the cure.

It is from hence intelligible to the meanest capacity, that no part of Mercury can remain in our bodies, unless that it run out of the way of the circulating fluids; but this is what can never happen, except the pocky Virus has destroy'd the texture of particular vessels, as is too frequently the case, especially in the bony substance, wherein globules have been found sometimes remain; and indeed if the cure of a pox be ever impracticable, it is where the texture of parts are so far ruin'd, that the Mercury cannot act upon them.

What I here advance is circumstanc'd from the following observation: Every one acquainted with the chirurgical diseases agree, that pocky Fistula's in Perineo, when once extremely indurated, are out of the power or reach of Mercury; and the reason lies here; the number of vessels herein being altogether destroy'd, from the parts being extremely indurated, the circulating fluids along with which the Mercurial globules glide, finding their passage quite obstructed, bend their course another way, and leave these callous parts untouch'd, and from hence it is we are oblig'd to substitute the knife, in order to the extirpation of those indurations, in which consists one part of the cure for these kind of Fistula's.

Nor indeed will it be ever prudent to proceed to this operation, till the original cause is first removed; that is, till the infection is compleatly corrected; which being once perfected, then to the operation.

I fancy the reasons just given will satisfy every person, unacquainted with Mercury, how impossible it is for any parts of it to remain in the body, according to the ordinary course of nature, which expels or throws from it all parts of matter that has no properties to make up any part of the composition, and from this very principle of nature it's manifest, that no part of Mercury can remain in us, unless, as I before observed,
that

that the texture of particular parts be destroy'd ; wherein we may sometimes find remaining globules of Mercury ; which fault is not in the Medicine, but in the part ; and even in this case, which is really deplorable, it's in our power, by a proper method, to exclude them from their lodgment.

There are some constitutions, indeed, so very happy, that Mercury, notwithstanding the great endeavours of the practitioner to raise a salivation, cannot effect it : This I have known to give much uneasiness to many of my profession, fearing a cure thereby impracticable ; but how advantagious it has ever prov'd to such persons, I leave themselves to determine. I shall, however, with confidence affirm, that where it ever so fell out, unless the physician or surgeon, through some apprehensions of fear, purg'd the patient, the cure always prov'd absolute.

As for my part, I shall not pretend to exclude myself from these apprehensions of danger, before I was acquainted with this manner of the administration of it, but am since sensible of the great disadvantages I at that time labour'd under, for want of a true knowledge therein ; and whenever it so happily fell out that the constitution of my patient was not obedient to the power of Mercury, in producing a salivation, I observ'd in such cases the cure prov'd always to be perfect.

And

And from hence it is one of the strongest proofs, that the only sure and infallible means of curing the pox, is to charge the blood and juices with such a quantity of it, as is sufficient to conquer the distemper, without suffering it to act so as to produce a salivation, or to let it run off by stool, or even so much as to give a purge after the first friction or anointing is begun.

I doubt not but this method in some measure may be censur'd, and I myself should perhaps be as ready as any other, were I not intimately acquainted with the excellency of it; neither should I so much as once presume to introduce it into practice, had I not experienc'd it to have a most singular pre-eminence beyond all others.

Some may say, they have miscarried in it; as for my part, to speak ingenuously, I never did, neither can I say that I ever saw any miss of great numbers I have help'd to pass, and saw pass abroad through the hands of Doctor *Cantwell*, Fellow of the Royal Society of *London*, and Physician of the Faculties of *Montpelier* and *Paris*; and I will further make bold to advance, from the numbers I have pass'd, and many of whom have miss'd in repeated salivations in the hands of some eminent in their profession, I have happily cur'd, notwithstanding their cases were deplorable; so that if any has
miss'd

mifs'd cure in this method, it must be either owing to a want of knowledge therein, or else to some timidity in the administration of it.

And it is from the full assurance of that great success attending this practice, that with pleasure I embrace it, as infallible, and prefer it as being altogether free from the direful effects attending salivation; which latter is what I formerly practis'd, but never shall hereafter, whilst it is in my power to substitute in the place of it a method certainly safe, and by which I can convey into the body four or five times more Mercury, without disturbing the patient, than what any one would dare do in the common way of salivation.

Empyricks pretend to impose on mankind, that they have secrets to conquer this distemper without the use of Mercury, exploding at the same time the only infallible specifick in the world, as in this treatise appears, by which the health of man is restor'd: It's true, the injudicious application of it, in the hands of such fatal ministers, is more ruinous and destructive to a human constitution, than a sword in the hands of a mad-man *ready to destroy every one he meets*; and so I may say with respect to all other noble remedies, when conducted with such temerity and ignorance.

And it is, I say, from such a want of knowledge, join'd with the most assuming stock of confidence,

dence, they endeavour to depreciate such valuable remedies as they know not how to conduct or make use of, as manifestly appears from the fatal consequences that attend their administration.

As to the choice that is to be made between salivation, and that of curing the pox without it, I shall submit to the judgment of every person from what I have already hinted on that head; as also from what is universally allow'd and approv'd of by many of the most learned of the faculty of physick, who all agree, that the cure of the pox by extinction, that is, without salivation, or purging the patient, after the frictions or anointing is begun, to be the most preferable and infallible method that can be made use of.

This opinion is not imaginary or grounded on reason only, but practice and experience strongly manifest it to be so; and this is further verified by the reasons of Dr. *Cantwell*, taken from a small treatise published by him in the year 1738, in vindication of this practice, wherein he proves salivation and purgation an absolute hindrance to the cure in the manner following.

“ All those who give Mercury, expect it
 “ should circulate with our juices, and be
 “ conveyed to all the parts affected. There-
 “ fore the Quick-Silver must be carried
 “ through all the vessels of the body that are
 “ tainted,

“ tainted, and meet every globule of our
 “ juices that contains even the smallest par-
 “ ticle of the Virus. Hence it follows,

1. “ That if the Mercury does not run
 “ through every part of the body, the cure
 “ must be imperfect.

2. “ That if in its way through those
 “ vessels that contain any particles of the
 “ Virus, it should miss one of the tainted
 “ Globules, the cure must be imperfect.

3. “ The cure of a confirmed pox de-
 “ mands a greater quantity of Mercury than
 “ is commonly allowed in a flux; or at least,
 “ that the ordinary quantity should be so
 “ dispensed, that by reiterated circulations, it
 “ may have the chance of scouring all the
 “ vessels of the body, through which it can
 “ pass, and coming into frequent contacts
 “ with every Globule of Fluid, that runs
 “ through them. (For I believe there are
 “ some vessels in our body, whose diameter
 “ is less, than that of the smallest particles
 “ the Quick-Silver is divided into in our
 “ machine; and when the infection gets
 “ once into those, the distemper is incurable).
 “ Few persons exceed two ounces of Mer-
 “ cury for a cure: Several salivations are
 “ performed with less than one ounce, and
 “ you may find many good practitioners in
 “ that method, who never dare go beyond
 “ twelve drachms.

F “ It's

“ It's true, the number of divisions that
 “ Quick-Silver is susceptible of, even by the
 “ help of our vital powers, is very great.
 “ But if we consider the number of vessels in
 “ our machine, the folds and windings they
 “ are formed into, we shall scarce think
 “ twelve drachms could afford a particle for
 “ each. Yet suppose they could; every
 “ vessel contains a vast number of Globules
 “ of Fluid, and the twelve drachms for the
 “ total of the frictions, don't entirely enter
 “ into the blood. There must be an allow-
 “ ance made for what is lost in the time of
 “ friction, what enters into the hands or
 “ bladders of him that rubs, and is sucked
 “ up by the linnen or flannels of the patient.
 “ Let us suppose twelve drachms rubbed
 “ in, in twelve days, at a drachm a day
 “ (which I scarce think any physician or
 “ or surgeon would venture, or patient could
 “ bear) and the loss above mentioned of
 “ two drachms only; there will remain ten
 “ drachms for the blood. Now if this
 “ quantity, or even half on't, continued to
 “ circulate long enough, were proportion-
 “ ably distributed, and had only that degree
 “ of force from whence nothing was to be
 “ dreaded; I readily allow it might be suf-
 “ ficient. But,

I. “ As all secretory and excretory ducts
 “ of the body, are a continuation of the
 “ Arterial System; the quantity shot into the
 “ Aorta

“ Aorta must be diminished every minute,
 “ and some particles carried off by urine,
 “ stool, transpiration, &c. and that the
 “ more, because the velocity of the blood is
 “ encreased by every friction: So that tho’
 “ there were no feaver, and consequently no
 “ need of any artificial évacuation; the quan-
 “ tity of Mercury would daily decrease, and
 “ be soon spent.

2. “ As the Salival Glands begin to swell
 “ (which let us suppose the 10th day) the
 “ Quick-Silver that has a natural tendency
 “ to the mouth, comes thither in a greater
 “ quantity, than to the other parts. This
 “ greater quantity is still encreased when
 “ the patient begins to spit, and runs off with
 “ the Saliva, in proportion to the quantity
 “ of this, and the number of the ulcers pro-
 “ duced in the mouth.

“ And this inequality of distribution will
 “ likewise happen in a looseness, too great a
 “ flux of urine, profuse sweats, or Hemor-
 “ hages. Few practitioners have not seen
 “ the three first, I have seen the last, some-
 “ times from the mouth, sometimes from
 “ the nose, sometimes from the Pudenda,
 “ and sometimes from the piles. I should
 “ dread less from the second or third, if
 “ the patient were not weakened, than from
 “ the first or fourth, though I look upon
 “ them all as a hindrance to the cure.

“ I have let sixteen pounds of Saliva taken
 “ on the four first days of a salivation, stand
 “ twelve months, and found seventy two
 “ grains of Mercury in the bottom. The
 “ patient was rubbed the six first days, each
 “ friction was a drachm of Mercury; he
 “ began to spit the seventh day at night, and
 “ the salivation continued thirty five days.
 “ Now if the loss of Mercury was the same
 “ every day, by the mouth, he must not
 “ have a grain left in his body the twentieth
 “ day. If you allow one drachm for the
 “ loss above mentioned, ’twas all spent in
 “ sixteen days, and sixteen hours. If you
 “ allow one third as much for the other se-
 “ cretions, as for that by the mouth, the
 “ Mercury must have been all spent in
 “ twelve days five hours and twenty minutes.
 “ If you allow as much for them all, as for
 “ that one, it must be spent in eight days
 “ and eight hours. And if from the first
 “ friction till the salivation began, we allow
 “ half a drachm for all the secretions, the
 “ whole was spent in seven days and a half,
 “ a space certainly too short to let that
 “ quantity of Mercury, that was continually
 “ decreasing, satisfy the conditions above-
 “ mentioned. If you think it remained
 “ longer in the body, you must allow its
 “ distribution to be so very unequal, that
 “ some parts never received any of it. In the
 “ supposition of seven days and a half, the
 “ Aorta

“ Aorta Ascendens received more at every
 “ contraction of the heart, than the Descen-
 “ dens; and the greatest part of even that
 “ passed through the external Carotides. Is
 “ not it to be then dreaded, that some of the
 “ branches of the very Aorta Ascendens re-
 “ ceived none at all? In the supposition of
 “ twelve days, &c. the Aorta Descendens
 “ received much less, and in that of sixteen
 “ days, nothing at all.

“ In fine, if you suppose the loss of Mer-
 “ cury by the mouth decreased daily after
 “ the four first days, and that therefore it
 “ circulated longer in the body, and in greater
 “ proportion in the Aorta Descendens, than
 “ the former suppositions allow; won't it
 “ be still true, that it runed off much sooner
 “ than one should expect, and won't there
 “ be room to dread, that some parts of the
 “ body, never received any on't? The en-
 “ crease of one secretion, is always the de-
 “ crease of the others. This holds good in
 “ the case of salivation, with respect to the
 “ Serum of the blood. Why should it not
 “ with respect to the particles of Quick-
 “ Silver, that seem to affect to run to the
 “ mouth, preferable to any other part of the
 “ body? I must confess I can't account other-
 “ wise for the miscarriage of a cure, that
 “ had all the appearances of a perfect one for
 “ ten months after the operation.

“ To

“ To clear some doubts, I made the fol-
 “ lowing experiments. I ordered a friction
 “ of two drachms of Mercury for a person,
 “ with an intent to make him spit. The flux
 “ began the third day. The second friction
 “ of the same quantity, was given the fifth
 “ day. The flux increased, and was very
 “ plentiful the seventh. That night I made
 “ him hold a piece of gold in his mouth;
 “ a quarter of an hour. Its colour was a
 “ little changed; and on one side it had four
 “ remarkable white spots. The ninth, I
 “ put him into a sweat, and made him hold
 “ my cane in one hand for half an hour.
 “ The head was sullyed and had some mani-
 “ fest impressions of Quick-Silver. I order-
 “ ed a bleeding the tenth, and purged him
 “ the eleventh. The spitting continued till
 “ the fifteenth. The sixteenth, I put a bit
 “ of gold into his spitting-pot, where it re-
 “ mained twenty four hours, without the
 “ least change of colour, or mark of Quick-
 “ Silver. The eighteenth, I ordered the parts
 “ that had been rubbed, to be well washed;
 “ and applied a piece of gold to one; it lay
 “ so all night, but had no mark of Quick-
 “ Silver in the morning. I have neverthe-
 “ less seen the Mercury, after two frictions
 “ in the groin, which were the only that
 “ were made, pierce four folds of a napkin,
 “ the shirt, lining of the breeches and pocket,
 “ and

“ and most manifestly stained the watch, the
 “ gentleman who had been rubbed, wore.

“ These experiments with the number of
 “ cures I have seen performed, and perform-
 “ ed myself without any salivation, make
 “ me think,

1. “ That the salivation subsists a long
 “ time, after the Mercury is quite spent.

2. “ That the cure of the pox, does not
 “ depend upon that evacuation.

3. “ That that evacuation is not at all ne-
 “ cessary to the cure.

4. “ That it is a hindrance to it.

“ You’ll tell me the fault is easily repaired,
 “ by throwing in more Mercury; but then
 “ you change the physician’s view, who
 “ only wants to raise a flux and continue it
 “ thirty or forty days; besides, that practice
 “ would be very dangerous, or at least won-
 “ derfully tedious and disagreeable. I
 “ have known several prudent practitioners
 “ not dare do it, though they thought
 “ they had need on’t. And indeed it’s bet-
 “ ter leave a cure doubtful or imperfect,
 “ than kill the patient, throw him into a
 “ consumption, deprive him of his teeth,
 “ or bring on some other terrible accident,
 “ which happens only too often, in that se-
 “ vere method.

“ There is another circumstance in that
 “ method, which I have not taken notice
 “ of. I mean the hurry the blood is put
 “ into,

“ into, which hinders that portion of Mer-
 “ cury, which is thrown into either Aorta,
 “ from being equally distributed in those
 “ very vessels that rise from them.

“ In this state, 'tis plain the blood must
 “ be rarified, its vessels distended, and some
 “ neighbouring lymphaticks, veins, or arte-
 “ ries, or both, so press'd, that the course of
 “ their fluid is intercepted. If this com-
 “ pression happens to a lymphatick vein,
 “ whose artery rises from a sanguine, that
 “ upon account of the inequality of its distri-
 “ bution received no Mercury, must not all
 “ the column of that fluid, from the san-
 “ guine to the obstruction, remain still in-
 “ fected; and if the quantity of Mercury
 “ thrown into the body be spent, or very
 “ much diminished, before the obstruction
 “ can be taken off, won't the whole mass of
 “ blood be soon reinfected?

“ But, without supposing this compres-
 “ sion, are not there some fluids in the body,
 “ whose motion is so very slow, that they
 “ take thirty or more days to come back to
 “ the heart? If the sanguine, from which
 “ such a fluid has been separated, has by any
 “ accident received no Mercury, is not a re-
 “ lapse inevitable?

“ At the time of this hurry, the motion
 “ is increased both in the humours and ves-
 “ sels. This makes the Virus more subtle,
 “ and pushes it forward into some of the
 “ more

“ more minute vessels. Hence it is that
 “ miscarriages commonly render the distem-
 “ per more inveterate, and the cure diffi-
 “ cult.

“ All these inconveniencies are avoided
 “ in the other method. The number of
 “ frictions, and quantity of Mercury, are
 “ whatever the case may require, or physicians
 “ prudence allow : And that is so managed,
 “ as not to force any secretion ; so distri-
 “ buted, as not to run in too great quanti-
 “ ties to the heart, or into large globules
 “ in the weaker vessels ; so conducted, that
 “ the impression of it may be greater on the
 “ more affected parts, than on the others ;
 “ and the quantity of its motion, adapted to
 “ the constitution, age, strength, sex, and
 “ state of the patient.

“ I have of late cur'd a lady of fifteen
 “ years of age, five months gone with child,
 “ without letting her know what her ail-
 “ ment was. She thought it was an itch,
 “ and that it was she that had communicated
 “ it to her husband. Her symptoms disap-
 “ peared gradually, and tho' her distemper
 “ was of two years standing, her child had
 “ not the least mark or spot.

“ I own there have been a great many
 “ mis'd in this method, and that without
 “ the height of care and judgment, it may
 “ become merely palliative. Avarice and
 “ timidity often render it such, the physician

“ endeavouring one time to increase the
 “ number of his patients, by the gentleness
 “ of the cure ; another time, to avoid ac-
 “ cidents, which he that does not know
 “ how to prevent, is seldom able to re-
 “ medy.”

Having given you thus far of the Doctor's Rationale, I shall conclude with the following observation.

A private gentleman belonging to Sir *John Ligonier's* regiment of horse, when in *Flanders*, was sorely afflicted with the pox. He labour'd under the infection for seven years, and was unsuccessfully salivated for the same three times. He also took many other Mercurial preparations, without receiving any other benefit than that of merely palliating the symptoms, which always return'd, upon discontinuing of the remedies, carrying along with them their usual appearance of malignity.

Whereupon colonel *Webb*, of the same regiment, being concern'd that a man so remarkably handsome and well made, as he really was, should fall a victim to so loathsome a disorder, sent for me. I was at that time just come from *Paris* to *Bruxells*, and the colonel desir'd that I would pass him the remedies according to Doctor *Cantwell's* method, that is, without salivating or purging, as he had miss'd in the *former*. Pursuant to this request, I put him under this course.

When

When I took him into my care, he had the following symptoms. 1st, Nocturnal pains in his legs, thighs, arms, and head; 2dly, Pocky scabs in the latter; 3dly, Pocky tetter and blotches covering his body all over; 4thly, two buboes, one in each groin; 5thly, Shankers round the nut of the penis; 6thly, Great weaknesses, attended with involuntary night sweats. I took him into my care six weeks before our troops march'd to the battle of *Fontenoy*. I had him 32 days passing the remedies, and in that time rubb'd into him four ounces and two drachms of pure Mercury; he rested well during the whole time of cure, and never had his mouth so much as once sore; he spit no more than usual, eat and drank freely, and received no manner of uneasiness, notwithstanding he was easily salivated with five drachms of the same ointment, before I took him under cure, in 35 days after the commencement of the frictions, his pox was perfectly cur'd, and all the symptoms totally disappeared, and in five days after march'd to the battle of *Fontenoy*, where I saw him in perfect health taking the field; I likewise saw him in six months after, and at that time he was altogether well and free from his former complaints.

F I N I S.

When I took him into my care, he had the following symptoms: the Venereal pain in his legs, thighs, arms, and hands; Pocks (scabs) in the latter; eddy, lumpy, scabs and blotches covering his body all over; Nihil, two tubers, one in each breast; Nihil, Shingles round the part of the penis; Nihil, Great weakness, attended with involuntary night sweats. I took him into my care six weeks before our troops marched to the battle of Red Bank. I had him 22 days passing the remedies, and in that time I put into him four ounces, and two drachms of pure Mercury; he felt well during the whole time of cure, and never had his mouth so much as once sore; he felt no more than usual, eat and drank freely, and received no degree of weakness, notwithstanding he was daily salivated with five drachms of the same amount, before I took him under cure; in 22 days after the commencement of the salivation, his pock was perfectly cured, and all the symptoms totally disappeared, and in five days after marched to the battle of Red Bank, where I saw him in perfect health taking the field; I likewise saw him in six months after, and at that time he was altogether well and free from his former complaint.

THE
C A S E
OF
JOHN BODLE,
A
D R A G O O N
IN

Lord *Mark Kerr's* Regiment,

Who was

Wounded by the REBELS with a
MUSQUET-BALL,

At the Skirmish of *Clifton Moor*,

Under the Command of

His ROYAL HIGHNESS the DUKE.

THE
CASE
OF
JOHN BODLE,
A
DRAGON
IN
Lord Mark Kerr's Regiment,

Wounded by the Rebels with a
Muskett-Ball,
At the Skirmish of Clifton Moor,

Under the Command of
His Royal Highness the DUKE.

T H E
P R E F A C E.

Notwithstanding the subject of this Work was neither an officer or person of distinction, his wound, however, was of such a nature, as to require the greatest attention and care of a surgeon.

And as there has not been any one accident, for this considerable time, that furnish'd our art with such various circumstances, I should think myself altogether remiss in that duty and respect due to those of my fraternity, in not communicating to them a case so very singular; neither should I think myself in the least deserving the name of a surgeon, in neglecting a matter so worthy observation,

vation, and by which some gentlemen of the profession may reap advantage, whilst others, whose well-dispos'd talents may produce some remark instructive and worthy attention.

What I here offer in reference to Mr. *Bodley's* indisposition, is the observations made on the different changes that happened during six months treatment of a gun-shot wound, together with some remarks on the Bark, from the effects I observ'd it to have produc'd in him as well as in others, which I have, as far as in my power, endeavour'd to account for, not rigorously determin'd to maintain what I have advanc'd on that head, but rather to seek the approbation of those communicative gentlemen, whose learning, and better knowledge in its action on the animal Oeconomy surpass what I may pretend to.

I know the manner of its acting on either the solids or fluids of our bodies, is a matter of dispute not as yet reconcil'd; so that should my thoughts on that head not be so happy as I could wish, I think that I am no more blameable for a mistake in my attempts than many able and worthy predecessors have been in theirs; but notwithstanding have thereby pav'd the way, by laying some foundation for others learned, to arrive at the true knowledge of what they intended.

And it is generally by such attempts, and such means, that physick and surgery is at this time arriv'd to so great a state of perfection.

To gain esteem is the natural emulation of most men, how fond soever they may seem to conceal it; and should I be so happy as to share in this fate, my greatest blessing in the estimation of my friends, and particularly those of the practice of
either

either phyfick or furgery, fhould be in communicating any thing that may be profitable, whereby thofe of my fellow creatures, labouring under their various diforders, may receive advantage.

And what I here fo candidly profefs fhall be foon circumftanc'd, by communicating to the faculty an inftrument that I have invented, by the help of which moft difeafes of the head are cur'd.

The revulfion it makes is fo powerful, that in a few minutes I can take away with it any quantity of blood I think fit from the external capillaries of the head, and by leffening the refiftance on the furface, can invite from the internal Carotides and cervical arteries a greater quantity of blood into that of the external Carotides, and thereby difengage the two former and all their ramifications from the great furcharge of blood, whofe violent compreffion on the
brain

brain and its meninges, produce too often the most direful effects.

The instrument is sovereign in Angina's, and all inflammations either of the throat or parotide glands, and immediately relieves the head under its most violent afflictions, such as excessive pain, Megrims, Vertigo's, Deliriums, and Coma's; it removes a Phrenetis sooner than any method in practice, neither is there any can equal it in apoplectick fits.

And as to the diseases of the eyes, proceeding from obstructions, there is none scarce can resist it, provided the instrument be timely apply'd; and let the pains thereof be ever so excruciating, it instantaneously abates the same, and leaves the patient at perfect ease.

In *Paris*, in the year 1743, I perform'd some operations with it in the presence of Doctor *Cantwell* and others, in the three following circumstances.

1. The *P R E F A C E.*

The first was upon one Madam *Gayo Delamilet*, a lady of quality, who labouring under a malignant fever, had a critical discharge of the malignant matter deposited on the parotide glands, each of which appear'd much larger than a duck's egg; she was altogether delirious, and her death every moment expected. The glands had a strong inclination to suppurate, which if they had must have prov'd fatal, as it was then the opinion of her physicians, she must inevitably sink under the discharge, should she even recover from her fever; they were also fearful to attempt the resolution of them, being apprehensive by this means of a return of the malignant matter into the mass of blood, which must also inevitably have destroy'd her. Under these unhappy circumstances, I was sent for in order to treat the tumours. I propos'd the resolution of them, as the most eligible and sure method; the physicians were averse to this, as

I before observed, fearing the loss of her life, from the return of some part of the matter. I assured them the contrary, by laying down the manner of my proceeding with this instrument, which they immediately approv'd of; whereupon I at once proceeded to the operation, in the presence of Doctor *Cantwell*, and, by applying my instrument behind each gland, I took away eight ounces of blood. The Delirium in one hour after abated; I repeated the next day, and the other two succeeding days, the operation, in which time the tumours were compleatly resolv'd, and she restor'd to her perfect senses. She also lost her hearing, and for this complaint I injected her ears, and forced matter into her mouth thro' the eustachian tube; by this method she recover'd her hearing, and did perfectly well, by the care of her physicians.

I also perform'd on one *Mr. Nugent* at *Paris* the operation in the following

following circumstance, and that in the presence of the Doctor, and many students both of physick and surgery. Mr. *Nugent* fell down one night twenty steps of stairs, and, being a heavy man, beat his head most violently, in the fall, against the steps and banister of the stairs. He lay along the floor without any manifest appearance of life, the blood running from his mouth, nose, and ears, and, at the same time, an involuntary emission of his excrement; he was let blood in each arm, by a surgeon of the *Hotel Dieu*, to the amount of 14 ounces, which came away but very languid. From this bleeding he receiv'd not the least benefit, neither could any thing be convey'd into his mouth, through the violent contraction of the crotaphite muscles, which had too firmly lock'd up his jaws. From the great injuries they receiv'd, Doctor *Cantwell* was call'd upon in two hours after he was let blood, and finding

finding him still in this deplorable condition, he immediately desir'd I should be sent for: I accordingly came, and apply'd the instrument a little above the ear, behind the temporal muscle, which was greatly contus'd, and on which was a large Echymosis. From this part I drew away nine ounces of blood, and before I removed the instrument the last time from his head, he began to be troublesome, curs'd, swore, and appear'd as one mad; several times he attempted to remove the instrument with his hand, which I prevented, and continued still working on, finding the great benefits he received, and must further have done from this application, in so violent a concussion of the brain, which was attended with all the symptoms of a fractur'd Cranium. When I thought I had taken away a sufficient quantity of blood, I desisted in the operation. This was no sooner over, than

than he fell into the same lethargick disposition as before; I can compare it to nothing else than a mere apoplectick fit. Finding him thus dispos'd, I at once made deep scarifications on the counterpart of his head, that I found considerably injur'd, and, by applying the instrument on this part, I took away eight ounces more of blood; whereupon he recover'd from his fit, came to his perfect senses, return'd me thanks, and took a glass of cordial in order to comfort him; and the next morning went to the hospital of *La Charité*, where he remain'd near two months. I must observe, from the time the instrument began to empty the smaller vessels, the effusion of blood thro' the nose, mouth, and ears, began to abate, and in a short time was completely stopt.

The third operation I perform'd on the head of a poor carpenter, in Doctor *Cantwell's* house. The man
was

was blind upwards of two years, with a suffusion in his eyes, and could not distinguish day from night. He was turn'd out of the *Hotel Dieu* as incurable, and with one bare operation I brought him to perfect sight; nay, even before the instrument was done working, he saw distinctly every thing in the room. I perform'd the like operation in *Flanders* on one Mr. *Davis*, a trooper in General *Ligonier's* horse, who from a stroke of a tobacco-pipe on the left eye, was render'd totally blind of it for two years or better, and was discharg'd from our hospital in *Flanders* as incurable. With three operations, and the help of a Collyrium, I restor'd him to the perfect sight of it. But, what is worthy observation, he discover'd objects from the first operation. I have, in many deplorable cases, try'd it with the greatest success, and need say no more with respect to its excellencies.

As

As the effects of it at *Paris* are sufficiently attested, by the approbation of that learned faculty, as now appears prefix'd to the translation of Sir *Hans Sloane's* treatise on the remedy for the diseases of the eyes, in the cure of which this instrument is a most powerful auxiliary. Doctor *Cantwell*, Fellow of the Royal Society of *London*, and Physician to the Faculties of *Montpelier* and *Paris*, is the translator, and to which learned Gentleman I communicated the same when at *Paris*, in return for his generously instructing and leading me into the true knowledge and conduct of Mercury, in the cure of the Pox. But, as this is a digression from the case of Mr. *Bodle*, I shall beg the Reader's excuse, and now proceed to the various circumstances that occur'd, during the treatment of his wound, together with the different methods made use of for his cure.

*The CASE of John Bodle,
a Dragoon, wounded with a
Musket-Ball by the Rebels
at Clifton Moor.*

AT the skirmish of *Clifton Moor*, the 21st of *December*, 1745, Mr. *Bodle* received a musquet-ball in the posterior part of his left thigh, from which time he and the other wounded men fell under the care of Mr. *Benjamin Cowel*, of *Lombard-street*.

On the 20th of *December*, Mr. *Robert Adair*, surgeon-general, and I, were order'd, after the surrender of *Carlisle* to his Royal Highness, to go to *Appleby* in *Westmoreland*, and there take into our care such of the wounded as were in the hands of Mr. *Cowel*; they were twenty in number, mostly dragoons, of general *Bland's* regiment, all of whom were cur'd in some time after: *Bodle's* wound at this time was altogether free from either inflammation or pain, and he was out on crutches two days before; the discharge from the wound was very inconsiderable, but somewhat fetid.

About the 25th of *April* it encreas'd, and the smell became very offensive ; whereupon the bark was immediately administer'd him, I suppose, in order to lessen the discharge of matter, as well as to correct the vice of it, which it certainly did for some short time ; but the quantity of matter at length augmenting, and very severe twitching pains, attended with numbness, coming on from time to time in the wounded member, oblig'd me to discontinue its use, finding that he was not as yet a subject fit for it, which in fact was the case, as will appear from the following circumstances.

For, upon discontinuing the bark, the symptoms soon after abated, and as soon return'd when it was repeated : The pains he suffer'd seem'd to answer the direction of the crural nerve in the wounded thigh, and the leg of that side was also much affected, after the same manner.

I look'd on the bark here as one exciting cause, but that the principal was some gross acrid matter lying on the crural nerve. This opinion seem'd strongly confirm'd from a great quantity of grumous blood and purulent matter I soon after discharg'd from a large opening that I made between the Trochanter Major and the anterior spines of the Os Ilium ; but how the Cortex should be so far instrumental to pain, admitted of some reflection, and, from the remarks I had before made
upon

upon its producing almost the like effects in several others, I concluded from hence that it acted as follows :

First, it seem'd to cause too great a restriction in and about all the fibres of the wounded part, by which restrictive power they more forcibly compress'd the grumous blood and purulent matter just now mention'd against the crural nerve, and so from time to time excited these complaints.

Or the Bark, by giving the solids too great a force, may cause contractions, in which the wounded fibres of the muscles receding, and their congeners that remain'd intire being thereby too far stretch'd out, must certainly suffer pain; or these latter being influenc'd by the Bark to stronger contractions, and not having the same force as before their assisting fibres were destroy'd, must undoubtedly undergo great uneasiness, not only from the weight of the limb they were to help in sustaining or moving, but from the power of the fibres of the antagonistic muscles, and even those of their assistants, which ought to support the Equilibrium, and being here too strong, drag'd those of the wounded part out of their direction, and, by over-extending them during the time of such contractions, excited the most acute pains; all which symptoms I have several times observ'd to disappear, upon leaving off the use of the cortex, when given out of its due time : Now from

this corroboration of the fibres from its use, the Momentum of the blood being encreas'd, may cause fluxion, and consequently pain, as manifestly appear'd from his quick pulse, and complaints that immediately follow'd his taking of it, both of which ceas'd when its use was no longer continued: Now the Momentum of the blood being encreas'd (as before observ'd) and its motion from that time accelerated, must undoubtedly be push'd with greater force on the parts griev'd, where meeting with obstacles in its circulation, must certainly cause great distentions in all the sanguiferous and lymphatic vessels that contain it, as well as in all the fibres, membranes, and nervous expansions of the obstructed parts. It is not merely from the distention which these parts undergo, that pain is produced, but also from the influx and accumulation of humours compressing the nerves, together with the frequent impulses of succeeding humours, which impulses are always in proportion to the celerity of the blood, and the force by which it is push'd forward on the offended parts.

Or secondly, by accelerating the motion of the blood, and causing therein a greater rarefaction, may produce the like effects, by distending the sanguiferous and lymphatic vessels in the obstructed part; and as these vessels have an innate elasticity, they return, act, and contract reciprocally on the fluids
that

that caused their distention, and not only compress, bate, and agitate the same, but also the globules of air therein suffer the same fate; which latter being powerfully elastick, endeavour to expand themselves, breaks through the sanguiferous and lymphatic globules, disunite and destroy their principles so far, that the natural harmony no longer subsisting, they immediately act in opposition to each other, encrease the rarefaction, and consequently the distention of the vessels, by a force far superior than impelled by the blood, from the contraction of the heart, or its arteries.

And 'tis from this impelling force of the fluids on themselves, and their action on the solids, together with the reaction of the latter on the former, the rarefaction of the obstructed humours, the distention of the vessels, the uncompound and disuniting the sanguiferous and lymphatic globules, together with the irritation of all the fibres in the part obstructed, that the native heat is conserved, and matter thereby concocted and formed; and these are the different means and actions that nature makes choice of for the perfecting of the same, which is generally formed at the lacerated capillaries, where extravasating and accumulating its weight and pressure on the crural nerve of Mr. *Bodle*, must daily encrease, and consequently the numbness and pain subsists in proportion thereto.

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I shall from hence presume to infer, that the excellency of the Bark consists only by assisting nature when too far reduced, in promoting these different actions for the compounding of matter where it is mostly wanting, as in mortifications, &c. and shall therefore look on its use prejudicial in many cases, unless the exigence of certain symptoms requires it, since we see, by the giving of it, disturbances caused in offended parts, that were not in need of such rarefaction, which being too strongly promoted in some constitutions, cause greater obstructions, as may plainly appear from what Doctor *Keill* has observ'd in explaining muscular motion, from the nature of the cause of their contraction, "which, he says, without doubt, is the rarefaction of the blood and animal spirits in the cavities of their fibres, which produce therein a great inflation caused by the pressure of the rarified fluids against the sides of the fibres; whilst this pressure continues, the progressive motion of the fluids thro' the fibres must be at a stop, neither can they move forward again till the rarefaction begins to abate, that is, till the fibres are relaxed."

From hence 'tis easy to conceive, how from a greater rarefaction caused by the Bark in a part obstructed, how capable it is of increasing the obstruction, by causing not only a greater contraction and tension in the fibres of the grieved part, whereby the fluids are
inter-

intercepted, but also in causing a greater distension in the sanguiferous and lymphatic arteries, whereby they compress their neighbouring blood-veffels, and intercept, for some time, the fluids therein from passing on to the capillaries, to supply the quantity of matter they had before done; all which, I think, has plainly appeared in the case of Mr. *Bodle*.

Because at the time it was given him the discharge immediately lessen'd, his pulse quickened, and the symptoms of pain thereupon increas'd, I suppose, from the suppression of matter caused by a too great rarefaction then produced in the obstructed parts, which matter, at length augmenting, forced its way in greater quantities, as before observed from the wound.

From all which I infer, the Bark, in stopping the progress of a mortification, does not effect it by removing the obstruction in the part mortified, but rather by encreasing the Momentum of the blood, producing a greater rarefaction, invigorating the circulation, corroborating the solids, promoting their oscillations, contractions, and irritations; from all which the impelling force of the blood becomes more powerful, and is pushed forward with such a degree of velocity against the dead putrified mass, as to oblige its total separation from the living substance; effects salutary and divine, worthy only the inestimable qualities of the Bark.

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I have observed, from the slightest touch of my finger on the crural nerve, or whenever I forc'd the weight of the matter on the same (as I was every day oblig'd to do, in order to discharge it through the wound, when rubbing my hand from near his ham upwards) it excited in him the same degree of pain, as that taken notice of when the Bark was given him; and these are the effects that I have oft-times observ'd the Bark to have produc'd when indiscriminately given to all persons wounded by fire-arms; and I doubt not but the same effects might be produc'd from it, if observ'd, in wounds proceeding from other causes; from hence I conclude, it is probable the Bark is not that universal remedy in all constitutions labouring under gun-shot wounds, as appears strongly in the present case; and even with such as it may be agreeable to, it ought not to be administred without great precaution, since, by an injudicious application of it, many troubles may be fomented, and should in gun-shot wounds be mostly serviceable in the following circumstances, that is, ^{where} ~~many~~ a mortification threatens the parts, the discharge very considerable and fetid, the circulation languid, ~~and~~ declining pulse, the blood serous and thin, the patient attended with febrile intermissions, and free from hec ticks; now none of these, except the discharge which was viscid and grumous, at-
tended:

tended our patient at the time it was order'd him ; for, notwithstanding it was considerable and fetid, it was neither thin nor serous. As to his pulse, they were regular and well-dispos'd, and he in every respect free from all other complaints, excepting that of his wound. He was young, robust, and of a habit of body extremely well constituted : Thus I attribute Mr. *Bodle's* symptomatical complaints principally to the compression of the crural nerve, especially because great numbness accompanied the pain ; and, as far as I imagin'd the Bark could have any influence therein, I have honestly deliver'd my thoughts on that head, heartily wishing others may be more happy in theirs. The ball enter'd by the middle and posterior part of the *Vastus Externus*, and upper attachment of the small head of the *Biceps*, passing under the *Trochanter Minor* thro' the upper part of the *Triceps*, and its direction was towards the branch of the *Os Pubis*, and that of the *Ischium* ; about the 10th of *April* the discharge encreas'd to such a degree, that were I to mention the loss, it would seem incredible, neither could it be imagin'd that any human being could subsist under it for one week ; from this excessive expence of matter, he was reduced to such extreme weakness, as to be altogether incapable of moving in his bed. His left leg became anasarcois, as did also that of the right in some time after, and each of them

swell'd to such degree, as to be considerably larger than the trunk of a lad's body of fourteen years old. In this languishing condition he continued till the 29th of *April*, in which time he became hectic, his pulse quick, attended with frequent tremours, a pain in his breast, a short and hard cough, with a constant spitting of a stinking matter, a continual thirst, his eyes quite sunk, and he emaciated to skin and bone, except his legs, either of which at that time seem'd larger than the rest of his body; the quality of the matter then flowing from the wound was such, I believe, as heretofore had not been seen; in colour and consistence it was not unlike melted glew, but somewhat more deep and shining. From time to time I took away several bits of his clothes that had been forc'd into the wound by the bullet, I search'd after the latter unsuccessfully five or six times; one day I thought I had discover'd it, but upon a more strict enquiry, I found the surface considerably larger than that of a ball possibly could be, whereupon I exactly observed the direction of my probe, and found it to bear against the branch of the Os Pubis, from whence I concluded the ball entered the cavity of the abdomen, in or near the oval hole, whereon are plac'd the muscles call'd *Obturator Interni & Externi*: This opinion I was soon confirm'd in from the great quantity of matter flowing from the wound, upon the pa-

tient's

tient's coughing, or in pressing my hand upon the lower part of his belly; whenever I press'd on the Triceps, or rubb'd my hand along the posterior part of his thigh from near the ham upward, I forced out of the wound great quantities of matter, which occupied all this part of the thigh, lying very deep between the Biceps, Semitendinosus, Semimembranosus, and Triceps, as not to be in the least discover'd by the touch, so as to make an opening more favourable for its discharge, than an impending orifice, as that of the wound was; whereupon I contented myself in gently pressing and stroaking each dressing those parts, in order to force out the matter. I endeavour'd all that in me lay to support nature, under such an excessive discharge, by allowing him a good nutritious diet, he notwithstanding became so emaciated, as I before observ'd, that, by long lying, a very considerable mortification appear'd on the Os Sacrum, which greatly added to his afflictions: This I cut away, and upon dressing of it some days after, I discover'd an elevation on the left side of the Sacrum, it was barely perceptible, and lay all over the external face of the Os Ilium, reaching to the anterior spines of the said bone, here I became very inquisitive in searching after the cause of it, as he at that time did not seem affected with the least pain or uneasiness in this part, neither could I discover any thing more than a very obscure tension, which I sup-

pos'd had been produc'd from a collection of some humours; at length pressing my fingers between the great Trochanter and anterior Spines of the Ilium, I thought I felt matter lying very deep, and was no sooner confirm'd in this opinion, than I at once cut into it, passing my scalpel between the carous part of the Fascialata and its Aponeurosis; this incision I made large and deep, and what, to my surprize, immediately follow'd, was that great quantity of grumous blood and thick matter already taken notice of: The stench that exhaled from it was of so offensive a nature, that I never till then found any equal it: In colour and consistence it did not differ much from that taken notice of in the wound; there was great part of the flesh underneath mortified, which I cut away with my knife; I pass'd my fingers into this opening as far as I could, and found Sinus's on all hands; I felt plainly the crural artery and nerve, which at this time were quite denudated; all the bridges I met in this cavity I carefully broke through; this opening I made on the 12th of *May*, and would now have gladly repeated the Bark, but his pulse being extremely quick, and he altogether hectical, I would not venture upon it, and therefore satisfied myself in ordering him a morsel of Theriaca, with 30 drops of the elixir of vitriol, three times a day, and about ten drops of Liquid Laudanum; at night, between
whiles,

whiles, he took the saline mixtures, and for his pectoral complaints a mixture of *Sperma Ceti*, *Oil of Sweet Almonds*, and *Syrup of Balsam*, all which were of service; I dress'd this part (which, as I already observ'd, was mortified) with *Ol. Hypericum*, *Sp. Terebinth. Liniment. Arci*, and *Basilcon Nigræ*, melted down very warm, and doffils dipp'd therein, and applied to the parts; over those doffils were laid compresses, wrung out of spirits of wine, and a large pultis of bread and milk very warm over all; The parts were fomented a full hour before each dressing; I continued this method till the mortification was totally subdued, both in this place, and on the *Os Sacrum*. From this opening he received the greatest relief, because the discharge from the wound made by the ball daily lessen'd, and, in four days after, the grumous blood was quite evacuated, the matter became well-condition'd, and he considerably better, his pulse less frequent, their Tremours abated, the pain in his breast not so troublesome, his cough much easier, his spitting less, and his thirst almost gone. This happy change did not continue long, for on the 16th of *May* he was seiz'd with a violent *Diarrhæa*, his thirst return'd, the good condition of the matter chang'd both into the consistence and colour of whey, the lips of the incis'd wound became cold and pale, and vesification appear'd every where round their surface;

face, his pulse was hardly perceptible, and attended with frequent intermissions, and his eyes appear'd very languid : These direful symptoms put me immediately upon an enquiry after such an extraordinary and unforeseen change, from whence I concluded nature was quite wore out, or else that some of the vitiated matter had been absorbed into the mass of blood ; my conjectures in the latter were greatly confirm'd, because, upon examining very carefully all the parts of the wounded thigh, I found matter between the lower part of the *Vastus Externus* and *Fascia lata*. I cut immediately into it quite thro' the latter, and by this opening saved him from perishing, as will hereafter appear ; there flowed from it a great quantity of Pus well form'd. I was extremely pleas'd at this discovery, not in the least doubting to drain off by this opening, which was altogether depending, the whole quantity of matter contained in the several parts of his thigh, which I effectually did in a short time, by the assistance of good compresses and bandage : For the discharge from the wound caused by the ball, and that from the opening which I had first made, immediately lessen'd, and the latter cur'd fast ; from the day after this opening the patient began to mend, and his *Diarrhæa* soon abated, went off and cur'd by the assistance of the *Decoctum Albium* ; his thirst diminish'd, his pulse

pulse strengthen'd, and their intermissions ceas'd. Upon this agreeable revolution, I repeated again the elixir of vitriol, which I omitted only whilst his Diarrhæa continued; it was of great service, and I now order'd him the Lap. Contrayerva, Sal. Succinat. Gentian Root, and the Powder of Orange-peels, to be made into an electuary, and taken with his saline mixtures; I also allow'd him a pint of warm milk morning and evening, and kept him upon a very nutritious diet. The swelling that I had discover'd near the Sacrum, when dressing of the mortification, still continued. I observ'd before, that it lay on the external face of the Ilium, as far as its anterior spines, and was not a little surprized to find it still remain, thinking that a discharge so plentiful as was made from the two openings (and from which he received the greatest relief) it ought to disappear, because I am persuad'd that from this place was furnish'd a great part of that matter already mentioned; whilst thus conjecturing, in pressing my fingers on the middle part of the Gluteus Major, I heard a noise like unto the clashing of waters; I also perceiv'd another of the like nature, in pressing my fingers between the superior and posterior spine of the Os Ilium and spinal Apophysis of the Os Sacrum, I was convinc'd that nothing less than matter could produce it, and therefore hoped not only to discharge it by the assistance of
 good

good compress and bandage, through the several openings which had favour'd its exit; but in the mean while to cure the Sinus's by this means; which I had continued some time; at length finding myself altogether frustrated in my intentions; I then determined to try of what service the knife could be in this case, and immediately attempted a third opening, which I made on the 24th of *May*; in making this opening I cut through the *Gluteus Major*, and came to a large cavity, wherein was not one drop of matter, however there were many bridles and Sinus's, that convinc'd me matter had been there; I destroy'd all those bridles with my finger; and on the 28th of *May* attempted the opening of that part near the posterior spine of the *Ilium*, and spinal Apophysis of the *Os Sacrum*; I cut pretty deep, and fell into a cavity not unlike the former; in which I also destroy'd all the bridles I met with: The disappointment in the first opening, with respect to matter; did not in the least deter me from the second, altho' I was perswaded that I should meet with the same fate as in the other; but notwithstanding was convinc'd the patient would receive as much benefit from these openings as what possibly he could have done had matter been there, since the Sinus's had no disposition to cure, as was manifest from the number of bridles, the dryness of the parts, and the great quantity of air contained in them,

them, which latter conveyed itself to the Adiposa of the thigh, rendering this member very large and emphysematous, which in a few days after the opening totally disappear'd; there was one thing very remarkable before the latter opening: Whenever I press'd on this part, I forc'd from the wound caus'd by the ball a good quantity of matter, which continued discharging for some time after, notwithstanding I could not discover, as I before observ'd, the least quantity upon the introduction of my finger into the Sinus already mention'd, neither could I produce, after the opening was made, one drop as before, thro' the wound: Some time before these two latter incisions were made, he suffer'd some uneasiness in this part of his hip, which went off immediately upon the first incision. Now getting entirely the better of the discharge of matter, and healing all the wounds, even that caused by the ball, which as yet remains in his body, I turn'd then my thoughts towards the cure of his legs, which were really a shocking sight. The methods I took for the reduction of the swelling, were those generally us'd on the like occasions, such as discussing fomentations, applied three or four times a day, with gentle evacuation from time to time by stool; the swellings seem'd obstinate, and wou'd not give way to this treatment, whereupon I was oblig'd to ren-

der my discutients more powerful, hoping thereby to gain some advantage. I made three scarifications through the Adiposa of the left foot, to try how they would succeed, before I attempted any in the right: These had the desired effect, but was of no long continuance, for notwithstanding the strong fomentations and bandages made use of, in order to breathe forth the impacted humours, as well as to strengthen the tonus of the parts, and resist any further influx of humours, his leg swelled as great as ever, although the quantities of water discharged from the incisions, were so considerable, that upon a bare reflection, one could not imagine his whole body capable of containing so much. I dared not to venture here on brisk Catharticks, which might in this case be of singular service, and that on account of his Hectick, which still continued; his left leg became extremely indurated, I supposed from, the use of such powerful discutients, as the right leg, to which they were not applied, remained soft and pliable; whereupon I altogether excluded them, and in their place substituted, and that to both legs, dry frictions with very warm flannel. The effects of those were certainly great, his legs sweating for hours after, insomuch that the bed and all the cloaths in which they were laped up,

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were

were wet quite through : The fwellings of both legs, by this means daily lessened, especially that of his right, which became smaller than ever ; the hardness in the left leg still continued, although the swelling decreased, whereupon I ordered his leg to be wraped up in a sheet, wherein was a great quantity of very warm grains, and there to remain till the same became cold ; by the use of this and the frictions often repeated, the induration and swelling were totally conquered, and without the assistance of one purge, an obstinate Anasarca cured, which otherwise might be the work of many months physick, and perhaps without much success ; so the time of his cure, whilst under my care, was from the 4th of *January* 1745, to the 19th of *June* following : I had him abroad, and on crutches the 18th of *July*, and in some time after, when I found him able to bear the fatigues of a journey, ordered him to his regiment ; but as the wounded thigh became considerably shorter than the other, I passed him as an invalid.

I observed, that on the 16th of *May*, in the foregoing case, he was seized with a Diarrhœa. Secondly, a return of his thirst. Thirdly, a change of matter, both into the consistence and colour of whey. Fourthly, the lips of the incised wound cold, pale and

filled with vesications. Fifthly, a depressed pulse with intermissions. Sixthly, his eyes languid and dejected.

The cause of the first was owing to some part of that matter already taken notice of, between the Fascia lata, and Vastus Externus, and partly from that of some other being absorbed into the mass of blood, whereby the animal œconomy became soon disturbed from the admixtion of such sordid humours circulating with it; and nature, under those difficulties, in order for its expulsion, threw it into the intestines, as the most ready emunctory for its discharge, and so produced the Diarrhœa, which continued whilst there was any part of the sordid humours entering into the mass of blood, but immediately ceased, when the opening had made a more favourable way for its discharge; whereupon the Diarrhea soon abated, and cured by the assistance of the Decoctum Album, as before observed.

As to the second, it was the returning of his thirst, and could not otherwise fall out, if we consider the great quantities of fluids, that were bore away by stool, and the glands in and about the mouth, thereby defrauded of their supplies; for as the increase in one secretion, is the loss of it in all others, it must so happen here, and the mouth consequently become dry, for want of that vehicle, which
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it was before accustomed to receive from the glands, and so that the want of it herein must undoubtedly produce the thirst complained of.

Thirdly, As to the matter being changed into the consistence and colour of whey, is not surprizing, if we consider the impoverishment of the fluids, and the great change that happened in them, upon the return of the acrid matter; and as nature was at this time deprived by the excessive discharge, both of the supplies she did and ought to receive for her natural support, in order to furnish matter, and her course being turned another way, carried off greater quantities by stool, than what the body either could receive or possibly allow of, from which the blood must certainly be rendred very poor, and altogether incapable of furnishing to the parts, any thing better than that wheyish kind of matter taken notice of in the wound.

Fourthly, The lips of the latter becoming pale, cold, and filled with vesications, was a very bad sign, as was the sinking of the pulse, attended with intermissions, because these symptoms threatned, not only a return of the matter in the blood, but were certain signs of a beginning mortification, which I had greatly to fear, there being one (as I have before observed) in this part on making the first opening; this change, to me, seemed
to

to proceed from a languid circulation ; for as the quantity of blood was considerably diminished, and its quality quite changed, both from the return of matter into it, and the extravagant discharges by stool, the circulation became very slow, and the contractions of the heart so weak, as to be altogether incapable of pushing the blood on with that force as was sufficient, either to support the native heat of the parts, or a free circulation, whereby the circulating humours being deprived of that progressive motion that ought to support their fluidity, they became cold, viscid and stagnant, and by means hereof acquiring an acrid quality, irritated the parts, formed vesications, and produced all the bad symptoms that appeared in and about the wound.

Fifthly, As to that intermitting and depressed pulse, it may be accounted for from the reasons just assigned in the latter case, if we consider that these intermissions were owing to a feeble contraction of the heart, and this to a loss, both to the quantity and quality of the blood, and the latter to an excessive evacuation by stool, we shall be then able to account for it in the following manner.

First, The contractions of the heart being quite languid, from the reasons just mentioned, it was not capable to push the blood
forward

forward with that vigour, and in such quantities as were necessary to cause a dilatation in the coats of the arteries, in which absolutely consists a pulse, which being here very weak, produced that contraction or depression already observed. Now if from hence we consider the extreme weakness of the heart from the want of nutritious supplies, the known source of strength, and the quantity of blood sent from it, being so very small, must be a considerable while returning back again, during which time the heart remaining dilated, for the reception of such poor supplies, an intermission must consequently happen, as is manifest in this case.

Sixthly, As to his eyes becoming altogether dejected, that was owing to the great expence of spirits; for as the secretions were almost exhausted, there could not be conveyed to them such quantities as were necessary to invigorate those organs, whereby the passions of the soul are so strongly expressed, and indeed, well may it be said, when they became so far dejected through a loss of these supplies, that all hopes were then doubtful.

F I N I S.

toward with that vessel, and in fact
 it is as necessary to cause a discharge
 in the coats of the arteries, in which
 itself contains a pulse, which being here very
 weak, produced that contraction or spasm
 that already observed. Now, if from
 we consider the extreme weakness of the
 heart from the want of nutritious fluids,
 the down state of strength, and the
 effect of blood, it may be very easily
 that to a considerable while remaining
 back, and during which time the heart
 remaining dilated, for the reception of fluid
 for the purpose, an intermission must con-
 sequently happen, as is manifest in this case.
 As to the arteries becoming al-
 together, that was owing to the great
 force of fluids; for as the reactions were
 almost exhausted, there could not be
 added to them their quantities as were ne-
 cessary to invigorate these organs, whereby
 the portions of the soul are to be
 pressed, and indeed, well may it be
 when they become so far debilitated
 a loss of their supplies, that all hopes were
 then doubtful.

W I S

