

they absolv'd their Relation. But it was not so here with the Apparences in *Venus*; for one sees them but for so small a time, that it is far more difficult, *certainly* to know, when they return to the same place.

Yet this I can say, (supposing that this *bright* part of *Venus*, which I have observ'd, especially this year 1667, hath always been the same) that in less than one day it absolveth its motion, whether of *Revolution* or *Libration*, so as in near 23 hours it returns about the same hour to the same scituation in this Planet; which yet happens not without some irregularity. Now to affirm, (supposing it to be always the *same* bright part) whether this Motion is made by an entire *Revolution*, or by a *Libration*, I dare not yet do, in regard I could not see the Continuity of the Motion through a *great* part of the Arch, as I did in the other Planets: And for this very reason, *that* will always be difficult to determine.

### *An Extract*

*Of a Letter, written by J. DENIS, Doctor of Physick, and Professor of Philosophy and the Mathematicks at Paris, touching a late Cure of an Inveterate Phrensy by the Transfusion of Blood.*

*This Letter was lately sent by the Author himself to the Publisher, as it was printed at Paris in French; the substance whereof is in English, as follows.*

**I**T is now almost a twelve-month that I declared my self publicly in this matter of *Transfusion*, and after I had grounded my Conjectures upon divers reasons, and a number of Experiments which I made joyntly with M. *Emmerex*, I resolv'd to expect in the sequel a further confirmation, by carefully observing all that should happen in the several Trials I intended to practice.

In this resolution, we have since let slip no occasion to improve this Operation, which hath been follow'd with good success, and I could here alledge some particular Relations, the circumstances of which would appear curious enough, if I did

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not rather choose to refer them to a Collection, which possibly I may send you within some time, to have the more room to enlarge in this Letter on the circumstances of a Story, whereof you will be very glad to learn the event.

You have doubtless heard of a *Mad-man*, that hath been lately cured and restored to his Wits by the means of the Transfusion. Some spread a rumour, that he died soon after the operation; others bore the people in hand, that he was relapsed into a greater madness than that before; and in short, it hath been so diversly discoursed of up and down, and with such differing reflections thereon, that I thought my self obliged, for the clearing up of what false rumours had darken'd, to give you a faithful and exact account of the condition, to which this poor man was reduced before the Transfusion; of what passed during that Operation, and the surprising effects that have followed upon it hitherto.

The Patient is about 34 years of age. His Phrensy began first of all to appear 7 or 8 years ago, and, as far as can be judged, it was occasion'd by a disgrace he received a little before, in some Amours, where he hoped to find a very considerable fortune. This first fit of Extravagance was very violent, and lasted 10 months without any good interval; but returning afterward by little and little to his wits, and having given all the possible marks of a sound understanding, he was married to a young Gentlewoman, who was perswaded, that this madness of his was the reliick of a Sickness he had before, and that there was no appearance he would ever relapse into it. But this was far from proving so, as was imagined, and even the very first year of his Marriage ended not without his returning to his former Extravagancies.

Thus then he relapsed, and was several times restored these 7 or 8 years last past. But what is here chiefly to be observed, is, that the fit never lasted with him less than 8. or 10 months, without any respite, notwithstanding all the care and means used to relieve him. For it is also fit to take notice, that a person of Quality, having once taken a purpose to attempt his Cure by all manner of ways, caused him to be bled in his Feet, Arms, and Head, even 18 times, and made him bathe himself 40 times,

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not to mention innumerable Applications to his Forehead, and Potions. But instead of amendment, the distemper seem'd to be provoked by those Remedies, and this poor creature fell into that rage, that there was a necessity to bind him up from doing mischief. His Madnes hath been always *periodical*, and never abated but by little and little, and that abatement hath befallen him rather at such times, when nothing was done to him, than when he was tormented with Medicines.

The last time that he relapsed into his Extravagancy, was about 4 months since, in a place 12 Leagues distant from *Paris*. And his Wife hearing of it, went immediately to him to relieve him. She soon shut him up, and was even constrained to tye him for some time, because he was in such an extraordinary rage as to beat her. But for all her care, one time he got loose stark naked, and ran away streight for *Paris*, no body knowing how he could find his way in the dark night. His Wife had him searched for in all the neighbouring Villages, whilst he ran here in *Paris* up and down the Streets, without finding any place to retire to, in regard that those, who had the charity of receiving him into their Houses the first days, knew very well the danger they were in, of having their Houses burnt over their heads.

He was not less outrageous in this last fit, than in the former. He hath spent 3 or 4 months without sleep, and his greatest divertisement during that time was, to tear the Clothes that were given him, to run naked abroad, and to burn in the Houses where he was whatever he could meet with. He mov'd to compassion all good people that saw him, and especially those in the *Marais du Temple*, where he was known to most, and where he had been wont to be seen before this distemper as well cloathed and fashioned, as any one of his condition could be.

Monfieur *De Montmor*, among others, was the person most touched with it, and resolv'd to employ his interest to procure him a place in one of the Hospitals. But first he thought on the Transfusion, and believed, there would be no danger in trying it upon this Man, being so persuaded by many Experiments we had already made in his presence. He therefore had been taken up for that end, and having sent for me and M. *Emmerez* to ask our

our opinion of the fitness of trying the Transfusion upon this man, we answer'd, that we could indeed give good assurance for his Life, and that this Operation was in it self not capable to cause the death of any one, if discreetly managed; but as to the Cure of such an Extravagance, as that appeared to us, we had not yet experience enough to dare to promise him *that*, and that our Conjectures went no farther, than to think, that the blood of a Calf by its mildness and freshness might possibly allay the heat and ebullition of his blood, being mixed therewith. The matter having been sufficiently examined, we resolv'd to carry this Man into a private house; and there we appointed for his Gardian that Porter, on whom we had already practis'd the Transfusion 8 months ago, both that the Thing might not appear so new to him, as it might do to others, that never had seen the Experiment before, and that he might serve us the more to assure our Patient, and others, who should be present at the Operation, that there was no danger in it at all.

*Decemb. 19.* we used what art we could to dispose the fancy of our Patient to suffer the Transfusion, which we resolv'd should be tried upon him that night about 6 a Clock. Many persons of Quality were present, together with several Physicians and Chirurgeons, too intelligent to suspect them of being capable of the least surprize. *M. Emmerex* open'd the *Crunal Artery* of a *Calf*, and did all the necessary preparations in their presence; and after he had drawn from the Patient about 10 ounces of blood out of a Vein of the right Arm, we could give him no more again than about 5 or 6 ounces of that of the Calf, by reason that his constrained posture, and the crowd of the Spectators; interrupted very much this Operation.

Mean time he found himself, as he said, very hot all along his Arm, and under the Armpits; and perceiving, that he was falling into a swoon, we presently stopped the blood running in, and closed up the wound: Yet he supped two hours after, and notwithstanding some dulness and sleepiness he was in now and then, he yet passed that night with singing, whistling, and other extravagancies usual with him.

But yet next morning we found him somewhat less exorbitant, both in his actions and words; and that induced us to believe, that

that by reiterating the Transfusion once or twice, we might find a more remarkable change in him. We therefore prepar'd our selves to repeat it upon him the next *Wednesday* at 6 a clock in the Evening again, in the presence also of several very able Physicians, *Bourdelot, Lallier, Dodar, de Bourges,* and *Vaillant*. But in regard that this man appear'd very thin, and that it was not at all probable, that his blood was peccant in the quantity after three or four months continual watching, and after the hunger and cold he had suffer'd in running naked in the Streets without finding harbour at nights, we took but two or three ounces of blood from him, and having put him into a more convenient posture, we made this second Transfusion into his left Arm more plentiful than the first. For considering the blood remaining in the Calf after the operation, the Patient must have received more than one whole Pound.

As this second Transfusion was larger, so were the effects of it quicker and more considerable. As soon as the blood began to enter into his Veins, he felt the like heat along his Arm, and under his Arm-pits, which he had felt before. His pulse rose presently, and soon after we observ'd a plentiful sweat over all his face. His pulse varied extremely at this instant, and he complain'd of great pains in his Kidneys, and that he was not well in his Stomach, and that he was ready to choak unless they gave him his liberty.

Presently the Pipe was taken out that convey'd the blood into his Veins, and whilst we were closing the wound, he vomited store of Bacon and Fat he had eaten half an hour before. He found himself urged to Urine, and asked to go to stool. He was soon made to lie down, and after two good hours strainings to void divers Liquors, which disturbed his stomach, he fell asleep about 10 a Clock, and slept all that night without awakening till next morning, was *Thursday*, about 8 a Clock. When he awakened, he shewed a surprising calmness, and a great presence of mind, in expressing all the pains, and a general lassitude he felt in all his limbs. He made a great glass full of Urine, of a colour as black; as if it had been mixed with the foot of Chimneys.

Hearing of some of the Company that we were in a time of Jubilee, he asked for a Confessor, to dispose himself to be made participant of it. And he confessed himself according to *M. de Veau* with that exactness, that the Confessor gave him the publick testimony of a sound understanding, and even judged him capable to receive the Sacrament, if he continued in that state and devotion.

He remained sleepy all the rest of that day, spake little, and prayed those that came to importune him with Interrogatories, to give him rest; And he went on to sleep well also the whole night following. *Friday* morning he filled another Urinal with his water, almost as black as that of the day before. He bled at the Nose very plentifully, and therefore we thought it proper to take two or three small Porringers of Blood from him.

*Saturday* morning, the last day before *Christmas*, he desired again to go to confess, and so to dispose himself for the Communion. Then one Mr. *Bonnet* examined him in hearing him confess, and after he had found him to have all the reason necessary to receive the Sacrament, he presently gave him the Communion. The same day his Urine clear'd up, and after that time it resumed by little and little its natural colour.

His Wife mean time, that had sought him from Town to Town, came to *Paris*, and having found him out; when he saw her, he soon expressed much joy to see her, and related to her with great presence of mind the several Accidents that had befallen him, running up and down streets; how the Watch had seized on him one night, and how Calves blood had been transfused into his Veins.

This Woman confirmed yet more to us the good effects of the Transfusion, by assuring us, that at the season we were now in, her Husband should be outrageous, and very mad against her self, and that instead of the kindness he shew'd to her at this *Full* of the *Moon*, he used to do nothing but swear, and beat her.

'Tis true, that comparing his calm condition, wherein he now was, with that, wherein every body had seen him before the *Transfusion*, no man scrupled to say, that he was perfectly recover'd. Yet to speak the plain truth, I was not so well satisfied as others seem'd to be, and I could not persuade my self, that he was in so good a temper as to stop there, but I was inclin'd to believe by some things I saw, that a third Transfusion might be requisite to accomplish what the two former had begun.

Yet in delaying the execution of these thoughts from day to day, we observed so great an amendment in his carriage, and his mind so clear'd up by little and little, that his Wife and all his Friends having assur'd us that he was restored to the same state he used to be in before his Phrenzy, we entirely quitted that resolution. I have seen him almost every day since; he hath expressed to me all manner of acknowledgment, and been also with *M. de Montmor*, thanking him very civilly for his goodness in recovering him out of that miserable condition he was in, by a remedy which he should remember as long as he lived.

He is at present of a very calm spirit, performs all his functions very well, and sleeps all night long without interruption, though he saith, he hath now and then troublefom Dreams. He hath carried himself so discreetly in some visits he made, this week, that divers Physicians, and other persons worthy of Credit, that have seen him, can render an authentick testimony to all the circumstances here advanced by me, who shall not employ against cavils and contradictions any other Arguments than the experiment it self. The last year I published my Conjectures and my Reasons. Of all those that have undertaken to combate them, there is not one that hath so much as touched the state of the Question; and this hath made me silent to them all. I have confined my self to the Experiments alone; this, whereof I now  
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send you the particulars, will perhaps open the eyes to some that are opinionated. I would not relate the story but very plainly, without embarrassing it by any Ratiocinations; not but that there was good matter to discourse upon, both during the time of the Transfusion, and after it. Some believed, that the vomiting came from the eating much Bacon half an hour before the Operation: Others, considering the pain in his Kidneys during the Transfusion and the swelling of his Stomach, which was presently follow'd by Evacuations above and below, do believe, that the new Blood entering in great quantity, caused a plenitude, and a fermentation in the great Vessels, which could not but be follow'd by all those effects. To which may be added, that almost all those, into whose Veins other Liquors than blood have been *injected*, have found the same Accidents.

It is also not yet agreed on, what was the cause of the lassitude, that obliged this man to keep his bed for some whole days: Some say, it proceeded from the disorder consequent to the entry of new blood into his Veins: Others have look'd upon it as the effect of a kind of *Rhumatism* he had got, lying stark naked in the streets; and have thought that he became not sensible of those pains, but after the recovery of his Reason; just as those that have a hot Fever do never complain of weariness, but after the abatement of the Fit.

There hath also been very differing discourse of that *black* colour in his Urine some days after the Transfusion; some alledging, that it was caused by some Veins, which having been opened from too great a fulness, discharged themselves into the Kidneys and Bladder: Others believing, that it was a black choler, discharging it self by the Veins, and which being retain'd before, sent up Vapours to the Brain capable to trouble the functions thereof.

I shall here suspend my judgment, resolv'd not to declare my thoughts, till I have made many Experiments more; for I know very well, that in so we have made upon Brutes, we have found it but twice that the recipient Animal pissed blood after it, and, as far as I can judge, I believe I have infallible ways of preventing all such disorders; and I have propos'd to my self a manner of preparation and treatment, which the Patient may be made to observe both before and during the operation, to render it more beneficial. For 'tis not to be doubted, but measures are to be taken to dispose the body for Transfusion, as well as for all other operations to be undertaken with success. But we need not repent for not having observed them in this case; it appeared much better what the Transfusion all alone could do, and no cause hath been given to prejudiced men to impute this cure to the *Preparation*, rather than to the *Operation* it self.

We hear of many other sick persons, who possibly may find relief from this Experiment. I shall not fail to let you know the success of it in good time.