

LETTRE ÉCRITE À MONSIEUR L' ABBÉ BOURDELOT ... PAR GASPARD DE GURYE ECUIER SIEUR DE MONTPOLLY ... SUR LA TRANSFUSION DU SANG, CONTENANT DES RAISONS ET DES EXPERIENCES POUR & CONTRE

A TRANSLATION BY PHIL LEAROYD

The full title of this letter written by Gaspard de Gurye is: 'Lettre ecrite a Monsieur l'Abbe Bourdelot, Docteur en Medecine de la Faculté de Paris, Premier Médecin de la Reine Christine de Suede, a present auprès de Monseigneur le Prince à Chantilly, par Gaspard de Gurye Ecuier Sieur de Montpolly, Lieutenant au Regiment de Bourgogne; Sur la transfusion du sang, contenant des raisons & des expériences pour & contre.' [i.e. Letter written to Mr l'Abbe Bourdelot, Doctor of Medicine of the Faculty of Paris, First Physician to Queen Christine of Sweden, now with My Lord the Prince at Chantilly, by Gaspard de Gurye, Squire of Montpolly, Lieutenant in the Regiment of Burgundy; On blood transfusion, containing reasons and experiences for and against.] This letter was written on the 16th September 1667 and published as a small leaflet, a copy of which is available to read or download from the following sites:

https://archive.org/details/BIUSante_90957x50x23/page/n11/mode/2up

[Lettre écrite à ... l'Abbé Bourdelot ... sur la transfusion du sang ... - Gaspard de GURYE DE MONTPOLLY - Google Books](#)

Note: Gaspard de Gurye is given the title 'Ecuier Sieur de Montpolly'. 'Ecuyer' translates to the English term 'Squire' whilst Sieur (in old French) translates to 'Sir' (i.e. a formal or polite term of address for a man).

Gaspard de Gurye, a non-doctor, is identified in this letter to have attended some of l'Abbe Bourdelot's meetings, known as the 'Académie Bourdelot', which attracted a wide range of different people including nobles, men of letters, philosophers, alchemists and scholars. In this letter, de Gurye attempts to provide his judgement on blood transfusion, apparently encouraged by Bourdelot's request, made at one of these meetings, for the people attending to provide their views, 'for and against'. After an overtly flattering and congratulatory introduction, aimed at both himself as well as Bourdelot, a 'flowery' and complementary style that unfortunately continues throughout the letter, he declares transfusion to be an excellent invention, though also states that it requires great caution when practiced. He fails however to support these statements with any actual evidence, preferring instead to use vague terms resulting from the transfusion of animal blood into humans, such as it causing the 'blood to boil', the 'blood to be agitated' as well as it resulting in 'fermentation'. He even includes the statements that he sees blood as being the 'foundation of life' and the 'link between body and soul'. Most of the letter unfortunately contains these types of vague opinions whilst providing little in the way of actual information. He does however state that Bourdelot had discussed blood transfusion and infusion experiments with Galileo Galilei, at Arcetri in Florence, and that he had proposed the transfusion of blood to Mr de Montmor 'more than ten years ago' and does provide some background information to support this statement. The text also includes information about one of the transfusion experiments performed on a dog by Gayant,

which the author uses to provide proof of the harmfulness of an excessively abundant transfusion.

Note: Paul Scheel provides an excellent summary of this paper in his book 'Die transfusion des blutes und einspreitzung der arzeneyen in die adern', published in 1802.

Although my comments above identify that the content of this letter regarding the history of blood transfusion is somewhat limited, I have still produced an English translation in the hope that it will allow its actual content to be read by a larger audience. Whilst I am obviously aware that instantaneous computer-generated translation is possible, this process struggles with specialist terminology and also produces a 'colloquial style' not always representative of the original text. I have tried to produce as accurate a translation as possible given that the printed text the use of the long-form version of the lower case letter s. The paragraph structure in this translation is reproduced from the original publication. Although I have taken great care not to knowingly misrepresent the author's original meaning I cannot guarantee that this work does not contain 'translational errors' and the reader is recommended to check specific details against the original French text.

Letter written to Mr l'Abbe Bourdelot, Doctor of Medicine of the Faculty of Paris, First Physician to Queen Christine of Sweden, now with My Lord the Prince at Chantilly, by Gaspard de Gurye, Squire of Montpolly, Lieutenant in the Regiment of Burgundy; On blood transfusion, containing reasons and experiences for and against

Sir,

I am delighted with your stay at Chantilly, this delightful place, where you are with all imaginable satisfactions, above all in the attachment you have for a great Prince, the honour of our century by his sublime merit, recognized and admired by all the earth; who is indebted to you for this precious health that you have restored to him. But in the midst of your contentments, allow me to testify to you by this letter the part I take in the universal challenge of all curious and learned people, who are incredibly impatient to see you again. It is a general wish in Paris; but I do not believe that anyone desires the good of your presence with more passion than I, who am very touched by all the things you say on all the subjects that are proposed; for in matters of doctrine, you give such natural and ingenious explanations that the soul is entirely edified and instructed by them, and the learned remain in agreement that you go to the depths of science with the manners in the world better-off.

The case of the transfusion well deserves your return. It still makes such a division of minds that the republic of letters needs your sublime genius and revered by everyone to become acquainted with it, and determine where we should stop. For me who spoke about this subject because you wanted to hear my feelings for and against when it was proposed nearly three months ago in your assembly, where I found myself on my return from King Charles, I persisted in the same opinion which I then submitted to the decision of your judgments, to the rights of which I do not claim that the time prejudiced, nor that it acquired a prescription. I always have the same challenge of taking advantage of your censorship, on the reasons and the conjectures, which I drew that day from my system, which I formed by the reflections I made on the nature of the world, on human nature, if I believe the summary, on the order of their movements, finally on my observations and my experiments. It is true that many believe that I met well, and that my reasonings are confirmed by the tests,

which have since been made, on which I ask for your resolutions, which I will receive with all due respect. I will even tell you that a man of credibility in letters said that I must have more light than the others in the works of nature, then that in advance, by my speeches I said everything what the experiments have shown. I am not too much to flatter myself with a judgment which can be attributed to the courtesy of a friend, but fortunately I predicted what happened. It is to you to whom one could hold such a discourse without flattery, who see the events of things from so far away by the knowledge of their own causes. You don't just stop there, but you make good use of it for the public utility. Because it was you who first proposed the transfusion of blood and even other liquors in the veins, and it is more than ten years since you made the proposal to Mr de Montmor. Returning from a great trip, you told the story of a long illness from which you had healed a person of high quality and rare merit. You said that all his blood was so burnt, thick and black, that it was like pitch congealed in the hairs. It was so black that if you pricked it with a pin, the shirt remained completely black, as if it had been stained with anchor. You changed the whole mass of blood by bleeding twenty-eight for eighteen months, and made use of so many good broths, jellies, panades, and temperate and humectant foods, that the veins were filled with a good juice and praiseworthy blood. You said then that you had often thought that the blood of young animals could be introduced into the veins of people withered, exhausted, and who would have blood that was too thick, too dirty, and whose quality could never be corrected by the alternatives, and that this new blood taking the place of the other in a month would restore the person whom you had only been able to cure in the space of two years. You also say that this thought of blood transfusion came to you during a conference you had had with Galilei, at Arcetri, on the injection of various purgative, alterative and restorative liquors into the veins. You went so far as to throw various liquors, liquefied salts, and spirits on the dejections of the sick, to see the changes in smell and colour that they would operate there, and concluded, that if putting a crippled arm in the blood of a warm animal, it was fortified, apparently this blood put inside should have more strength. This industrious method having come to the knowledge of various people in France and elsewhere, it was put into practice; but whatever tests they have made, as it is you who meditated and projected it, I imagine that you will speak of it with more capacity than anyone else, and I know that all the curious will have a great deference for everything you say about it, as one owes it to an inventor who discovers things with well-founded conjectures, by reasoning and certain observations.

You relied mainly on blood circulation, without which the transfusion could not be done. Harvey is very much obliged to you for having supported his opinion with many remarks, which remove all the difficulties. I hope that you will also remove all those of the transfusion, for which I have various suspicions, and equal reasons which have hitherto prevented me from making up my mind. You will appreciate, Sir, that I explain them to you by this letter, which under your admission will be, as I believe, well received by the public, who will see my doubts, which will keep the readers impatient to receive the solutions that you will give. I followed in my speech the method which I try to keep in all the dissertations on physics, which is to receive no opinion which all my reason has not passed through a rigorous examination. I have always said that this invention was finely and industriously imagined, that it could have many uses, but that it should also be used with great precaution; that it would not always be practiced with impunity, if imprudent people interfered with it; that it could be in certain cases dangerous, and even mortal; that the meeting of two different bloods would require many trials and circumstances to be sure. I am going to tell you the reason on which I based my conjectures and my discourse. The blood of each animal has its particular temperament; it contains in the assembly of its parts, a nature, principles, a sub-ordination, figures, and even a different centre; from which I have concluded that two substances so diverse, which possess many spirits, cannot be reduced, either to the same centre, or to the same body, without fermentation,

which could be dangerous to him who would have admitted in his veins a foreign blood, a blood accustomed to being free in its vessels, without having conducted it by the degrees which must give it the impressions suitable to the temperament and to the functions of the heart, the liver and the brain. I supported this reasoning with some other propositions and consequences, by which I explained it in a physical manner and by figures suitable to the subject. Following this, I proposed the conditions under which one could, in my opinion, practice transfusion on brutes, and make observations, before returning it to the use of men. To achieve this I made a lot of difference between transfusion, which I called total, and partial transfusion. I assured that total transfusion was impossible and deadly, that is to say, if one wanted to draw all the blood from one animal, to then fill its vessels with the blood of another; and here is the reason I allege. Blood is the storehouse and the focus of those subtle matters which seem to pass the reach of the imagination, and to be only intelligible; I mean to speak of spirits, these substances which one would also say to be intermediate between the soul and the body, of which they form a sort of connection, and which are the immediate and necessary instruments, by which the being who reflects and who thinks, acts on the heavy mass, which can only receive at most the force to imagine. Blood being therefore the foundation of life, the seat of this beautiful harmonic link between the soul and the body, it seemed to me that I could conclude that if we remove all the blood, we will cause death, which having once arrived to an animal, the blood of another cannot bring it back to life.

As for the transfusion in part, I have judged it not only possible, but useful in some diseases, provided that it was done at the right time, on a strong enough body, and in such a moderate quantity, that the blood and the spirits of the animal that receives foreign blood, can dissolve it, and convert it into their nature by gentle boiling, to receive as a result of this mixture, a state of inclination, or a principle of impulse and movement at a better temperature. Because one must believe that it will always be necessary to make a boil, when the blood of two animals will be of very opposite qualities and parts, and I hold that it is very difficult for two animals of different species, age and temperament to have a blood so similar that it is not necessary for their mixture of new fermentation.

I do not doubt, if we could find some substance so conformable to that of our spirits, that it could immediately unite with them, without needing to be altered, fermented, digested and converted, that the transfusion made of such a substance was capable of producing effects as miraculous, by raising all the forces that have been depressed, by strengthening the principle of movement and of life which is with us, in a word, by exciting this principle of perpetual movement, which, while it is strong enough, continually gathers together what is clean, and removes what does not suit it: but this invention is difficult for the art, because the different moulds characterize things differently. I remember that I confirmed these reasons by examples, by analogies, hypotheses and experiments, which I leave in order not to be boring. I will presently authorize my speech only by the new tests that have been made, which all confirm what I have just put forward. One of the main ones is that made by Messrs. Denis and Emmerez on a young man, who by a number of bloodlettings had fallen into great debility and drowsiness. They passed him about eight or ten ounces of blood from the carotid artery of a lamb, into the vein of his arm; and I had the pleasure to learn that according to my conjecture, a mediocre introduction of blood succeeded very well; and that subsequently the fermentation that I had also foreseen by the mixture of two bloods, did not fail to take place there; which was evidently seen by the bleeding from the nose which occurred to the patient, which is an indication of the broth which was forming in the vessels. This is so true, that in the experiments which a very skilful friend of mine made of the transfusion in rather large quantities on dogs; he always noticed afterwards that the dogs who had received pissed blood. They made their second test on a healthy and robust man, who did not feel bad about it; and see, Sir, how this second experience

agrees with my reasoning. He was strong, he had a lot of blood, he took to the air and worked the same day; and his blood, his spirits, his good constitution, and the movement of the vigorous heart, were powerful enough to convert into the substance of his blood, that of the lamb he had received, to communicate to him its nature, and to him print the figures suitable for the doors through which he had to pass, and for the functions he had to perform.

But if the transfusion of blood had two favourable consequences, it had two contrary events. Baron Bond, son of the Prime Minister of State of the King of Sweden, died the same day that this operation was repeated to him. His body was opened, no blood was found in his heart, and perhaps there is reason to fear, according to what I have advanced, that not having remained in him enough of own blood, nor of forces to convert the foreigner into a substance which was homogeneous to it, the heart could not have admitted that of the animal, which was composed of parts very disproportionate to its own. This experience following which death occurred, could give a severe blow to the transfusion, if it is not that one receives in payment that the intestines were gangrenous, and that it was impossible that he lived with this rot. We can say that he felt well the first time that blood ran through his veins, when he seemed to regain new strength; but as he was exhausted, the second stunned him, the boiling of the bad blood having subdued and slaughtered all that he had in his body. Here is another disastrous test of the transfusion, made in too great quantity. Mr. Gayen transfused blood from one dog to another with particular accuracy. He drew three large plates of blood from the dog which was to receive; he weighed the one who was to provide him with his by the transfusion, which being finished, he had him weighed again, and he found him reduced by more than two pounds; from which, having subtracted some ounce of urine that this animal had released during the operation, and an ounce or two of blood, which was poured out on purpose through the canal, to show those who were curious enough to see this experiment if the blood actually passes through the transfusion from the artery of one into the vein of the other, it was found that more than a large pound and a half of blood had passed. But what happened to the dog that received the blood, although well thought out and well fed, died five days later, and the dog that provided it is still alive. Is it not evident that the great intromission of the new blood has dominated over that which was in the veins, and has, so to speak, overwhelmed him; so dangerous is it to introduce too much blood all at once, which no longer has the principle of life it had when it was in the other animal, and not yet having the necessary character to receive the life of the animal to which it had been introduced, it could not be agitated and converted by the little living blood which remained in the dog which had received it, and the fermentation which took place passed rather to sourness than to the fermentation which preceded the coction. And this sort of sour fermentation made itself seen by the spectators, and felt by the poor animal which had received the blood of the other, by the syncope into which it fell and remained as if dead for nearly half an hour. On this alleged experiment by which I proved that the too great introduction of blood was mortal, someone says that the dog was dead, because it had been pricked in the collar, where it had not been able to lick itself, which had rendered his wound incurable; but it is easy to satisfy this objection by experiments, in which the vein was not only opened, but the arteriotomy was made, even the trachea artery of a dog was pierced, which could not lick itself, and which is still alive.

Of course, Sir, as I think it is good to practice every day to invent new methods to maintain and repair the health of men, I also believe that we must proceed with all sorts of circumspection. This is why last Monday, after having answered the objections that were made in your assembly to oppose the maxims that I am reporting to you, I urged all those who were there to redo this experiment on animals, with all the observations weight, number, measure, and other circumstances, before risking anything that could harm the public. I told you this story, Sir, in a few words,

so as not to go beyond the limits of a letter, and because I know that you desire, with great reason, that we go straight to the truth, with the less words than possible, not liking ostentation or useless quotations; which I always try to do, without attaching myself to any opinion or to any particular sect, and without despising any when it seems to me to contain the truth. I will await the honour of your reply, and as I have heard that we continue to write on this subject on both sides, each to give reason for his feelings, I foresee that your censor will have a more extensive field, if you allow yourself once to be overcome by the prayers that have been made to you for so long, to share with the public your rare knowledge and curious observations. However, I will read what will appear to write to you about it, or speak to you about it on your return, which I await with great impatience, like the opportunities to show you how much I am,

Sir,

Your most humble and most obedient servant, Gurye de Montpolly.

In Paris on 16 September 1667