

**‘TRANSFUSION’
ESSAI OU DISCOURS HISTORIQUE ET CRITIQUE SUR LES
DÉCOUVERTES FAITES EN ANATOMIE PAR LES ANCIENS & PAR LES
MODERNES**

By: PIERRE LASSUS

A TRANSLATION OF PAGES 137 - 148 BY PHIL LEAROYD

A copy of the ‘Transfusion’ section (pp. 137-148) of the book ‘Essay or historical and critical discourse on the discoveries made in anatomy by the ancients and by the moderns’ by the French surgeon Pierre Lassus (1741-1807), published in Paris by M. Lambert and F. J. Baudouin in 1783, can be viewed or downloaded from the following site:

<https://gallica.bnf.fr/ark:/12148/bpt6k9757774s.textelimage>

Although ‘transfusion’ comprises only a relatively small part within the ‘State of Anatomy in the 17th Century’ section of what is a general textbook on anatomy and surgery, the information it contains relating to the history of blood transfusion is of interest for a number of reasons. The author starts the section on transfusion by providing a very brief overview of some of the infusion experiments that were performed by different researchers following Harvey’s discovery of the circulation of blood, before mentioning the actual early blood transfusion experiments performed in England and France in the late 1660’s.

Moving then to the first blood transfusions performed on humans, the author does not rightfully claim priority regarding the first transfusion to a human for France. Instead, Lassus provides information on the transfusion of Arthur Coga in England and in fact ignores Denis’s first two transfusions to humans in France. The author does however provide a number of interesting insights and details regarding the transfusion of Antoine Mauroy by Denis and Emmerez in Paris in 1667, stating for example the excessive quantity of calf blood transferred during his second transfusion and that the third transfusion did not occur at all. Other people involved are also named and some interesting details of the subsequent trial and the people present are also provided. Some of the author’s comments would suggest that he feels that these early attempts were not only clinically unfounded but also that the trial verdict rightly identified transfusion to be a ‘murderous ordeal’.

These pages therefore contain a brief though interesting historical resume of blood transfusion as viewed by the author, presented just over one hundred years after the first human blood transfusion took place and when it had fallen as he states ‘imperceptibly deeper into oblivion’.

I have translated the ‘transfusion section’ (pages 137 – 148 inclusive) of this 350 page textbook from the original French into English in the hope that the content may be appreciated by a wider audience. Whilst I am obviously aware that instantaneous computer-generated translation is possible, this process occasionally struggles with accurately reading the original text and interpreting specialist terminology, as well as producing a ‘colloquial style’ that is not always representative of the original text. In addition, as with any translation the wording may be purposely or inadvertently altered to ‘make it read better’ but in doing so there has to be an element of interpretation involving something on the lines of ‘I believe that this is what the author

is actually trying to say'. I want to avoid that as much as possible and try to present what the author actually wrote and as a result the reader may find that the English text does not 'flow' as well as it could. Although I have taken great care in accurately identifying the original text and producing a true representative translation of the author's original wording I cannot guarantee that this work does not contain 'translational errors' and the reader is recommended to check specific details against the original text.

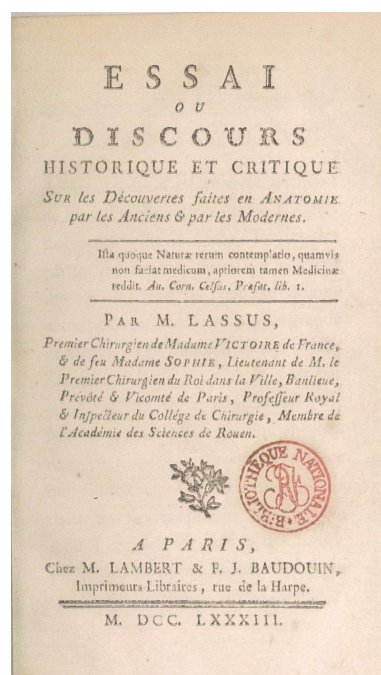
The paragraph structure, general layout and use of italics within the text of the original publication have been maintained within the translation. The references are identified by asterisks and placed at the bottom of the relevant pages in the original text. I have sequentially numbered these and placed them at the end of the translated text, reproduced as originally printed, though I have also provided translations for some of the reference titles and those that are the author's comments. I have reproduced the author's spelling of the names of people and places as printed, though I have also added alternative spellings to some of these, which are placed in square brackets.

PIERRE LASSUS

Pierre Lassus was born on the 11th April 1741 in Ile-de-France, Paris. Appointed ordinary surgeon to Madame Victorie and Madame Sophie, the daughters of Louis XV of France. In 1779 he became the inspector and treasurer of the College and Academy of Surgery, and in 1794 the first professor of the history of medicine at the École de Santé (later Faculty of Medicine) in Paris, where he also held the chair of forensic medicine and then that of external pathology. He later became the librarian of the Institute. In 1802 he was appointed perpetual secretary of the physical sciences section at the Institute de France and in 1804 appointed consultant-surgeon to the Emperor Napoleon. He is the author and co-author of several books, particularly concerning the practice of surgery. He died on the 16th March 1807 at the age of 65.



Pierre Lassus (1741-1807)
(Image credit: Wikimedia Commons)



Title page of *Essai ou Discours Historique et Critique* (1883)
(Image credit: gallica-bnf)

'TRANSFUSION' – PIERRE LASSUS

When, after many disputes, the most obstinate minds were forced into silence, some scholars hastened to deprive Harvei [Harvey] of the honour of his discovery, in order to pay homage to it, some to Hippocrate [Hippocrates], others to Platon [Plato], to Nemesius, and even to Paolo Sarpi. But it would be sacrificing the truth to very false opinions, to pretend that the authors of the most remote ages have discovered the circulation of the blood: the truth is that William Harvei [Harvey] is the author of this discovery, made before him, in the lungs only, by Servet [Servetus], Columbus, and Césalpin [Cesalpino].

A new experiment awakened all minds, and gave to the circulation of the blood, which had been fought against for forty years, a new support which it did not need. Dr. Wren, Professor of Astronomy in the University of Oxford, proposed, about the year 1660, to Boyle, to Wilkins, Bishop of Chester, and to some other scholars, to investigate what would be the effects of certain liquors on the blood and solid parts of a living animal. First opium and an infusion of metal saffron were injected separately into the veins of several dogs. Opium made a dog stupid, and an infusion of metal saffron produced in another dog enormous vomiting which caused its death. Boyle gave an account of these experiments in his book of the Usefulness of Experimental Philosophy. He reports that a foreign ambassador who resided in London had an infusion of metal saffron injected into the veins of a criminal, who was one of his servants. Once the injection had begun, this unfortunate man had, for whatever reason, a profuse sweat which prevented the continuation of the experiment, of which no other perceptible effect was observed. It was natural to think that injections of this nature would disturb the animal economy and cause death: however, some physicians whose curiosity was not yet satisfied, proposed injecting the spirit of urine, deer horn, of human blood, under the vain pretext that these spirits would be much less harmful to our constitution, as they were originally derived from our liquors: this reasoning did not appear bad, and it had approvers (1).

A certain Fabrice [Fabrizio], a doctor at Dantzick [Gdańsk], took it into his head to inject about two large doses of a laxative remedy into the vein of the arms of three patients. One of them was a strong and vigorous soldier, attacked by venereal disease. After the injection, he complained of severe pain in his elbows, his arms visibly swelled, and he had profusely vomiting. The remedy at last began to work, and the patient was fortunately left with a violent evacuation. Two women, one of whom was 35 years of age and the other 20, subject since birth to attacks of epilepsy, submitted to the same ordeal. A laxative resin dissolved in a spirituous liquor was injected into their veins: these two women vomited very profusely, and produced copious stools; the youngest died of it; the one, whose temperament was robust enough to withstand the experiment, had, it is said, epileptic attacks a little less violent than before (2).

The same spirit of dizziness suggested passing the blood of a healthy man through the veins of a sick man. This transfusion was recommended as a resource against illness, and as an assurance of rejuvenation. It was believed that a man attacked by some disease caused by a defect of the blood, would be cured by exchanging his blood for that of another man who was in good health: that a bold and courageous animal would become cowardly by making it receive the blood of a weak and timid animal. Lower, King and Cox [Coxe] in London, Gayant, Denys [Denis] and Emmerès [Emmerez] in Paris, carried out this experiment on different animals: some died, others escaped. Finally on 23 November 1667 Lower and King tried blood transfusion on Arthur Coga. The carotid artery of a young sheep being discovered, the vein in Arthur Coga's arm was opened, as in an ordinary bloodletting, and six or seven ounces of blood were drawn from him. A silver pipe was then introduced into the opening made in the vein, and several feather pipes inserted into each other were fitted to two tubes, one of which was placed into the artery of the sheep, and

the other into the patient's vein, to serve as a communication channel. The blood of the sheep flowed without interruption for at least two minutes into the patient's vein, who received about nine or ten ounces of it, without feeling any discomfort. It was hastened to publish in France that the transfusion had been carried out successfully in London. Credulity spread this news, and flattered women and old men with the vain hope of rejuvenating by this operation, the usefulness of which was no longer disputed by scholars, when they discovered that it had been indicated fifty years previously by Libavius, a German chemist (3).

M. de Montmor, Master of Requests, a witness to the experiments made in Paris on animals by Denys [Denis] and Emmerès [Emmerez], proposed that they try the transfusion on Antoine Mauroy, who was about 34 years old, and who had been attacked for seven to eight years by a madness which left him with some deluded intervals. Denys [Denis], despite all his ardour, did not dare to promise a radical cure; he only believed that the blood of a calf, by its *sweetness* and *freshness*, could reduce the heat and boiling of that of the patient. After a careful examination, it was resolved to have him transported to a private house, and he was given to the custody of a strong and robust chair-bearer, who, for a rather modest sum, had offered to endure the same operation eight months previously (4). On 19 December 1667, everything possible was done to prepare the patient to undergo the transfusion which it was decided to make on the same day. A large number of people of quality attended with several doctors and surgeons. Emmerès [Emmerez] opened the crural artery of a calf, and made all the necessary preparations in their presence. After drawing about ten ounces of blood from the patient's right arm, he could only get him to receive five or six ounces of that of the calf, because the awkward posture and the crowd of spectators interrupted the operation. The patient felt a great heat along the arm and under the armpit: the blood was stopped, and the wound was closed at the very moment when he was ready to faint. Two hours afterwards he had soup, and with the exception of some giddiness and a little drowsiness, he passed the night singing and whistling.

The next morning he seemed less extravagant, either in his actions or in his words, which led one to think that by repeating the transfusion once or twice, a greater change might be perceived. It was indeed repeated. But as there was no appearance that this man, who was very thin, had too much blood, after three or four months of vigils, and after suffering hunger and cold, running about the streets naked, without finding where to retire at night, they only took two or three ounces from his left arm. Having put him in a more favourable position, much more blood was infused into him than the first time. After having estimated approximately what remained in the calf, it was judged that the patient might have received more than a pound.

This second transfusion being stronger, its effects were more rapid and more noticeable. The heat in the arm and armpit was the same: the pulse rose, and the face was covered with an abundant sweat. This man complained of great pain in the kidneys, stomach, and considerable suffocation. The tube which carried the calf's blood into his vein was promptly removed, and while his wound was being closed, he vomited what he had eaten half an hour before, felt an urgent need to urinate, and asked to have a bowel movement. He was put to bed, and after vomiting for two hours, he fell asleep and did not wake up until the next morning. When he awoke, he spoke of his pains and of the great weariness he felt in all his limbs: he filled a large vase with urine as black as if it had been mixed with chimney soot.

It was the time of the Jubilee: Mauroy wanted to do it, and asked for a confessor to prepare for it. M. de Veau confessed it, and gave public testimony to the good sense of his penitent, whom he even judged capable of receiving the sacraments, if he persisted in his devotion. He was drowsy for the rest of the day, spoke little, filled another vase with urine as black as that of the day before, and bled copiously from his nose, which led to drawing a little blood from his arm; on 24 December,

Christmas Eve, Mauroy wanted to go to confession again, in order to prepare himself for Communion. M. Bonnet confessed him and administered the Sacraments to him. That same day, his urine became clearer and gradually regained its natural colour.

The calm he enjoyed made some people believe that he was completely recovered. But Denys [Denis], who was not as satisfied as the others, wanted to do a third transfusion, in order, he said, to complete what the first two had started. Nevertheless, postponing the execution of this project from one day to another, he noticed so great a change in the mind of his patient, that he entirely renounced this purpose.

Two months having passed, Mauroy had a burning fever. His wife earnestly begged Emmerès [Emmerez] and Denys [Denis] to try the transfusion a third time. To satisfy her, one of them put a tube in the vein of the patient's arm; and as it was judged necessary to draw blood from him before infusing him, the vein of his foot was opened. But a violent attack and trembling of all the limbs having seized him at that moment, the blood did not come out of the foot or the arm, which made it necessary to remove the tube without opening the calf's artery, and consequently without transfusion.

He died the following night. Immediately the opponents of transfusion published libels against Emmerès [Emmerez] and Denys [Denis]. Three doctors accused them in court of having contributed by this operation to Mauroy's death. His widow was in turn accused of having secretly made her husband take a powder which could have brought about his death. Denys [Denis] filed a complaint with the Criminal-Lieutenant against the doctors, whom he accused of having wanted to give money to this woman, to induce her to say that the transfusion had killed her husband; they were decreed for personal adjournment.

A witness testified that one of these doctors had come to offer twelve Louis d'or to anyone who wanted to assure that Mauroy had died during the transfusion operation (5). It was decided that in the future it could only be performed on men with the approval of a doctor from the Faculty of Paris. Seven or eight approved it; others condemned it with more reason. The case having been brought to the Grand Chamber of the Parliament of Paris, the son of M. de Lamavoine, First President, was Denys' [Denis'] lawyer.

His plea, the first he had made in favour of transfusion, obtained the votes of the audience, composed of all the friends of the family, the Duke of Enguien [Enghien], the Dukes of Luynes, Mortemart, Chaulnes, and several other persons of quality. A man and a woman were brought before the hearing, who claimed to have been cured by transfusion, after having been abandoned by the doctors. In a word, all sorts of means were employed to justify the usefulness of this new experiment. In spite of the efforts of Denys [Denis] and his supporters, it could not be so in the eyes of reason, which proscribed it as a murderous ordeal. The almost sudden death of some people, who had submitted to it, completed the undeceiving of the minds prejudiced by the blind zeal of some fanatical doctors (6).

Women were made to understand that it was absolutely impossible to rejuvenate them. Denys [Denis] resigned his position as Professor of Philosophy, and became Physician in Ordinary to the King: his adversaries, seeing that he was no longer occupied with transfusion, remained silent: she had the strength of all human things, and fell imperceptibly into the deepest oblivion.

REFERENCES

1. Purman, Chirurgien de Breslaw, eut la témérité de se faire injecter dans les veines une liqueur spiritueuse, pour se guérir de la galle. Attaqué long-temps après d'une fièvre continue, il se fit injecter de l'eau de chardon béni, & eut le bonheur d'en réchapper. Voyez son Ouvrage intitulé *Chirurgischer Lorbeercran*z.

- Halbestadt. 1684, in-4°. Append. part, 1.* [Purman, surgeon of Breslaw, had the temerity to have a spirituous liquor injected into his veins, to cure himself of the gall. Attacked a long time later by a continuous fever, he had blessed thistle water injected, and had the good fortune to recover. See his work entitled *Chirurgischer Lorbeercran. Halbestadt. 1684, in-4°. Append. part, 1.*]
2. *Transact. Philosoph. an. 1665, n° 7.*
 3. *Adsit juvenis robustus, sanus, sanguine spirituosus plenus: adstet exhaustus viribus, tenuis, macilentus, vix animam trahens. Magister artis habeat tubulos argenteos inter se congruentes, aperiat arteriam robusti & tubulum inserat munitaque: mox & œgroti arteriam findat & tubulum fœmineum insigat, jàm duos tubulos sibi mutuò applicet & ex sano sanguis arterialis, calens & spirituosus saliet in œgrotum, unàque vita fontem àfferet, omnemque languorem peltet.* *Defens. Syntagna, Arcan. Chymic. Francofurti, 1615, in-folio.*
 4. Voyez le Journal des Savans, ann. 1667.
 5. Voyez la Sentence rendue au Châtelet de Paris le 17 Avril 1668, à l'occasion de la transfusion, & imprimée dans le second tome de la Collect. Acad. p. 144, part. étrang. [See the sentence rendered at the Châtelet of Paris on the 17 April 1668, on the occasion of the transfusion, and printed in the second volume of the Collect. Acad. p. 144, part. strange]
 6. Tel fut Daniel Major, Médecin à Kiel en Saxe, qui publia en 1664 un Ouvrage, dans lequel il prétendit que l'on pouvoit ranimer la vie des mourans en injectant dans leurs veines différentes liqueurs. [Such was Daniel Major, a physician at Kiel in Saxony, who published a work in 1664, in which he claimed that it was possible to revive the life of dying people by injecting various liquors into their veins.] *Prodromus inventa Chirurgia infusoria scilicet quo pacto agonizantes aliquamdiù servari possint, infuso in venam sectam liquore peculiari.* in-octavo. Lipsiae, 1664.