

Kim Pelis

Transfusion, with teeth

Indigo: "He's dead! He can't talk!"

Miracle Max: "Look who knows so much! Well, it just so happens that your friend here is only mostly dead. There's a big difference between mostly dead and all dead... Mostly dead is slightly alive. Now all dead, with all dead there's only one thing you can do."

Indigo: "What's that?"

Max: "Go through their clothes and look for loose change."

– The Princess Bride

When respiration is once stopped, she is gone beyond the reach of known remedy, under received methods of management – not even transfusion itself can save her; – a solemn pause follows, presently broken by ejaculations scarcely audible; some dear friend sobbing and in tears, exclaims, "Can you do nothing? Is there no hope?"

– James Blundell, 1827¹

In 1818, London accoucheur² and physiologist, James Blundell, suggested that persons dying of haemorrhage might be saved by the timely transfusion of blood from a willing human donor. Although his first trial, conducted later that same year, was on a man dying from an ulcer, Blundell soon became convinced that the procedure should be limited to women on the verge of death from uterine haemorrhage. Here, he believed, transfusion held great therapeutic promise. Through the 1820s and 1830s, a small group of British accoucheurs carried out transfusions on such women, publishing accounts of their efforts – many of them apparently successful – in medical journals such as the controversial *Lancet*. Successful case histories often told of how such women were veritably re-animated by transfused blood. By 1825, the potential of transfusion had become the subject of intense debate in British medical circles.³

Blundell himself provided two suggestions of how he came to think of the movement of blood between bodies as potentially therapeutic. First were the animal transfusion experiments of fellow Edinburgh medical school alumnus, John Leacock (1816), and second was the sympathy he felt for haemorrhaging women.⁴ Certainly, both of these factors encouraged the young accoucheur's thinking. Yet, in 1818, transfusion was in its second century of prohibition, having been banned from medical practice after the death of a recipient in 1667.⁵ Moreover, blood-letting was still seen as a therapeutic procedure, which could even be used to *treat* uterine haemorrhage. How, then, did Blundell come to think of blood's transfusion as therapeutic? The question centres on the nature of a medical innovation;

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Figure 1. James Blundell. Stipple engraving by J. Cochran after H. Room.

its answer may be found in the culture in which transfusion was devised. Culture conventionally refers to ideas, ideologies and institutions; I wish to highlight, too, the material culture of instruments devised to move blood between bodies.

Many members of the early nineteenth-century British cultural elite were concerned with the significance of the dramatic changes that had accompanied the close of the eighteenth century. Revolutions in French politics and chemistry, physiological discoveries of resuscitation and galvanism – all suggested that the natural order might be revealed, dismantled and reassembled.⁶ Such concerns, and their possibilities, fed the imaginations of a genre of writers loosely dubbed “the Romantics.”⁷ Further, they inspired elite medical practitioners, intent on distancing themselves from “lesser” healers in the active “medical market place,” to devise a Romantic professional self-image: that of the lone creative genius, obsessed by his search for truth to penetrate uncharted territories and “unveil” nature.⁸

Perhaps the central “uncharted territory” concerning these Romantically-inclined medical elite was death itself. Resuscitation and galvanism helped open a conceptual space between life and death that was ideally suited for definition by medical authority.⁹ Known as “apparent death,” this space encouraged these practitioners to take on a new, interventionist role at the

death-bed, as it charged their aspirations for professional power. Porter and Porter have dubbed these aspirations “medical promethianism.”¹⁰ This conceptual and professional nexus, I shall argue, also expressed itself in the more technologically concrete form of blood transfusion. On the most general level, then, Blundell’s innovation may be read as a Romantic re-animation of the apparently dead.

Accompanying this general reading is the more specific, if more abstract, connection of transfusion to two mythic figures of Gothic romance. For, in 1818, the very year that Blundell introduced his transfusion, Frankenstein’s monster was “born;” and, in 1819, the vampire was introduced to polite literary society.¹¹ The monster and the vampire are on one level images of Romantic genius gone awry – attempts to control life instead turning into forces of evil.¹² Upon examining parallels between the substance of blood and electricity, and the form of the instrumental manipulation of vital forces, one may also understand transfusion as the Romantic end of a continuum with the Gothic. Transfusion is the heroic channelling of the vital principle: the monster, the evil potential inherent in an act of such hubris.

There is yet another, related, reading of transfusion that relies upon more specific elements of medical self-definition and Romantic imagination. Blundell, a licensed physician, was not only a practising man-midwife, but also one of England’s most popular obstetrical lecturers. Much has been made by medical historians of forceps and the man-midwife’s rise to power. With Blundell’s transfusion, the medically trained man-midwife gained further justification for a prominent place in the birthing chamber. In a sense, then, one might present transfusion as an obstetrician’s efforts to control the potentially fatal effects of uterine haemorrhage, and thereby play midwife to the rebirth of the birthing mother.¹³

I hope to show that all three of these readings help illuminate the medical innovation of human-to-human transfusion.

Such an interpretation must necessarily approach the topic from numerous angles. Thus I will begin with the story of Blundell’s life and transfusion work, told as a kind of “historical fiction” in the voice of a plausible character – a former student of Blundell’s. This stylised narrative voice is in fact composed from a chorus of Blundell’s champions, including his most vocal advocate, Charles Waller.¹⁴ I have chosen this unconventional approach to underscore how easily the historical facts of Blundell’s work fit into patterns then characteristic of the Romantic (medical) genius.

The historical backdrop for the transfusion story is constructed from recent scholarship on late eighteenth- and early nineteenth-century ideas and practices surrounding re-animation and Romanticism.¹⁵ My argument goes through four stages to reach its conclusion. First, I will provide a brief summary of the re-animating strands of scientific thought current around 1818. Second, I will review the medical applications of “re-animation” and

the related construction of a Romantic professional self-image by British medical elite. Within this section, I will also examine Blundell's exposure to these ideas, both scientific and Romantic, during his medical education at Edinburgh and in London. Third, I will follow them into Gothic literature. Initially, this excursion will take us into their well-studied realm of expression in Mary Shelley's *Frankenstein*; from here, I shall attempt to move them towards the vampiric, as articulated in Polidori's "The Vampyre." My argument will be drawn in part from conceived similarities between blood and electricity. Finally, I will examine blood transfusion within this framework. I shall add descriptions of transfused women that at once resonate with corpses and vampiric victims, reflect a vitalistic conception of blood as re-animating fluid, and support an argument for transfusion *apparatus* as the final link between transfusion and Romantic re-animation.

James Blundell: A Romance?

September, 1834

I write, dear Brother, with the sad news that my teacher and friend, Dr James Blundell, will be leaving Guy's Hospital, to teach – he swears it – no more.¹⁶ I know you have been diligently preparing to join me here in London so as to learn from the Master – indeed, that your arrival is imminent – and so I must regretfully suggest that you follow your original plan. Meet me here in a year's time. We should both be in a better situation, and I shall have had time to find a new guide for your medical studies.

October, 1834

Dear Eddy,

Indeed, I shall be happy to tell you more of our Blundell. I have enticed you to leave Edinburgh and join me here with only the vaguest references to his physiological teachings and surgical innovations. Now, I may elaborate upon these and reveal other qualities he possesses – qualities that I believed would appeal to you even as they did to me.¹⁷

First, some background. Blundell was born here in London in December of 1790. The quality of the classical education given him by the Rev. Thomas Thomason is evident to anyone fortunate enough to have heard him speak. Following in the path of his beloved uncle, John Haighton, Blundell studied "at the Southwark united hospitals of St. Thomas and Guy's, where he had for teachers Sir Astley Cooper and Mr. Cline,"¹⁸ as well as Haighton himself. You have certainly heard tell of Haighton's contributions to obstetrics and of his controversial physiological experiments – for which some have dubbed him "the Merciless Doctor."¹⁹ Apparently, his nephew has not been deterred by such criticisms, as he has since unflinchingly supported animal experimentation conducted in the service of physiological inquiry. His hospital training completed, Blundell went to our own town's medical school – Edinburgh University, where he

took his degree in 1813. Returning thereupon to London, and to Guy's and St Thomas's, he assisted his uncle with his teaching duties – succeeding Haighton as “Lecturer upon Physiology and Midwifery” in 1818. To my knowledge, he has never been married, remaining instead wholly committed to his science.

James Blundell always drew a crowd, whether to his obstetrical or to his physiological lectures. Perhaps it was in part the legacy of being Haighton's nephew. Perhaps the crowds came because of his oratorical skills. An apt classical reference or Latin phrase would often provide the eloquent edge of a cutting remark he would wield to expose the absurdities of many an accepted – but untested – medical assumption.²⁰ Then again, it may have been the evident joy with which he challenged the medical profession to go beyond its standard practices and into forbidden realms such as blood transfusion and abdominal surgery. He is certainly one of a very few men in England teaching physiology and reporting unapologetically on animal experiments – and has as such drawn the acclaim and the wrath of medical journals and societies alike. James Blundell is indeed a rare kind of man – a creative genius, passionate in his pursuit of truth.²¹

In his lectures, “Dr. Blundell soars to the loftiest regions of romantic impossibility.”²² Never shall I forget his inspiring charge:

Can a man have his abdomen laid open and recover? Physiology teaches us that he may. Can life be restored when the patient is dying from bleeding, by the transfusion of new blood into the veins? Physiology teaches us that it has been so restored. Can a fourth part of the human body be cut away, by the amputation of the thigh at the hip joint, and the expanse of wounded surface heal by the first intention? Physiology teaches us that it may. This is the crown of physiology; – by putting us in possession of the powers of natural bodies, by reading us a lecture, as it were, on the jurisprudence by which those powers are regulated, and by thus making us acquainted with those laws and powers, she enables us, to a certain extent, to mould the material world at our pleasure, and to work on natural bodies at our will. Realising, in some degree, the tales of romance, she leads us, like Vathek, into the intimate recesses of nature, and puts into our hands the talismans by which her operations are controlled.²³

What possibilities his words opened to my mind! Might we, I wondered, unveil nature and direct its power? On that same day, I resolved to learn the science of physiology, to use it to push back the tide of death and restore life. We might even control the vital principle. This is precisely what I knew Blundell to have done. Indeed, I was witness to it. And, as I know you share my deep interest in the possibilities inherent in the transfusion of human blood, I shall tell you more of Blundell's investigations.

Transfusion, although an old – even ancient – idea, rests on new knowledge that experimental study has provided us, into the nature of death and the role of the blood in the body. “We know,” Blundell has explained, “that in hanging or submersion, death, at first, is apparent only, and not real; for a certain period after respiration stops, resuscitation is still

possible. Now, that death from bleeding may also for a time be apparent, is by no means unlikely; and it is not impossible, therefore, that transfusion may be of service, if performed within a given period even after the breathing has been stopped.”²⁴ The blood’s “passive vitality” provides a kind of galvanising force that we are now able to marshal to serve our re-animating desires.²⁵ Taken from a member of the same species – and preferably from a male of the species, as men “bleed more freely and are less liable to faint”²⁶ – and injected slowly into women “apparently dead” of haemorrhage, the blood has the power to restore life itself.

Blundell often commented on how it was sympathy that had first compelled him to use transfused blood in an effort to restore life to women sinking under uterine haemorrhage. Yet, only when I first attended such a woman did I understand what he meant.²⁷ By the time I was summoned to her bedside, “she resembled a person actually dead.”²⁸ My examination showed, however, that some life remained. “The countenance of the patient ... was completely blanched, not the least appearance of redness being observable in the cheeks or lips, the extremities cold, the breathing very laborious, the pulse excessively feeble, the whole surface of the body was cool, and the skin had a soft yielding feel, and indeed her general appearance was that of a woman sinking from exhaustion.”²⁹ Immediately, I sent for her husband, and for Blundell.

By the time Blundell arrived with his “Gravitator” transfusion device, the small room was quite crowded. I was instructed to prepare “the husband, a hearty coal-heaver,”³⁰ for venesection, as Blundell attended the patient and set up his equipment. The apparatus itself was quite a marvel: it consisted of a cup into which the husband was to be bled (*see* Figure 2). This cup was attached atop a long brass tube, or staff, that allowed blood to flow by the force of gravity into a cannula more than a foot below. A band firmly attached the cannula to the woman’s arm, and a vice, affixed to a nearby chair, provided support to the whole of the system. Blundell explained that he had designed his Gravitator so that the blood retained its vital powers as it moved from vein to vein (an unnatural, but necessary, circuit) through the metal.³¹ Animal tests, he assured us, had long since convinced him that the artificial materials themselves would not make the blood unfit for passage.³²

The equipment, donor and patient prepared, we proceeded with the operation. “Two ounces of that fluid were drawn from the arm of the patient’s husband ... and transferred to her. The result was surprising, the patient immediately opened her eyes, which had been shut, and the pulse became sensible; the extremities recovered a little heat, and the countenance improved.”³³ We then provided her with stimulants. When she later declined, we repeated the procedure, throwing in another “two ounces and a half from the arm of the woman’s husband.” The result was astonishing: “life seemed to be immediately reanimated as by an electric spark.”³⁴ It shall perhaps come as no surprise to you, dear brother, if I confess this to

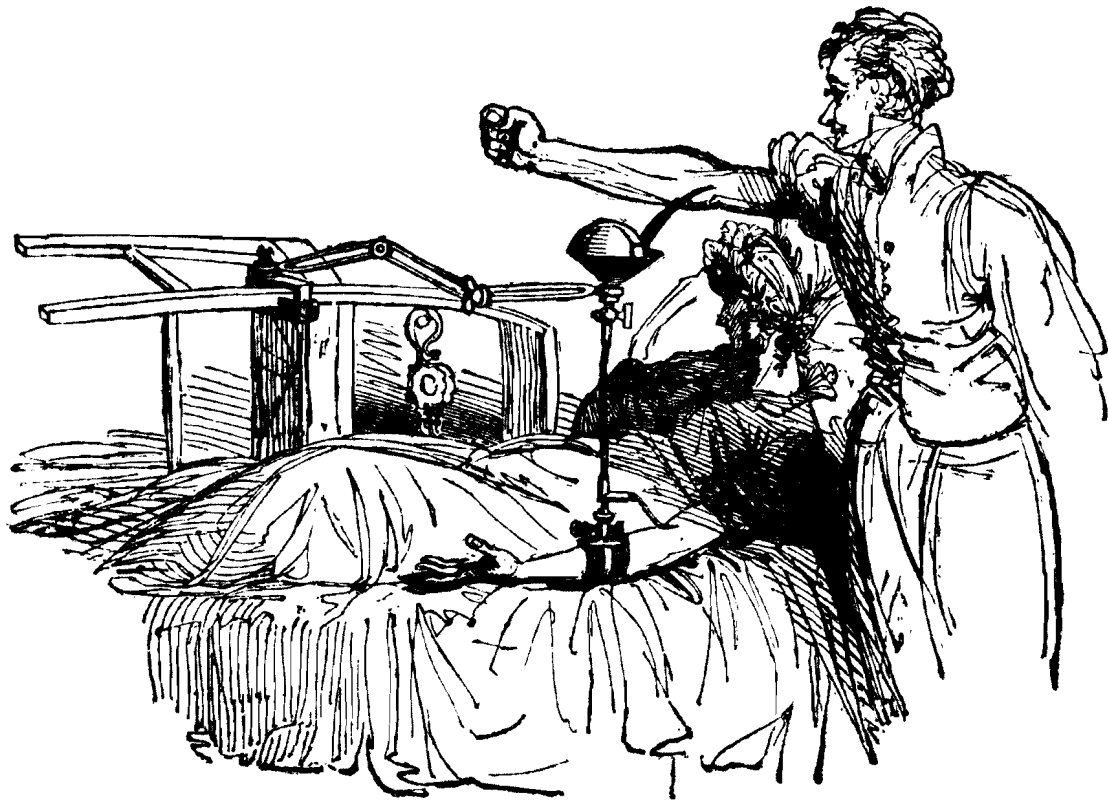


Figure 2. Blundell's Gravitator in use. Arguably the most famous image of transfusion's history in nineteenth-century Britain (from James Blundell, "Observations on Transfusion of Blood, with a Description of his Gravitator," *The Lancet* 2 [1828–29]: 321–24).

have been "the most gratifying case that has ever rewarded my professional solicitude."³⁵

I make this assertion with the deepest possible conviction: "the profession and the public at large are under deep and lasting obligations to Dr. James Blundell;" his name shall be handed down "to posterity, as one of the greatest benefactors of *womankind*." Not all, however, have seen the genius of his contributions, and have, out of ignorance or jealousy, instead treated his work "with neglect, opposition, and ridicule, still he was not to be deterred from his purpose till the remedy had experienced a fair trial."³⁶ Indeed, members of the Medical Society of London, and even editors of certain medical journals (chief among these the editor of the *Medical Repository*, "generalissimo of the opposers of his operation"), have allied themselves in resistance to Blundell's work; and, were it not for staunch supporters such as the editor of *The Lancet*, I fear our cause would long ago have been lost.³⁷ I am particularly at a loss to explain how a profession so recently under attack for purchasing "resurrected" corpses for medical study could so easily dismiss a procedure that gives it the power to steal back life from death itself. Thus it is with some dread that I witness my teacher quit his position, as his untimely departure will leave the operation of transfusion, still in its infancy, an orphan.

I hope, upon my return to Edinburgh at Christmas, to have final news concerning possibilities for your education. Meanwhile, I send a gift – a slim volume, penned by another Edinburgh medical graduate, John Polidori. It is called *The Vampyre*, and is much in the Byronic spirit of which we are both so fond. Meanwhile, I remain,

Yours,
C.

The structure of this particular historical fiction is borrowed with little shame (if less poetry) from the first section of *Frankenstein*. It has been applied to underscore the close fit between Blundell's life story and transfusion work and the narrative structures of Gothic romance. Blundell is presented, both in autobiographical asides and by his followers, as a solitary genius, driven by his quest to unveil nature, and ostracised by society as a result. In short, his is the story of the Romantic hero who, examined from a slightly different angle, shades into the Gothic. Before turning to a discussion of the significance of these correlations for medicine generally and transfusion in particular, it is necessary to examine the scientific work that encouraged their emergence.

Apparently Dead

How do we recognise death? More specifically, how can we differentiate between someone who appears to be dead, and someone who really *is* dead? To say that an incorrect judgement would bring about *unfortunate* consequences is perhaps the extreme of understatement. The fear of premature burial is ancient and profound; it has been tied to a host of funeral rituals and folk tales – including the myth of the undead, or the vampire.³⁸ At the historical moment of the reintroduction of transfusion to medical practice, life and the body were undergoing studies that had profound consequences for the perception of the line separating life and death. The guiding question seemed to be not so much where to find a pre-existing line between life and death, but rather, whether experimental knowledge now had the power to determine where it was to be drawn.³⁹ Resuscitation, galvanism and physiology all had formative consequences for the rising medical significance of apparent death.⁴⁰

The formation of Humane Societies throughout the Continent and Great Britain from 1767 onwards had drawn great attention to the phenomenon of apparent death. These societies focused on the prevention of premature burial and the resuscitation of the drowned – and disseminated this information to the public. It was a trio of medical men – Thomas Cogan (accoucheur), William Hawes (apothecary) and J. C. Lettsom (physician) – who applied these ideas in London, establishing a Humane Society there in 1774. To draw attention to their cause, members of the Humane Society (which became “Royal” in 1790) distributed leaflets to the public, offered rewards to those who managed to

resuscitate drowning victims, and even attracted members of the clergy, persuading them to preach the gospel of resuscitation in their churches. Their efforts did not go unrewarded. Membership swelled and branches of the Royal Humane Society [RHS] were established throughout Britain.⁴¹ The concept of apparent death was increasingly coupled in the public mind with the possibility of its reversal – doing little to harm the reputation of medicine. The RHS’s resuscitating *methods* were also well publicised on posters and leaflets and pulpits. For only by familiarity with these methods could members of the public be expected to reach into icy waters and re-animate apparently dead bodies.⁴² Briefly, initial advice was that one was to carry the body flat, warm it, apply stimulants – including rubbing and enemas – and, with the first signs of life, administer brandy. Blood-letting, too, was initially advocated, but quickly abandoned.⁴³ In an effort to update these methods in accordance with the latest medical knowledge, the Society solicited essays on apparent death by arranging competitions. A winning essay of 1795, by A. Fothergill, explored possible applications of medical electricity to the purposes of resuscitation.⁴⁴

Electricity had been much in vogue in the eighteenth century, as Leyden jars shocked salon-goers throughout Britain and Europe.⁴⁵ With the work of Luigi Galvani, however, the movement of electricity through living bodies took on new scientific respectability. His famous studies on animal electricity, dating from the 1780s until his death in 1798, investigated the nature of the “nervous fluid” that appeared to stimulate the movement of living bodies. The interpretations he gave to his stimulated and jumping frogs’ legs drew the criticism of Alessandro Volta, thus setting up their duelling experiments of the 1790s. In addition to “galvanism’s” extension of electricity into physiological realms, it also brought current electricity to bear on the public imagination. For, upon Galvani’s death, his nephew, Giovanni Aldini, attempted to win his uncle’s case by popularising it. Accordingly, he animated severed calves’ heads and hanged criminals’ bodies before numerous audiences.⁴⁶ When Aldini brought his travelling electrical show to London, he brought it to the Royal Humane Society.⁴⁷

Across the Channel, French physicians were exploring the consequences of political revolutionary upheaval in the reorganisation of medical structures that facilitated pathological correlation and the rise of the “Paris Clinical School.”⁴⁸ If resultant therapies were few, future possibilities seemed limitless. It was the famous French clinician and pioneer of tissue pathology, Xavier Bichat, who at this time articulated his famous definition of “life” as those forces that oppose death. Similarly, a younger member of this group, François Magendie, was testing the line between life and death through extensive animal experimentation. Physiological experimentation on animals was less formally developed in Britain than in France; however, it did exist. John Haighton, Blundell’s uncle, conducted vivisections on rabbits to test his theories about generation (*see* Figure 3). A group of

like-minded British medical men, including Humphry Davy and Benjamin Brodie, participated in the “Animal Chemistry Club,” where they discussed the consequences of physiological and chemical investigations on the nature of life.⁴⁹

At the same time, a renewed interest in vitalism became evident in the thinking of medical elites. Indeed, Edinburgh University had a strong tradition of commitment to a vitalistic view of the body centring upon the nervous system, which dated from the mid eighteenth century. The medical school’s influential teacher, William Cullen, had espoused a system in which the “nervous fluid” possessed a power “unique to life,” and was responsible for the body’s “sensibility” and its integrating “sympathy.”⁵⁰ Similarly, blood was believed by some to be a likely container for the vital principle. The status of blood as a “vital fluid,” although changing in details over time, had remained a fundamental assumption of Western thought since at least the beginning of its recorded existence.⁵¹ Even William Harvey, in his pioneering studies establishing the blood’s circulation in the body, had remained reverential in his attitudes towards blood.⁵² Enlightenment studies may have provided insight into oxygen and its role in the blood; nevertheless, this was not enough to effect a wholesale movement away from a perception of the vitality of blood. The famous eighteenth-century British surgeon and philosophical speculator on life, John Hunter, was committed to a vitalistic conception of blood in which its coagulation led to tissue formation.⁵³ As manifested in physiological inquiry, early nineteenth-century vitalism no longer considered the life principle to be a kind of “seat of the soul.” Owsei Temkin has traced the changing definition of vitalism, from the sensualism of the Scottish Enlightenment to the “vital materialism” of early nineteenth-century physiology. As is evident in the interpretive assumptions of Magendie and others, vital materialism located any potential “vital principle” in the material of the living body.⁵⁴ While this position was not purely reductionistic, it did alienate those who espoused a strict Cartesian dualism and the separate existence of a rational soul. Notwithstanding, “vital materialism” left open the working analogy between blood, electricity and life. In the 1820s, Edinburgh medical graduate Jean-Louis Prevost, with his collaborator Jean-Baptiste Dumas, applied galvanic currents to blood in order to discern how the blood formed tissue and to confirm their own “globular” notions of blood.⁵⁵ Marshall Hall, another Edinburgh graduate and contemporary of Blundell, explored the relationship between nervous and circulatory systems in a series of physiological experiments.⁵⁶

In an event that Marilyn Butler has tied directly to the imaginative foundations of *Frankenstein*, vitalism spilled from medical discourse into public debate. In 1814, John Abernethy, President of the Royal College of Surgeons, delivered the Hunterian lecture on the “vital principle,” which he believed – he claimed, with Hunter – was added to the body, much like a

soul. It was not contained within the material of the body itself. His claims drew the intellectual fire of his student, William Lawrence, who asserted that Hunter would have instead supported *him* in his more materialistic view that the vital principle, such as it is, resides in matter itself. Lawrence was to become the Shelleys' physician and, Butler persuasively argues, his vitalistic debate with Abernethy helped inspire Mary Shelley's vision of Victor Frankenstein.⁵⁷ Medical men with strong opinions about vitalism and re-animation linked literary and experimental realms.

Clearly, the nexus of blood and galvanic currents, of tissues and nerves – of these potential bearers of integrating vital fluids – was assumed to be a tight one, and was studied by some physiologists in this spirit. This nexus, as we shall see, also encouraged elite British medical practitioners to aspire to the colonisation of new territories, both professional and intellectual. It also provided the cultural environment in which James Blundell was raised.

"Unveilers of Nature"

In a recent article, Ludmilla Jordanova has described Mary Shelley's famous experimenter, Victor Frankenstein, as the embodiment of qualities that characterised the ideals of early nineteenth-century British medical elite: reclusive, passionate, thirsty for knowledge (although perpetually



Figure 3. John Haighton and the icons of a Romantic medical practitioner. Mezzotint by L. Kennerly, 1818.

unsatisfied in attempts to attain it), drawn to things “marginal, contentious or on the boundaries of what could be controlled.”⁵⁸ It is precisely these qualities, she argues, that elite medical practitioners were drawing upon in an effort to create a powerful, persuasive and coherent professional identity. Jordanova refers to the medical quest to blaze uncharted intellectual territories as “unveiling nature;” to the identity that medical men were constructing, she attaches the label “Romantic.” The connection of these medical men to Shelley’s *Frankenstein* is described as a kind of continuum, which shades from the Romantic (espoused by the medics) to the Gothic (embodied by *Frankenstein*).⁵⁹ In a sense, these extremes are linked in the fashion of the normal and the pathological. The link itself is the quest to unveil nature, and the kinds of knowledge this quest might reveal.⁶⁰

The Romanticising medical elite was particularly fond of coupling its professional aspirations with power over death. It is generally accepted that the sciences I have loosely referred to as “re-animating” – resuscitation, galvanism, aspects of physiology – were important to Romantic thinkers, both literary and scientific.⁶¹ The knowledge they uncovered, as we have seen, opened up the space between life and death. Within this space, “apparent death” increasingly became a place of promise, where medical intervention might be possible.⁶² For medical men, who were at this time actively competing for dominance in what has been called a teeming “marketplace” of healers, and who traditionally had no professional role at the death-bed, Romantic control over apparent death offered both a new potency and a new place. As Jordanova argues, even if these medical men could as yet *do* little more to stave off death than could their predecessors, the possibility that they *might*, could be channelled into a professional image that effectively increased their power.⁶³

Before moving forward to a discussion about Blundell’s place within this group of “Romantic unveilers of nature,” it is necessary to qualify my use of the loaded but useful term “Romantic.” First, the group we now call “Romantic” did not, in fact, apply the term to themselves – it is rather a term conferred upon them by history.⁶⁴ Temporally, the Romantics may be traced back to the 1740s and forward into the 1820s; nationally, they appeared throughout Europe, Britain and even the nascent USA. Within these differences in time and place, they embraced different ideas and ideologies.⁶⁵ They also spanned intellectual disciplines in a way that characterised the fluidity of disciplinary boundaries at that time. In David Knight’s words, “one cannot define members of the Romantic Movement as one might members of a political party ... almost everybody was, in some degree [a Romantic].”⁶⁶

How, then, am I using the term “Romanticism”? Both in its broadest and in its most specific sense. Broadly, we still use the term to describe individuals society considers to be solitary “geniuses.” Heroic portrayals of brilliant but misunderstood artists and scientists, possessed by a unique vision that allows them to uncover or “create” something new, and set on

the margins of society in consequence, are common themes of popular cinema and literature.⁶⁷ Our culture remains committed to a view of these solitary individuals as the leaders of true social and intellectual change. At the same time, early nineteenth-century Britain was developing its own form of Romanticism. Most closely identified with Lord Byron and Percy Shelley, this focused on classicism, the secular study of myth and religion, and condemned the evils of despotic and over-extended governments.⁶⁸ In short, this particular Romanticism championed individual, creative thought and romanticised foreign cultures with characteristic “orientalism.”⁶⁹ “The unknown” was there to feed the imagination and provoke exploration – impulses fuelled by the Romantic fascination with scientific knowledge, and particularly with the works of Erasmus Darwin, who had himself suggested the possibilities of transfusion.⁷⁰

Surrounded by images of death and vivisected animals, John Haighton was a veritable archetype of the Romantic medical unveiler. As we have seen, Haighton essentially raised his sister’s son, James Blundell, and trained him to follow in his professional footsteps. Medical Romantics such as Sir Astley Cooper extended Blundell’s medical training in London, before he was sent off to formal study for his MD at Edinburgh University, “home of Cullen’s nervous vitalism.” Blundell’s education was one in which the line between the quick and the dead was continually being redrawn by medical intervention, with resuscitation stressed alongside nervous integration.⁷¹ Blundell himself had studied medical jurisprudence and learned in detail the methods of differentiating apparent from real death.⁷²

The re-animating potential of medicine was the subject of several dissertations at the medical school of Edinburgh University in the decades surrounding Blundell’s study there. One such dissertation, written by John Davies (a member of Blundell’s graduating class of 1813) reviewed a range of apparent deaths, brought about by submersion, strangulation or electrical shock, and possible re-animating techniques.⁷³ Blundell himself, perhaps influenced by Edinburgh’s nervous orientation, and certainly encouraged by his uncle Haighton’s physiological perspective, wrote his dissertation on the differences between the senses employed for hearing speech and hearing music.⁷⁴

Indeed, at this same time, the sensible citizens of Edinburgh, perhaps conversant with methods of resuscitating the drowned and the applications of galvanism, were going to great lengths to ensure that the bodies Blundell and his colleagues dissected to obtain this medical knowledge would not be their own. For this was also the time when the body-snatching escapades of the “resurrectionists” were adding a new fear to the host of old fears surrounding burial: that of being stolen from out of the grave and sold to medical men, to be dissected like a common criminal.⁷⁵ Burke and Hare had yet to be caught; nevertheless, grave-robbing was notorious enough for the wealthy to invest in structures that would ensure their undisturbed eternal rest.⁷⁶ In what seems almost an ironic reversal of the resuscitating

ideals of the Humane Societies, some body-snatchers treated the old, infirm or vagrant *as* apparently dead, hastening their real deaths with suffocation in order to collect pay for their corpses.⁷⁷ In this context of grave-robbing, re-animation and growing medical power over the body, it is little wonder that Gothic and Romantic tales captured the imaginations of so many.

In essence, James Blundell was steeped in the Romantic professional aspirations of his time. He represents a second generation of British medical elite to hold these ideals and, as such, perhaps held them less self-consciously than did the first generation, which had articulated them. An avid supporter of individual thought and of creative genius, Blundell's epithet could well have been, "think for yourself." In physiology lectures, he classified men as being of two types. The first type appropriated and applied received knowledge – an important task. The second type, however, were "men of vigorous power, capable of thinking for themselves, fond of thinking for themselves – men who take more pleasure in the operation of the intellect than in the Circean styles of sensuality." To such men, who "make incursions into unknown regions, and subjugate, as it were, fresh territories of the intellectual world," the demi-gods of the human species, the connecting link between man and superior intelligences, Blundell held forth physiological knowledge as the key to power over nature.⁷⁸

Further, Blundell compared the physiologist's aspirations to the penetrating adventures of Vathek. Vathek is the main character in William Beckford's 1786 "oriental tale," in which Caliph Vathek descends into hell in his quest for forbidden knowledge.⁷⁹ This quest necessarily entails the sacrifice of more than a few lives; the story itself influenced many a Romantic writer, in addition to Blundell.⁸⁰ *The Lancet* twice described Blundell's "personal appearances" at social functions, and in both, Blundell struck an "oriental" pose. At the first, he delivered the aforementioned "soaring romantic" speech in which he spoke of the "sun of medicine, sinking into the western hemisphere, to be soon plunged for ever into the interminable empire of darkness," and of "pyramids, that survive the wreck of time, and smile amidst surrounding desolation."⁸¹ Shortly thereafter, he is described as appearing at a costume party dressed as a "turban'd turk."⁸² Clearly, Blundell adopted both the style and the content of Romantic critiques then being levelled against a West that ignored the mysterious potential of "oriental" cultures.

In addition, Blundell cited many a Latin verse and Greek mythical or philosophical example, even in formulating his own life's struggles. Shortly before he left Guy's Hospital, for example, he compared his plight to that of a famous Greek seeker of truth: "Notwithstanding the sneers of his comic countryman, who placed him among the clouds, it was the just boast of Socrates, that he had brought down philosophy from her airy speculations, into the commerce of mankind."⁸³ He saw himself as having attempted to do the same with physiology: "If I have myself any claim, however small, to rank among the supporters of transfusion, it lies entirely

in this: that, undeterred by clamour or scepticism, I have made it my endeavour, again, to bring the operation into notice." With *Vathek* and *Frankenstein* (and even Faust himself), James Blundell sought to penetrate the veil of nature, behind which he hoped to expose blood and reveal the cavities of the body. He, too, felt that the world turned against him when he succeeded in so doing.

Although he was not directly so, Blundell could well have been the model for Victor Frankenstein. For, up until the moment Blundell quit his job and walked permanently away from his experimental crusade, his life's story fits strikingly into those narrative structures. Like Victor Frankenstein, James Blundell was a solitary man obsessed by a vision of controlling nature – even eschewing romantic contact of “the other sort” while so doing.⁸⁴ Before turning finally to a contextual interpretation of Blundell's transfusion work, then, it is necessary to say a bit more about the twin anti-heroes of Gothic romance: Frankenstein's monster and “The Vampyre.”

Romancing the Vampire

The story of the night that conceived modernity's most influential monster myths – Frankenstein's monster and the vampire – is both famous and contested.⁸⁵ It is known to have taken place at Lake Geneva in mid June 1816 among Percy Shelley, Mary Godwin, Lord Byron and Byron's physician, John Polidori. Apparently, Byron suggested that each of the assembled individuals devise a ghost story – a challenge that *eventually* gave rise to Mary Shelley's *Frankenstein* and Polidori's “The Vampyre.”⁸⁶ At some point either immediately before or after Byron issued his challenge, Shelley, a long-time devotee of the natural sciences, had been discussing the finer points of galvanism and the possibilities of re-animating the dead. While it is evident from Polidori's diary that he and Shelley had engaged in such a conversation, it is unclear whether Shelley's partner in this particular conversation, to which Mary Godwin was a silent witness, was Byron – as Godwin herself later remembered it – or Polidori. Polidori, a recent medical graduate of Edinburgh University, would have been well versed in medical electricity and its uses, as a result of his education and of his membership of Edinburgh's famous debating society, the Speculative Society.⁸⁷ Regardless of the discussant's identity, Godwin was greatly impressed with the potential powers of electricity, later attributing the inspiration for her popular novel to this discussion.

It is to *Frankenstein* that I first turn. In Mary Shelley's work, one may see the wedding of efforts to control nature to a general cultural angst over the post-Revolutionary dismemberment of the body politic and over the more concrete dismemberment of resurrected bodies.⁸⁸ The result is a kind of corpse, stitched together and re-animated through the applications of experimental knowledge. At one point, Victor Frankenstein describes the desire that moved him toward creating his monster: “I entered with the

greatest diligence into the search of... the elixir of life... Wealth was an inferior object; but what glory would attend the discovery, if I could banish disease from the human frame and render man invulnerable to any but a violent death!" He then proceeds to describe a thunderstorm he had witnessed, in which an old oak tree was struck by lightning and "reduced to thin ribbons of wood" – thereby introducing to his already-charged mind the powers of electricity.⁸⁹ Finally, into this primordial scientific soup, Frankenstein adds University study of chemistry and physiology: "After days and nights of incredible labour and fatigue, I succeeded in discovering the cause of generation and life; nay, more, I became myself capable of bestowing animation upon lifeless matter."⁹⁰

Subsequently, Frankenstein invades the "dissecting room and the slaughter-house" in his quest to "renew life where death had apparently devoted the body to corruption."⁹¹ The pieces collected and assembled, a feverishly obsessed Victor "collected the instruments of life around me, that I might infuse a spark of being into the lifeless thing that lay at my feet."⁹² Unlike the film versions that followed a century later, the book gives no account of exactly what these "instruments of life" were, or how they might have been used. Instead, Shelley leaves our imaginations to fill in details from the hints Victor has dropped of physiology, chemistry and splintered oaks. That these instruments were effective is evident as the "lifeless thing" comes to life – ultimately to effect the demise of its creator.

Let us examine Victor Frankenstein's work as it fits into the Romantic definition of creativity. James Twitchell has recently offered the following synthesis:

For the Romantic artist this [creative] "process" usually involves four relatively stable parts: the artist, the audience, the object of art (artefact) and the subject of art. Creation at its simplest involves the movement of energy (life, imagination, attention) from one part to another. Although individual Romantic artists believed the process worked in different ways, they agreed that when art succeeded, the resultant energy in the system was greater than the initial charge.⁹³

While Twitchell is applying this argument to the vampiric, it can equally well be applied to Frankenstein. Victor has sacrificed his own vital force (his declining health and feverish state are often alluded to, both as he creates the monster, and as he later pursues it), and he has supplied a powerful current of energy to animate the dead. His monster is at once "object of art" and product of an experimental science that has successfully understood, and thereby controlled, nature. The "forces opposing death" have redrawn the boundaries of life.

Such creative movement of energy is precisely the dynamic of the vampiric relationship – and, like Frankenstein's monster, the thing created is a kind of dark life force. Not coincidentally, the vampire made his move from folk tales to literature through the pen of another member of that small Romantic gathering at Lake Geneva: Dr John Polidori. Polidori, a

precocious recent graduate of Edinburgh medical faculty, had by the time of this June evening, fallen out with his employer. Borrowing from a story fragment articulated by Byron himself, Polidori fleshed out a brief tale that introduced the aristocratic, amoral and life-draining vampire, Lord Ruthven, and a handsome and precocious young man “of high romantic feeling,” Aubrey.⁹⁴ Little imagination is required to recognise in the characters Byron and Polidori, respectively, and in their tale, Polidori’s story of their relationship.

In the tale itself, an unsuspecting Aubrey travels through Europe with Ruthven until he is finally made aware of his companion’s malicious nature. Parting company with Ruthven, Aubrey first betrays his companion’s evil intentions to the family of a prospective female victim before fleeing to Greece. It is in Greece that Aubrey meets the elf-like Ianthe, who, true to folk tradition, tells Aubrey of the existence of vampires (in which she wholly believes). Aubrey comes to see similarities between his former travel companion and the demonic souls of Ianthe’s tales, but remains sceptical about such improbable connections. That is, until the day when poor Ianthe is killed by a vampire, and Ruthven follows close behind. Aubrey collapses. When Ruthven himself nurses him back to health, Aubrey again doubts his fears; and soon thereafter, when Ruthven dies of a gun-shot wound, Aubrey dismisses his suspicions and returns to London. This, of course, only after he ponders what might have happened to his friend’s body, which has mysteriously disappeared.

In London, Aubrey returns to Society with his sister, who is courted by a mysterious stranger. The stranger, of course, proves to be Ruthven, who had solicited a solemn oath on his death-bed that Aubrey would tell no one of his death. Bound by his oath, Aubrey again falls ill, until finally he breaks his oath. He is dismissed as insane. Ruthven completes his revenge by effecting the fall of the house of Aubrey. Thus the modern vampire was born. In its birth are many of the themes we have since come to associate with the vampire: aristocratic background, hypnotic power over women, drinking of blood, eternal life, sociopathic destructiveness. The book was published in 1819, a year after Mary Shelley’s *Frankenstein* and Blundell’s first human transfusion. Initially appearing under Byron’s name, “The Vampyre” became a highly influential success.⁹⁵

Another tale in this genre – Edgar Allan Poe’s *The Oval Portrait* – helps illuminate the similarities and differences between Frankenstein’s monster and Polidori’s vampire, and at the same time sets up the transformation from the vampiric to the scientific movement of blood between bodies. In it, an artist, fixated on painting his wife’s image, does not notice that the woman’s health is depleted in direct proportion to the progress he makes on the portrait. In Twitchell’s words, “just as the painter finishes his work, he exclaims, ‘This is indeed *Life* itself!’ Enraptured, he turns from the painting to his wife, and, irony of ironies, she is dead.”⁹⁶ The painting itself acts as a kind of creative force, draining vitality from its subject and thereby

attaining life. Frankenstein's monster, also the object of art, comes to life through the combined vital forces of Victor and nature. And the vampire?

To cite Twitchell again, "vampires are not always foamy-mouthed fiends with blood dripping from extended incisors, but rather can be participants in some ghastly process of energy transfer in which one partner gains vitality at the expense of another."⁹⁷ The vampire draws vital energy, in the form of blood, from its subject, to recreate its own life. The vampire, the perverted personification of Romantic creativity, is its own creation. In other words, Frankenstein's monster was re-animated by an instrumentally guided electricity, whereas the vampire was re-animated more directly by another kind of vital substance: blood.

In the Romantic tales of Shelley and Polidori, as in the investigations of physiologically inclined medical men, blood and electricity are vital forces. Moreover, for both groups, blood and electricity are not created, but *creative* – they are pre-existing vital forces that are harnessed by those who have learned their secrets. Such would also be the case for transfused blood.

Life's Blood

As did the medical unveilers who raised him, Blundell used apparent death and re-animation to create a place for himself at the death-bed. This place, however, took on a more distinctly material form for Blundell than it did for his teachers. For, from his own formulations, it is evident that Blundell thought of transfusion as a procedure capable of manipulating apparent death and directing it towards life. He explicitly compared its functions to resuscitation after submersion, and lamented the fate of those who did not receive its revitalising benefits before apparent death became real and irreversible.⁹⁸

To appreciate the meanings transfusion is likely to have held for Blundell, let us look first at the recipients of transfusion in the 1820s. Primarily, these were women suffering and near death from uterine haemorrhage. At a time when man-midwives were still attempting to consolidate their power over the birthing process, Blundell offered another technical procedure – until now ignored by historians – that legitimated, even necessitated, a male practitioner's place in the birthing chamber. The transfusion-proficient accoucheur presided over the rebirth of the birthing mother. Descriptions of transfusion recipients, which consistently tell of their "death-like appearance," support this interpretation of transfusion as re-animation of the apparently dead.⁹⁹ Witness Blundell's Romantic description of the state of his transfused patients:

After floodings immediately, women sometimes die in a moment, but more frequently in a gradual manner; and over the victim death shakes his dart, and to you she stretches out her helpless hands for that assistance, which you cannot give, *unless by transfusion*.

I have seen a woman dying for two or three hours together, convinced in my own mind that no known remedy could save her; the sight of these moving cases first led me to transfusion ... The fatal termination is principally foreshown by a certain ghastliness of the countenance.¹⁰⁰

One must not, however, wait *too* long to transfuse, or the woman will move from corpse-like to actual corpse – and will then be beyond blood's saving power.¹⁰¹

Compare this image of the woman in need of transfusion with Polidori's description of the murdered Ianthe in "The Vampyre:" "There was no colour upon her cheek, not even upon her lip; yet there was a stillness about her face that seemed almost as attaching as the life itself that once dwelt there." The cause of her unfortunate state is determined by the "marks of teeth having opened the vein" of her neck – placed there, we are told, by a "vampyre."¹⁰² The vampiric Lord Ruthven is himself described as being of "deadly hue."¹⁰³ The analogies with blood transfusion are striking. A woman, corpse-like from loss of blood, lies near death. Now, however, she may yet be saved if the blood of a strong and healthy man is transfused *into* her. Moreover, this man might, in consequence of venesection, also grow pale and even be made to swoon: such is the nature of energy exchange by blood.

Beyond its application to apparent corpses, there is yet another place at which transfusion intersects with energy-exchanging re-animation. The striking scenes of women re-animated by transfused blood read as if they came from Shelley's pen – or Galvani's experimental accounts. Like the assembled pieces of diverse corpses or the dissected muscles of ambiguous frogs, these pale and transfused women suddenly jump to life, as if "reanimated by an electric spark."¹⁰⁴ In a culture attuned to the marvels of resuscitation and electrical stimulation, such reaction would at least have drawn medical attention, even convincing some of the re-animating potential of blood.

Turning now to the blood itself: what part did vitalistic notions of the blood play in early transfusion? Blundell's writings suggest that it was precisely his vital-materialist conception of blood that allowed him to consider transfusion as an effective therapeutic procedure. The very opening of his introductory physiology lecture of 1825 clearly set forth his views on vital principles:

When, again, directing our attention to the natural objects with which the globe abounds, we come to examine them with a little care, we find that a part of them, small in bulk though not in number, are in possession of powers of generation, and of taking up within themselves substances which are afterwards assimilated to their own nature; while others are destitute of these powers, and destitute also of that organisation and vital energy on which these powers depend.¹⁰⁵

As we have seen, Blundell believed that physiological experimentation alone provides insight into the workings of these natural substances and allows us to manipulate them.

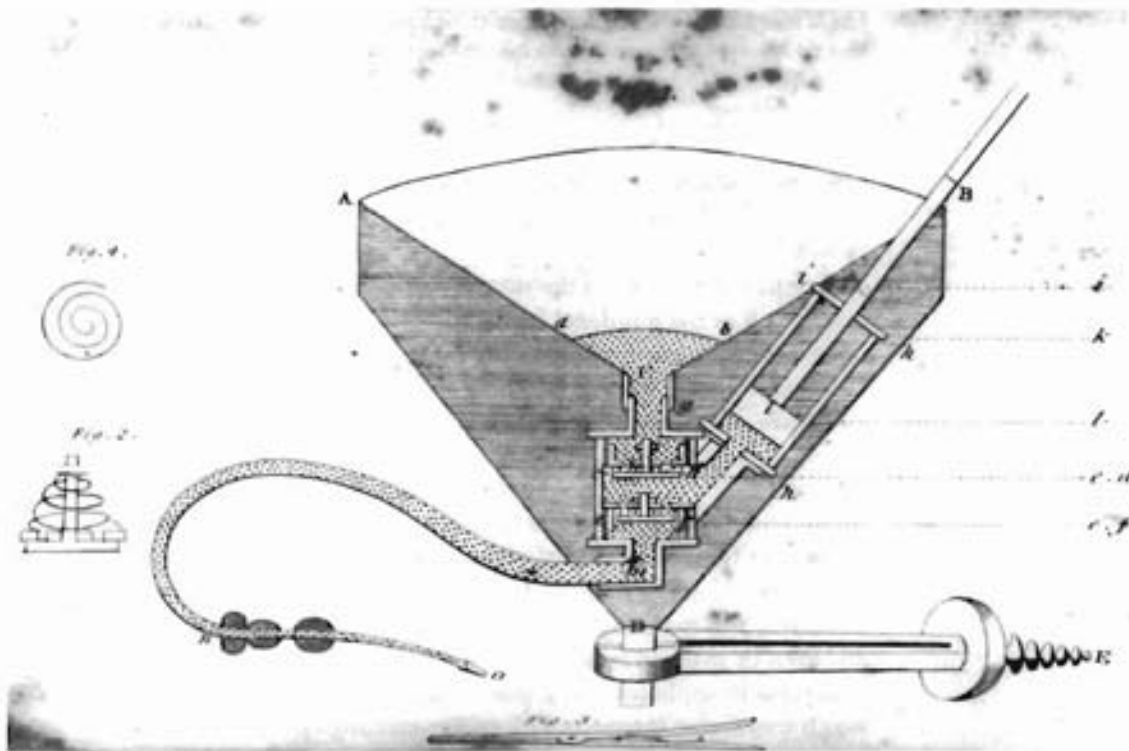


Figure 4. Blundell's 1824 Impellor illustrated in a cut-away sketch that reveals the maze through which the blood was moved.

Blundell's vitalistic conception of blood itself is evident in the way he practised, and justified, transfusion – specifically, in the quantity of blood he used, and the concerns he expressed about the instruments with which he intended to move it between bodies. Concerning the amount of blood used, *The Lancet* reported a case in which Blundell supplied only four ounces, and afterwards admitted that some would question whether so little blood “really saved the patient. The Doctor, however, (and he has seen a great deal of haemorrhage) is decidedly of the opinion, that this timely supply of vital fluid turned the scale in the patient’s favour, and rescued her from death.”¹⁰⁶ Indeed, it was precisely the small amount of blood transfused that Blundell’s critics, assembled for a debate in 1825 at the Medical Society of London, questioned as “not sufficient to explain the improvement of the patient.”¹⁰⁷ Blundell persevered in his commitment to relatively small amounts of blood, which he thought sufficient to sustain life.¹⁰⁸ Relatedly, Blundell also believed that the blood had a nutritive role in the body, and that transfused blood sustained the system accordingly. His vitalism, as I suggested earlier, was no longer the kind of active vitalism espoused by Hunter, but the more materialistic variety that fitted into the globular conceptions of his contemporaries.



Figure 5. Syringe-based apparatus made in accordance with Blundell's specifications by Savigny, from the Wellcome collections at the Science Museum (A 43853).

Further evidence of Blundell's vitalistic perception of blood is suggested by his conception of the instruments with which he transfused it. Unlike the seventeenth-century transfusers, Blundell used blood from *human* donors. Animals might be subjected to arterial bleeding into quills or lengths of intestines connected to the veins of human recipients; however, as Blundell himself noted, "there are few perhaps but would object to the opening of an artery."¹⁰⁹ Consequently, he devised various instruments intended to replace the normal, artery-to-vein circulation. His first concern in devising these glass-and-brass instruments was whether "the blood would remain fit for the animal functions after its passage through the instrument."¹¹⁰ Would the inanimate materials of instruments, he wondered, somehow destroy the very living qualities that gave blood its particular revitalising power? Each of his three transfusion apparatuses – the syringe, the "Impellor," and the Gravitator – he devised precisely to preserve the blood in its artificial movement from donating to receiving vein. The Impellor, introduced in 1824, relied on a receiving cup into which a maze of passages had been added, so as to preserve the motion of the blood as it was impelled by syringe through the cup (see Figure 4).

That Blundell's primary concern in constructing these elaborate pieces of apparatus was for preserving the blood's fitness in transfusion is evident in his stark admission that, "should it be found hereafter, by numerous pointed, and therefore decisive experiments and observations, that human blood may lie out of the vessels in the cup for several seconds, without becoming thereby unfit for the vital purposes ... transfusion may be accomplished, by the syringe alone ... on account of its greater simplicity."¹¹¹ Impellers and Gravitators, constructed in order to preserve the blood's fitness, would become superfluous (see Figure 5). Accordingly, it is clear that Blundell's was no simple quantitative belief in a direct replacement of haemorrhaged blood, but instead a more qualitative understanding of blood as life.

To complete my contextualising argument for the reintroduction of transfusion to British medical practice, I need to make a further, instrumental link. For, it could be argued, a great difference exists between Victor Frankenstein's rational manipulations of electrical nature and the vampire's rather folkloric sucking of blood. Where precisely does transfusion fit? Blundell's transfusion effectively shifts the movement of blood between bodies from the literary-sensuous to the clinical bedside. In other words, much like Victor Frankenstein, James Blundell has created instruments capable of directing vital forces towards chosen, re-animating ends. Let us recall again the few details of Frankenstein's creative moment with which Mary Shelley provides us: "I collected the instruments of life around me, that I might infuse a spark into the lifeless thing that lay at my feet."¹¹² Such could easily be a passage from one of Blundell's case histories of transfusion.

Indeed, the portrayal Blundell himself provided of transfusion by Gravitator makes my connecting case to Frankenstein clearer (*see* Figure 2). The 1828 Gravitator model dispensed entirely with the syringe, relying instead on a tall tube and – as the name implies – the force of gravity, to move the blood at a “proper” rate into the body. Pictured in the accompanying image are donor, receiver and instrument (including stream of blood). Like the Romantic genius–artist, Blundell, the Creator, is absent from the scene. He was its channel and now, what remains is the object of art – the transfusion scene – that he facilitated. Blundell *is* Victor; transfusion is Frankenstein’s monster; both art-objects arise from proper understanding and instrumental channelling of nature’s vital forces. One might even argue that James Blundell’s instrumental interventions completed the vampire’s movement from folk to Romantic figure. And, like Victor, Blundell ultimately suffered removal from society as a consequence of his hubris.

Does this mean that I read Blundell’s medical innovation as a kind of Gothic tale-in-action? Not entirely. Comparison with the other famous gothic figure, the vampire, illustrates this qualification. Kininger’s 1795 painting, “The Dream of Eleanor,” is one in a genre of death-bed images that began with Henry Fuseli’s famous “The Nightmare” (1781) and would be appropriated by nineteenth-century vampire enthusiasts (*see* Figure 6).¹¹³ I have selected this particular permutation of Fuseli’s image because “death,” true to Blundell’s descriptions, holds his “dart” above the woman (and her throat at that!). The similarities between Kininger’s and Blundell’s images do not end there. For, in both, the bed – presumably, the woman’s bed – is the stage upon which the drama unfolds. The woman lying on the bed is the recipient of the drama’s action; the male figure looming above her, the agent of that action. At this point, however, the images diverge. For in Kininger’s piece, the woman’s pose is one of sexual exhaustion. This posture contrasts strikingly with Blundell’s transfusion recipient, who lies, passive, chaste and near death, on the bed. Blundell’s transfusion recipient is perched on the edge of the Victorian age: the worthy mother in her bed-chamber, rather than the saucy victim of the vampire. Moreover, Kininger’s agent is the cause of his victim’s exhaustion, whereas Blundell’s agent is the heroic restorer of energy otherwise lost. In short, the contrasting male figures embody the power of evil and of good.

The means by which transfuser and vampire move blood is also strikingly contrasted. We have seen an instrumental parallel between the vital channelling conducted by Blundell and Frankenstein. In comparison with vampires, however, we witness another difference of blood transfusion. For, connecting man and woman is no lusty blood-kiss or threatening dart, but a scientifically designed instrument. Rather like Laennec’s device for auscultation (*see* Figure 7), Blundell’s Gravitator provided an acceptable social distance between donor and recipient of blood, moving through



Figure 6. G. Küniger.
The Dream of Eleanor,
c. 1795.

rationally designed and arranged instruments, and away from direct neck-biting.

In a sense, then, Blundell's innovation of transfusion relies on a re-animating conception of blood similar to the one that guides Polidori's vampire. At the same time, it asserts an alternative scenario – a clearly heroic place for the life-giving movement of blood between bodies. For Blundell, who was formed by the very London physicians who were busily creating a heroic professional image, gave transfusion a decidedly Romantic presentation. More than this, it is likely that the same re-animating sciences that encouraged elite medical practitioners at once to aspire to Promethean power over the line between life and death and to devise Romantic self-narratives, also provided the context in which blood transfusion made sense. Blundell's transfusion is a Romantic re-animation of the apparently dead. Cultural medical image fed substantive medical manifestation – rather like Odysseus feeding blood to the shades of Hades. Still, the Gothic remains, embodied in the ambiguous potential of an emergent biotechnology.

In this spirit, I would like to suggest a plausible "after" sketch of Blundell's sombre transfusion scene. The hero-husband would now be

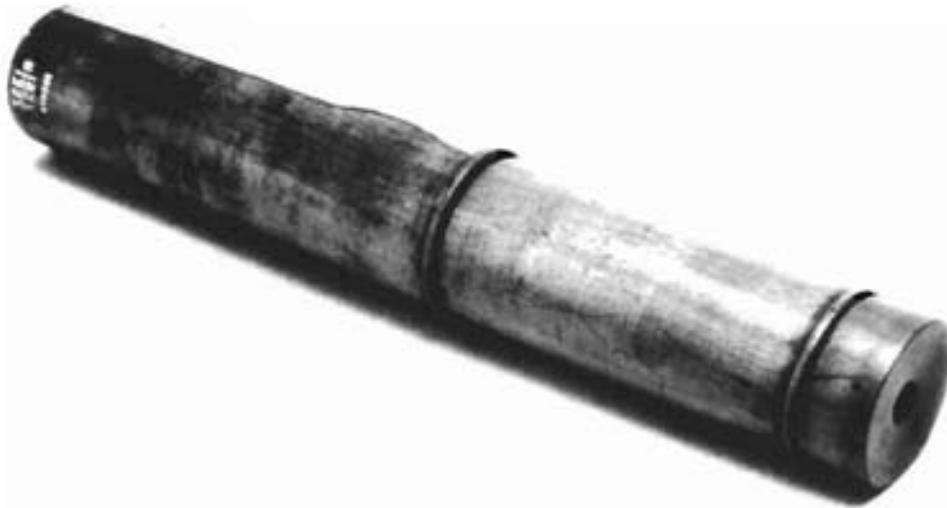


Figure 7. Laennec's stethoscope (c. 1820) provided an instrumentally-safe distance between doctor and patient. From the Wellcome collections at the Science Museum (A 106078).

seated, his head, perhaps, in his hands, as he attempts to restore his lost energy. The woman would certainly be wide-eyed and flushed. She might even be sitting upright as she exclaims to awe-struck medical witnesses: "By Jasad! I feel as strong as a bull!"¹¹⁴

Notes

This paper was made possible by the generous support of the Science Museum and the Wellcome Trust. Its arguments were strengthened by the suggestions of stimulating audiences at Cambridge University, the University of Manchester, Johns Hopkins University and the 1997 meeting of the AAHM. In particular I would like to thank Luke Davidson and Klif Fuller for sharing their expertise of life's darker corners, and Natsu Hattori for general inspiration and specific suggestions alike.

1. James Blundell, "Lectures on the Theory and Practice of Midwifery," *The Lancet* 1 (1827–28): 580. The lectures appear throughout the volume.
2. The French term was Blundell's choice, as opposed to the traditional "man-midwife".
3. See Kim Pelis, "Blood Clots: The 19th Century British Debate over the Substance and Means of Transfusion," *Annals of Science* 54 (1997): 331–60.
4. James Blundell, "Experiments on the Transfusion of Blood by the Syringe," *Medico-Chirurgical Transactions* 9 (1818): 56–92.
5. See A. D. Farr, "The First Human Blood Transfusion," *Medical History* 24 (1980): 143–62, 143, with expansion and corrections by A. Rupert Hall and Marie Boas Hall, "The First Human Blood Transfusion: Priority Disputes," *Medical History* 24 (1980): 461–65; Charles Waller, "Uterine Haemorrhage and Transfusion," *The Lancet* 10 (1826): 58–62; Simon Schaffer, "The Body of Natural Philosophers in Restoration England," in *Knowledge Incarnate: The Physical Presentation of Intellectual Selves*, ed. Christopher Lawrence and Steven Shapin (Chicago, 1998): 51–82.
6. In his introductory chapter, Chris Baldick (*In Frankenstein's Shadow* [Oxford, 1987]) provides an excellent introduction to the issues concerning post-revolutionary Europe.
7. For introductory purposes, I use the problematic term "Romantic" quite generally, allowing it to contain numerous periods and national styles. For a recent review of the "problematic" aspects of the term in the history of science, see Trevor H. Levere, "Romanticism, Natural Philosophy and the Science: A Review and Bibliographic Essay," *Perspectives on Science* 4 (1996): 463–88. I shall qualify the term further below.

8. Simon Schaffer, "Genius in Romantic Natural Philosophy," in *Romanticism and the Sciences*, ed. Andrew Cunningham and Nicholas Jardine (Cambridge, 1990), pp. 82–98; Ludmilla Jordanova, "Melancholy Reflection: Constructing an Identity for Unveilers of Nature," in *Frankenstein, Creation and Monstrosity*, ed. Stephen Bann (London, 1994), pp. 60–76.
9. Luke Davidson, "Chapter 1", unpublished manuscript from his dissertation on the Royal Humane Society and apparent death; David Knight, "Romanticism and the Sciences," in Cunningham and Jardine, eds. (n. 8 above), pp. 13–24; Martin Pernick, "Back from the Grave: Recurring Controversies over Defining and Diagnosing Death in History," in *Death: Beyond Whole-Brain Criteria*, ed. Richard M. Zaner (Dordrecht and Boston, 1988), pp. 17–74.
10. Dorothy Porter and Roy Porter, *Patient's Progress: Doctors and Doctoring in 18th Century England* (Cambridge, 1989), p. 171.
11. While the vampire enjoyed a long and healthy life in Eastern European folk tradition, it is seen to have been introduced to "high" culture with John Polidori's 1819 story, "The Vampyre." See Christopher Frayling, *Vampyres: Lord Byron to Count Dracula* (London, 1991); James B. Twitchell, *The Living Dead: A Study of the Vampire in Romantic Literature* (Durham, NC, 1981). The recent academic conference, "Frankenfest," testifies to the interest held by historians of science in Mary Shelley's classic tale. See also Tim Marshall, *Murdering to Dissect: Grave-Robbing, Frankenstein and the Anatomy Literature* (Manchester, 1995); Baldick (n. 6 above).
12. For a review of English themes, see Marilyn Butler, "Romanticism in England," in *Romanticism in National Context*, ed. Roy Porter and Mikulas Teich (Cambridge, 1988), pp. 37–67. On Romanticism and science, Butler's "Introduction" to Mary Shelley's *Frankenstein, or the Modern Prometheus* [1818 text] (Oxford, 1993); and Jordanova (n. 8 above) as well as her essay review, "Romantic Science: Micheler, Morals, and Nature," *British Journal for the History of Science* 13 (1980): 44–50.
13. I will be dealing with the obstetrical dimensions of transfusion only superficially in this paper. A fuller treatment will be given to these questions in my forthcoming book on British transfusion.
14. I have filled this out with the words of various contributors to *The Lancet*, the medical journal that staunchly supported transfusion (this during its first decade of publication).
15. To name but a few studies of this nexus of ideas as they relate to science: Marcello Pera, *The Ambiguous Frog: The Galvani-Volta Controversy on Animal Electricity* (Princeton, 1992); Desmond King-Hele, *Erasmus Darwin and the Romantic Poets* (London, 1986); Luke Davidson, "Pursuing a Cultural History of Death: The Royal Humane Society and Apparent Death, 1774–1800," unpublished manuscript, presented December 1996, Wellcome Institute Research in Progress Seminar; Charlotte Sleigh, *Life, Death and Galvanism*, unpublished manuscript, presented October 1996, Wellcome Research in Progress Seminar; Ruth Richardson, *Death, Dissection and the Destitute* (London, 1987).
16. The stated reasons for Blundell's unexpected retirement are discussed in a series of letters to *The Lancet*. Apparently, the treasurer of Guy's Hospital named one Samuel Ashwell co-chair with Blundell – much to Blundell's chagrin and stated surprise. It would seem that political alliances and relations with *The Lancet* itself were also factors in Blundell's departure. See "Dr. Blundell's Reasons for his Retirement from the Medical School of Guy's Hospital," *The Lancet* 1 (1834–35): 28–32. The discussion continues with a reply from his adversary, Samuel Ashwell, pp. 78–79; Blundell's "Second Letter to his Medical Friends," pp. 207–12; Ashwell, again, pp. 259–61; and Blundell's "Third Letter," pp. 418–25.
17. I have taken basic biographical details from the following sources: Charles Waller, "On Transfusion of Blood: Its History, and Application in cases of Severe Haemorrhage," *Transactions of the Obstetrical Society of London* 1 (1859): 61–72; "Obituary: James Blundell," *British Medical Journal* 1 (1878): 351–52; "Obituary: James Blundell," *The Lancet* 1 (1878): 255–56; J. H. Young, "James Blundell (1790–1878): Experimental Physiologist and Obstetrician," *Medical History* 8 (1964): 159–69; B. A. Myhre, "James Blundell – Pioneer Transfusionist," *Transfusion* 35 (1995): 74–78.
18. "Obituary," *The Lancet* 1 (1878): 255.
19. *Dictionary of National Biography* (London, 1890), p. 441, v. 23. This conception is confirmed in "Review, Blundell, *The Principles and Practice of Obstetrics*, by Thomas Castle," *The Edinburgh Medical and Surgical Journal* 42 (1834): 138–55, 140.

20. An amusing example of this particular gift is cited in "One Hundred Years Ago: The Teaching of Midwifery in London in 1814: Haighton and Blundell," *British Medical Journal* 2 (1914): 21–23. This article also draws attention to Blundell's success, calling it "phenomenal": "for years he had the largest class on midwifery in London" (p. 21).
21. If nothing else, the fictional voice allows the post-modern historian to add a rare word to her text.
22. "Comments on the Speeches at the Anniversary Dinner of St. Thomas's and Guy's Hospitals," *The Lancet* 1 (1823–24): 422.
23. "Dr. Blundell's Introductory Physiology Lecture," *The Lancet* 9 (1825–26): 118. Vathek is a character from William Beckford's 1786 story, *Vathek: An Arabian Tale*. Apparently, the story influenced the imagination of Byron as well as Blundell.
24. James Blundell, "Some Remarks on the Operation of Transfusion," in *Researches Physiological and Pathological: Instituted Principally with a View to the Improvement of Medical and Surgical Practice* (London, 1824), p. 69.
25. On "passive vitality," see "Dr. Blundell's Introductory Physiology Lecture" (n. 23 above), p. 114.
26. Blundell (n. 24 above), p. 123.
27. I have compiled this fictional case from a number of accounts given in *The Lancet* during the 1820s and early 30s. See, for example, 9 (1825–26): 11, 295; 10 (1826): 280; 1 (1828–29): 431; 1 (1834): 156–57.
28. "Transfusion of Blood in Uterine Haemorrhage," *The Lancet* 1(1834–35): 157.
29. "Case of Uterine Haemorrhage, in which the Operation of Transfusion was Successfully Performed, by Charles Waller, M.D.," *The Lancet* 1 (1833–34): 522.
30. "Successful Case of Transfusion. by J. Howell, esq., Bridge Street, Southwark," *The Lancet* 1 (1827–28): 698.
31. James Blundell, "Observations on Transfusion of Blood, with a Description of his Gravitator," *The Lancet* 2 (1828–29): 321–24.
32. Blundell (n. 4 above), pp. 56–57.
33. "Transfusion of Blood" (n. 28 above), p. 156.
34. *Ibid.*, p. 157.
35. Jos. Ralph, "Another Successful Case of Transfusion," *The Lancet* 10 (1826): 280.
36. Charles Waller, *Elements of Practical Midwifery, or, Companion to the Lying-In Room* (London, 1829), pp. 89, 91.
37. Waller (n. 5 above), p. 60. It is quite possible that the friendly support Blundell enjoyed from Wakley and *The Lancet* played a role in his ultimate retirement from Guy's in 1834. Guy's and St Thomas's had been the focus of consistent attack – for nepotism, inadequacy, and a kind of medical despotism – by Wakley's journal, with the hospitals' treasurer coming under particular attack. It was this same treasurer who precipitated Blundell's actions. On Wakley, see Richardson (n. 15 above), pp. 42–50; S. Squire Sprigge, *The Life and Times of Thomas Wakley*, facsimile of the 1899 edition (Huntington, NY, 1974).
38. In his classic study *The Vampire* (London, 1995), originally published in 1928, Montague Summers examines the connections between this fear and vampire legends in some detail. More recently, historians and anthropologists have attended to funeral rituals of various times and cultures. Richardson gives wonderful descriptive analyses of laying out corpses in *Death, Dissection and the Destitute* (n. 15 above). For an anthropological perspective, see Nigel Barley, *Dancing on the Grave* (London, 1995).
39. On French "vitalistic materialism," see Owsei Temkin, "The Philosophical Background of Magendie's Physiology," and "Materialism in French and German Physiology of the Early 19th Century," *Bulletin of the History of Medicine* 20 (1946): 10–35 and 322–27, respectively.
40. Knight (n. 9 above), pp. 19–21; Davidson, *Chapter 1* (n. 9 above).
41. Davidson (n. 15 above), pp. 3–4.
42. The Humane Society's techniques are reviewed in L. H. Hawkins, "The History of Resuscitation," *British Journal of Hospital Medicine* 4 (1970): 495–500.
43. Davidson (n. 15 above), pp. 9–10.
44. *Ibid.*, pp. 10–11.
45. Pera (n. 15 above), pp. 3–18.
46. Sleigh (n. 15 above).
47. Davidson (n. 15 above), p. 11.

48. Erwin Ackerknecht, *Medicine at the Paris Hospital, 1794–1848* (Baltimore, 1967); Toby Gelfand, *Professionalizing Modern Medicine: Paris Surgeons and Institutions in the 18th Century* (Westport, Conn., 1980).
49. Knight (n. 9 above), pp. 19–20.
50. Christopher Lawrence, “The Nervous System and Society in the Scottish Enlightenment,” in *Natural Order: Historical Studies of Scientific Culture*, ed. Barry Barnes and Steven Shapin (Beverly Hills and London, 1979), pp. 19–40, discusses in detail the Edinburgh conception of the body and the ways it fitted into Scottish notions of society and civility. His summary of Cullen’s work is on p. 26. On the rise of vitalism in the mid-eighteenth century, see Theodore M. Brown, “From Mechanism to Vitalism in 18th-Century English Physiology,” *Journal of the History of Biology* 7 (1974): 217–58. On its abrupt German, and more gradual French, decline after the 1830s, see Everett Mendelsohn, “Physical Models and Physiological Concepts: Explanation in 19th-Century Biology,” *British Journal for the History of Science* 2 (1965): 201–19.
51. Almost every history of blood or transfusion opens with a paragraph, or even a chapter, on this persistent belief that “the blood is the life.” Jean-Paul Roux has provided a broad-ranging and nuanced study of the meanings of blood in antiquity, in *Le sang: Mythes, symboles et réalités* (Paris, 1988). For a lighter introduction to the history of moving blood between bodies, see Kim Pelis, “Moving Blood,” *Vox Sanguinis*, 73 (1997): 201–6.
52. Everett Mendelsohn, *Heat and Life* (Cambridge, Mass., 1964), p. 29; Schaffer (n. 8 above).
53. John Pickstone, “Globules and Coagula: Concepts of Tissue Formation in the Early Nineteenth Century,” *Journal of the History of Medicine and the Allied Sciences* 28 (1973): 336–56, 339. A detailed, if reverent, critique of Hunter’s vitalistic conception of blood is given in C. Turner Thackrah, *An Inquiry into the Nature and Properties of the Blood, as Existent in Health and Disease* (London, 1819). Lawrence (n. 50 above), p. 34, states explicitly that Hunter located the “living principle” in blood, as contrasted with the Edinburgh school’s focus on the “nervous fluid.”
54. Temkin, “Materialism” (n. 39 above).
55. Pickstone (n. 53 above), pp. 345–47. It should also be noted that Prevost and Dumas began to experiment on transfusion and defibrination of the blood in 1821.
56. Diana Manuel, “Marshall Hall (1790–1857): Vivisection and the Development of Experimental Physiology,” in *Vivisection in Historical Perspective*, ed. Nicolaas A. Rupke (London, 1987), pp. 78–104.
57. Butler, “Introduction” (n. 12 above), pp. xviii–xxi.
58. Jordanova (n. 8 above), pp. 61–62. Schaffer connects similar qualities to his description of Romantic genius. Schaffer (n. 8 above), pp. 93–94.
59. Jordanova (n. 8 above), pp. 72–73. I would like to add an interesting twist to Jordanova’s argument. She dismisses the possibility that Mary Shelley was thinking about surgeons as she conceived of her monster, because “surgery was active and manual, but not until the second half of the nineteenth century did it enrail much entry into body cavities” (p. 66). This is certainly true on a general level. Blundell, however, was writing treatises on abdominal surgery and conducting animal experiments to show its potential in the 1810s – further substantiating his “frankensteinian” character!
60. I draw this analogy from Butler’s arguments about Romanticism and the Gothic novel (“Romanticism in England” [n. 12 above], pp. 62–63) and Jordanova’s accounts of medical self-image and Frankenstein’s character (n. 8 above).
61. Levere (n. 7 above), p. 466; Jordanova (n. 8 above), p. 62; Knight (n. 9 above), pp. 19–20; Schaffer (n. 8 above), pp. 91–94; Cunningham and Jardine, “The Age of Reflection,” in Cunningham and Jardine, eds. (n. 8 above), p. 6.
62. Davidson discusses the cultural consequences of this shift in “apparent death” extensively in the opening chapter of his dissertation, in progress.
63. “Creating a *culture* of medical and scientific power was one way of securing power itself.” Jordanova (n. 8 above), p. 67.
64. Butler, “Romanticism in England” (n. 12 above), p. 37; Morse Peckham, *Romanticism and Ideology* (Hanover, NH, 1995), pp. 3–4; Knight (n. 9 above), p. 13.
65. Issues concerning national styles of Romanticism guide the essays in Porter and Teich (n. 12 above).

66. Knight (n. 9 above), p. 13.
67. In Randy Shilts' book and the movie based upon it – *And the Band Played On: Politics, People, and the AIDS Epidemic* (London, 1988) – the Centers for Disease Control's tireless AIDS campaigner, Dr Donald Francis, is given just such a Romantic description.
68. Butler, "Romanticism in England" (n. 12 above), pp. 56–60.
69. The classic study of this "orientalising" tendency and its history is Edward W. Said, *Orientalism* (New York, 1979).
70. King-Hele (n. 15 above), chap. 8.
71. Numerous dissertations of the Royal Medical Society, the elite student society in Edinburgh, treat galvanism and the resuscitation of the drowned. See, for example, W. B. Almon, "What are the properties of Galvanism?", pp. 1808–09, v. 61; Thomas Reive, "What is the best mode of recovering suspended animation?", pp. 1810–11, v. 65. Edinburgh University, *Special Collections; Royal Medical Society Index to Dissertations FIN96935/1*.
72. On Edinburgh medical education in this period, see Lisa Rosner, *Medical Education in the Age of Improvement: Edinburgh Students and Apprentices, 1760–1826* (Edinburgh, 1991); L. S. Jacyna, *Philosophic Whigs: Medicine, Science and Citizenship in Edinburgh, 1789–1848* (London, 1994); Christopher Lawrence, "The Edinburgh Medical School and the End of the 'Old Thing,' 1790–1830," in *History Of Universities* (Oxford, 1988), vol. 3, pp. 259–86.
73. Joannes Davies, "De Mortu Varae Indiciis," (MD diss. Edinburgh University, 1813).
74. Jacobus Blundell, "De Sensu quo Melos Sentitur," (MD diss. Edinburgh University, 1813). Blundell dedicates his dissertation to Haighton.
75. Of course, at the time, dissection was particularly stigmatised by the general use of the bodies of executed criminals for medical study. See Richardson (n. 15 above); Marshall (n. 11 above).
76. James Moores Ball, *The Body Snatchers* (New York, 1989).
77. Richardson (n. 15 above) and Marshall (n. 11 above) both discuss the class dimensions of dissections and the Anatomy Act. It is apparent that at least some of the women transfused by Blundell were of the lower classes. I have not examined the gender and class dimensions of the transfusion story systematically, though I would suspect that they parallel that of forceps.
78. "Dr. Blundell's Introductory Physiology Lecture" (n. 23 above), pp. 115–16.
79. Malcolm Jack, ed., *Vathek and Other Stories: A William Beckford Reader* (London, 1995), pp. 27–121.
80. Butler, "Introduction" (n. 12 above), pp. xxvi–xxvii.
81. "Comments on the Speeches" (n. 22 above).
82. The famous image of a similarly-clad Byron springs to mind. *The Lancet* 7 (1825): 146–47. Having described Blundell, *The Lancet* continued: "We are sorry to say many were present who had *no characters*."
83. Thomas Castle, *The Principles and Practice of Obstetricy, as at Present Taught by James Blundell* (London, 1834), pp. 419, 420.
84. Marriage, at least. Blundell was a life-long bachelor.
85. By "conceived," I refer to their birth into "polite literary society." The vampire myth in particular had long existed in folk tales.
86. Mary Shelley herself appears to have set off the controversy in her introduction to the 1831 edition of *Frankenstein*, in which she essentially dismisses Polidori and his influence on her novel. In his study, *Vampyres: Lord Byron to Count Dracula*, Christopher Frayling attempts to restore creative credit to Polidori's name. The episode is also discussed by Butler ("Introduction" [n. 12 above]) and Twitchell (n. 11 above).
87. Franklin Bishop, *Polidori! A Life of Dr. John Polidori* (Kent, 1991).
88. I am referring to the first edition of *Frankenstein*, published in 1818. See Baldick (n. 6 above), chap. 1.
89. Shelley (n. 12 above), p. 24. The 1831 edition adds "galvanism."
90. *Ibid.*, p. 34.
91. *Ibid.*, pp. 36–37.
92. *Ibid.*, p. 38.
93. Twitchell (n. 11 above), pp. 142–43.
94. John Polidori, "The Vampyre," reprinted with Shelley's *Frankenstein* (London, 1992), p. 236.

95. Frayling (n. 11 above) and Twitchell (n. 11 above) both discuss the literary influence of Polidori's creation.
96. Twitchell (n. 11 above), p. 166.
97. *Ibid.*, p. 3.
98. See above quotations, cited in notes 1 and 24.
99. Ralph (n. 35 above), p. 280.
100. Blundell (n. 1 above), p. 614.
101. Blundell experimented with animals to determine how long one might wait to transfuse, and found that at "actual death" the animal was, indeed, too far gone to resuscitate. In 1826, an experiment was conducted by Mr Scott at Guy's Hospital on a man actually dead; no positive result was noted as a consequence of the transfusion. "Transfusion," *The Lancet* 10 (1826): 221. In one of history's wonderful turns, about a century later, cadavers were employed as blood *donors* in parts of Russia – death quickly killed off unfortunate blood-borne infections and staved off coagulation. The procedure never caught on broadly, though it is nicely documented in the uncut version of the 1941 Paul Rotha film, "Blood Transfusion."
102. Polidori, cited in Twitchell (n. 11 above), p. 110.
103. *Ibid.*, p. 236.
104. "Transfusion of Blood" (n. 28 above).
105. "Dr. Blundell's Introductory Physiology Lecture" (n. 23 above), p. 111.
106. "Transfusion," *The Lancet* 8 (1825): 343.
107. "Medical Society of London," *The Lancet* 9 (1825–26): 134.
108. Blundell (n. 4 above), p. 75; Waller (n. 5 above), p. 58.
109. Blundell (n. 4 above), p. 64.
110. Blundell (n. 24 above), pp. 56–57.
111. *Ibid.*, p. 127. The Wellcome collections, housed at the Science Museum, London (WC/SM), includes a Blundell syringe-based transfusion apparatus, inv. no. A 43853. See Figure 5.
112. Shelley (n. 12 above), p. 38.
113. Twitchell (n. 11 above) examines these images in connection with vampire representations in his first chapter. I am not arguing that Kininger was attempting to portray a vampire in this painting – though the slightly pointed incisors and bat-like wings of the male image might support this claim. Instead, with Twitchell, I appeal to it primarily because illustrators looking for visual representations of nineteenth-century vampire stories used it, with Fuseli, as a model. Of course, this coincidence of images raises suggestive questions for cultural history – questions which I must, unfortunately, leave aside for the purposes of this paper.
114. "Another Successful Case of Transfusion," *The Lancet* 9 (1825–26): 111–12, 112.