**The Sensible and Insensible Body: A Visual Essay**

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The act of translating pain into images converts unique, isolated misery into tangible suffering, imaginable by other people. Pain that is often tucked away in some private, grey-tinged, shadowy space is abruptly allowed to flow into public consciousness, a well of red anguish. In this public sphere, the struggle that many sufferers face — that of distinguishing bodily from mental distress — is particularly acute. Famously, in the seventeenth century, René Descartes drew a distinction between the mind and the body [*Fig. 1*]: this dichotomy dominated thinking throughout the nineteenth century. But, as people-in-pain have often discovered, embodiment is not a mechanistic process as Descartes would have it. The inextricable coupling of mind and body is eloquently observed in Virginia Woolf's *On Being Ill* (1930). 'All day, all night', she writes,

> the body intervenes; blunts or sharpens, colours or discolours, turns to wax in the warmth of June, hardens to tallow in the murk of February. The creatures within can only gaze through the pane — smudged or rosy; it cannot separate off from the body like the sheath of a knife or the pod of a pea.[1]

That inner creature who gazes out is a sociable 'self'. Anxiety and terror can encourage the development of communities of sympathy. The person-in-pain seeks succour [*Fig. 2*]. When overwhelmed with pain as a child, for instance, Harriet Martineau's mother and father would 'tenderly' call for her to come to them, and she would rest her head on her mother's 'warm bosom […] and [wish] that I need never move again'.[2] But visions of physical pain can also arouse cruelty. People-in-pain might be accused of fabricating their own rack upon which to writhe [*Fig. 2* and *Fig. 4*]. Physicians and other care-givers might be impervious to the sufferers' cries [*Fig. 3*, *Fig. 4*, and *Fig. 5*]. 'Imperturbability' is an 'essential bodily virtue' for physicians, Sir William Osler famously declared in 1904, but might it be an ambiguous blessing for patients?[3] Anaesthetics and effective analgesics silence the person-in-pain [*Fig. 6* and *Fig. 7*]. Pain, once again, retreats to private, silent depths.


*Fig 1*: René Descartes, 'The Path of Burning Pain', 1664. Wellcome Library M0014440

The most influential model of pain is the mechanistic one espoused by philosopher René Descartes. In 'Meditations on First Philosophy' (1641), Descartes insisted that 'I have a body which is adversely affected when I feel pain'. He went on to say that

> Nature teaches me by these sensations of pain […] that I am not only lodged in my body as a pilot in a vessel, but that I am very closely united to it, and so to speak so intermingled with it that I seem to compose with it one whole.[4]

Despite Descartes' attempts to show how body and mind 'intermingled', he became known for the Cartesian *distinction* between body and mind, arising largely from his famous image of the mechanism of pain, which was published in *Traité de l'homme*, fourteen years after his death.[5] In this image [*Fig. 1*], fast-moving particles of fire rush up a nerve fibre from the foot towards the brain, activating animal spirits which then travel back down the nerves, causing the foot to move away from the flame. According to this

model, the body was a mechanism that worked 'just as, pulling on one end of a cord, one simultaneously rings a bell which hangs at the opposite end'.[6]

It was a profoundly influential theory, especially after it became the model of the body propagated by the founder of clinical teaching, Herman Boerhaave. Despite the fact that it has subsequently been dismantled, Descartes' way of conceiving of pain remained remarkably intact throughout the nineteenth and twentieth centuries. Descartes' filaments and animal spirit were converted into nociceptive impulses and endorphins, but his mechanistic metaphor and the Cartesian distinction between bodily pain and psychological suffering remained in place until Ronald Melzack and Richard Wall invented the Gate Control Theory of Pain in 1965.[7] Their model showed how perceptions of pain were modulated by complex feedback systems. Context, including psychological cues, became central to the understanding of pain.

*Fig. 2*: A Man Suffering from Gout and Surrounded by his Wife and Child. Wellcome Library L0058574

It is often said that the experience of pain isolates sufferers. But pain can also create bonds of sociability. This statue of a man suffering the agonies of gout in his big toe was produced in the late eighteenth century by the distinguished German porcelain company, Meissen [*Fig. 2*]. Gout typically caused agonizing pain in the big toes and other

joints. According to the cleric and writer Rev. Sydney Smith, it was 'like walking on my eyeballs'.[8] In this figurine the sufferer is surrounded by symbols of the cause of his affliction, that is, alcohol, rich foods, and other evidence of profligate living. Sufferers are responsible for their affliction. His son is shown sitting in a miniature chair with his foot slightly raised, indicating the hereditary nature of the disease. The gout sufferer is receiving succour from his wife. Representations of both the disease and the person providing sympathy are highly gendered. The image of the gout sufferer is almost without exception that of a middle-aged or elderly man, while the person responding with sympathy to the person-in-pain is typically a sexually attractive, young woman.


*Fig. 3*: Thomas Rowlandson, 'Amputation', 1793. Wellcome Library L0034242

Thomas Rowlandson sketched 'Amputation' in 1793, over fifty years before the invention of effective anaesthetics such as ether or chloroform [*Fig. 3*]. It shows a man tied to a chair, having his right leg amputated. He is screaming in agony. The main surgeon is wearing a carpenter's apron and is conducting the amputation with a common

saw. An assistant holds a wooden crutch. The amputation is taking place in a dissecting room (a corpse can be seen in the lower right-hand corner) and on the walls are articulated skeletons, alluding to panics about resurrectionists (that is, men who 'resurrected' corpses from graveyards in order to sell them to dissecting schools for use in training medical students). The bewigged and bespectacled doctors are impervious to the man's agony. On the wall is a list of surgeons, including Sir Valiant Venery, Dr Peter Putrid, Launcelot Slashmuscle, Cristopher Cutgutt, and Benjamin Bowels.

The sketch is an indictment of the sensibilities of the medical profession. A few years before Rowlandson's sketch, William Nolan's *An Essay on Humanity; or, A View of Abuses in Hospitals* castigated nurses and doctors for their lack of 'sensibility' and 'compassionate attention'. He accused them of practising 'cruelty' and scolded surgeons for being too eager to amputate infected limbs, without considering the alternatives. 'Surely', Nolan argued, 'in a matter of such magnitude to human nature', surgeons should pause before wielding their knives. This was particularly the case given 'the horrible fears that anticipation [of amputation] unavoidably excites in the patient's mind' and the 'excruciating pain' of the actual operation.[9] As another critic put it in the 1850s, some physicians had acquired a 'taste for screams and groans' and were unable to 'proceed agreeably in their operations without such a musical accompaniment'.[10] When effective anaesthetics were eventually introduced, many physicians argued against their use on the grounds that the tortuous pains of surgical operations were necessary to prevent haemorrhage. As the vice-president of the American Medical Association pronounced in 1849, pain was 'curative […]. The actions of life are maintained by it.' Without 'the stimulation induced by pain', surgery would 'more frequently be followed by dissolution'.[11]


*Fig. 4*: James Gillray, 'Metallic-Tractors', 1801. Wellcome Library M0010466

Eighteenth- and early nineteenth-century medicine was patient-orientated, with sufferers of pain and illness as likely to have recourse to 'quacks' as to regular physicians. Indeed, the distinction between the two kinds of practitioners was not as great as it was to become later in the nineteenth century, with the introduction of state regulation and the professionalization of medicine.

James Gillray's 1801 satire on 'Metallic Tractors' or Samuel Perkins's needles was an attempt to discredit 'quacks' [*Fig. 4*]. Metallic Tractors were two needles — one made of brass and the other of iron — with which practitioners would stroke painful afflictions as varied as rheumatism, gout, inflammation in the eyes, erysipelas, epileptic fits, locked jaw, burns, and all kinds of 'pains in the head, teeth, ears, breast, side, back, and limbs'.[12] The pain of gout, Benjamin Douglas Perkins (the son of Samuel Perkins and the person who patented the Tractors in the United Kingdom) explained, was caused by a 'want of perspiration' in the toe which made it become 'positively electrified' while the 'other perspiring parts of the body [were] negatively electrified'. The pain would disappear if the 'equilibrium of electricity' could be restored 'by means of the distribution of the negative electricity in the body to the positive'. A healthy physician who was 'negatively

electrified' should hold the Metallic Tractor against the painful toe, effectively communicating his negative electricity to the inflamed toe.[13] Tractors were sold in the UK for five guineas, or the annual salary of a female servant.

Gillroy's sketch pits an arrogant, charlatan physician against a 'True Briton' who has been over-indulging in alcohol. On the wall hangs a painting of Dionysus, riding on a West Indian rum barrel, and, on the table, punch made of brandy, tea, sugar, and lemons is brewing. The patient is experiencing extreme pain: his hands are clenched, his teeth are grinding, and his wig is falling from his scalp. His dog howls in sympathy.

'Metallic Tractors' were exposed as a fraud by Dr John Haygarth in *Of the Imagination, as a Cause and as a Cure of Disorders of the Body* (1800).[14] Defenders of the Perkinean Institute, however, claimed to be able to prove the efficacy of the needle. One defender of metallic tractors claimed to have cured a labouring man from Etton (Yorkshire) of 'violent Rheumatism in his right arm'. Afterwards, when the patient was asked his opinion of the operation, he replied that he thought it was 'very silly'. This response convinced the defender of the tractors that the cure had not been due to 'the imagination, but the Metallic Tractors'.[15]

*Fig. 5*: Emile-Edouard Mouchy, 'A Physiological Demonstration with Vivisection of a Dog', 1832. Wellcome Library V0017128

Emile-Edouard Mouchy's oil painting of 1832 shows a 'physiological demonstration' of a dog inside a garret [*Fig. 5*]. The dog is tied to the table, which has been specially fitted with metal rings. The dog is clearly howling in pain but the overall arrangement of the painting is of scientific objectivity and manly rationality. Indeed, the painting was intended to valorize physiological experiments as central to scientific progress. There has been some speculation that the surgeon is François Magendie, the foremost French experimental physiologist who, in the 1830s, would start his lecture series by opening the abdomen of a dog.

Do dogs like the ones in this painting truly feel pain? For vivisectors, the answer was simple: animals were close enough to humans to make such experiments worthwhile but not so close to make vivisecting them cruel. According to Descartes, animals were mere 'automa' or moving machines, driven by instinct alone. He believed that animals' screams of pain were simply mechanical responses, which functioned as a form of human moral edification.[16] More commonly, scientists and philosophers of the early nineteenth century pointed to the existence of a hierarchy of sentience. After all, they insisted, isn't it the case that not all *humans* are equally sensitive? The ability to feel, both in terms of physical sensation as well as inner sensibilities, was ranked hierarchically. The regulation of vivisection — because it involved cruelty towards animals, but also on the grounds that allowing cruelty to animals would open the door to cruelty towards people — occurred earlier in the UK than in the rest of Europe. Indeed, British physiologists such as Sir Charles Bell were much more likely to emphasize dissection as opposed to the French tradition of vivisection.

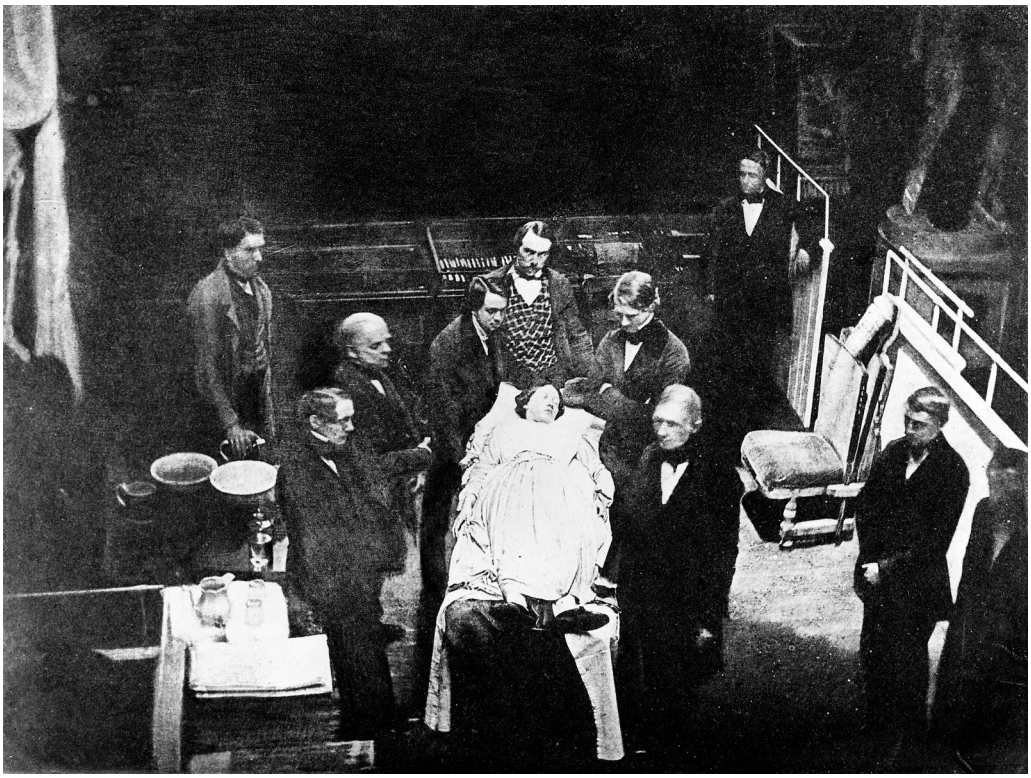

*Fig. 6*: Albert Southworth and Josiah Hawes, 'Daguerrotype of Using Ether as an Anaesthetic Agent, at the Massachusetts General Hospital', 1847. Wellcome Library M0008906

This is the first daguerreotype of a real operation [*Fig. 6*]. It was created on 3 April 1847 in the amphitheatre of the Massachusetts General Hospital, where ether had been first used publically as an anaesthetic, six months earlier. It was taken by the famous daguerreotype studio of Albert Southworth and Josiah Hawes, in part as a way of memorializing the pain-shattering achievements of the hospital. The patient — whose head is turned towards anaesthetist Dr Charles Heywood, who holds an ether-soaked sponge — is Athalana Golderman, a young seamstress, who had unintentionally stabbed herself in the leg with her scissors. At the foot of the operating table, on the right-hand side, is John Collins Warren, the surgeon who had performed the first public operation employing William Morton's ether. Opposite him is his son, Jonathan Mason Warren, who had introduced the use of the sponge to administer ether. To the left and rear of the photograph there is a human skeleton and on the right the base and lower limbs of the Apollo Belvedere, a statue of the Greek god associated with healing. The operation is being watched by students and visiting physicians who sit in a semicircle of benches that rise up steeply along the sides of the amphitheatre.

The introduction of anaesthetics was widely regarded to have promoted a certain kind of detachment, and certainly the staged feel of this daguerreotype effectively catches this new, surgical comportment. The impact of anaesthetics on operatives was alluded to by James Miller in *Surgical Experience of Chloroform* (1848) when he noted that, in the days before anaesthetics, medical students and surgeons 'grew pale and sickened, and even fell, in witnessing operations' — not because of the 'mere sight of blood, or of wound' but 'from the manifestation of pain and agony emitted by the patient'. In contrast, he continued, after the invention of anaesthetics these medical practitioners were spared the need to emotionally engage (or, indeed, attempt to disengage) with patients since 'a snort is the worst sound' they made.[17] In the words of a physician writing in 1863, surgery became 'slow dissection', a term generally used about corpses, not living patients.[18] David Cheever bluntly expressed it in 'What has Anæsthetics Done for Surgery?' (1897): as a result of anaesthetics, he observed, the surgeon 'need not hurry; he need not sympathize; he need not worry; he can calmly dissect, as on a dead body'.[19]

*Fig. 7*: Richard Tennant Cooper, 'An Unconscious Naked Man Lying on a Table Being Attacked by Little Demons Armed with Surgical Instruments', 1912. Wellcome Library V0017053

This watercolour by Richard Tennant Cooper was commissioned in 1912 by Henry S. Wellcome, the founder of the influential charity, the Wellcome Trust [*Fig. 7*]. It suggests some of the more disturbing aspects of chloroform. While the body is rendered insensible, it is toyed with by demons and bat-like spirits. Anaesthetics transport the patient into a state without physical pain, but they also unleash worlds of unconscious, hostile drives. They render the person passive. The painting also portrays anxieties about the comatose body, placed at the mercy of outside agents, including surgeons. This was one reason for the hostility to anaesthetics when they were first introduced. Critics observed the immense power that anaesthetics gave surgeons over patients: patients could be treated as 'things', with no rights over their own body. In the words of physician James Arnold in *The Question Considered; Is It Justifiable to Administer Chloroform in Surgical Operations* (1854), the 'apoplectic stupor produced by chloroform' placed the patient at 'risk of delirious expression of thought' — that is, they might utter impious oaths rather than invoke verses proclaiming their closeness to the suffering Christ. Arnold regarded this as a problem, 'as respects woman particularly'. If women were made aware of this risk in using chloroform, it would 'deter them from its unnecessary use' (Arnold, pp. 16, 24). Chloroform disrupted coherent, godly pain-narratives. The insensible body was vulnerable to all manner of abuses.

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[1] Virginia Woolf, *On Being Ill*, intro. by Hermione Lee (Ashfield, MA: Paris Press, 2002), pp. 4–5.

[2] Harriet Martineau*, Autobiography*, 2 vols (London: Virago, 1983), I, 20–21.

[3] William Osler, 'Aequanimitas', in *Aequanimitas: With Other Addresses to Medical Students, Nurses, and Practitioners of Medicine* (Philadelphia: Blakiston's, 1904), p. 3.

[4] René Descartes, 'Meditations on First Philosophy', in *Descartes: Key Philosophical Writings*, trans. by Elizabeth S. Haldane and G. R. T. Ross, ed. by Enrique Chávez-Arvizo (Ware: Wordsworth Editions, 1997), pp. 123–90, (p. 183).

[5] René Descartes, *Traité de l'homme* (Paris: Clerselier, 1664), p. 27.

[6] Descartes, 'Meditations', p. 183; and *Traité de l'homme*, p. 27.

[7] Ronald Melzack and Richard Wall, 'Pain Mechanisms: A New Theory', *Science,* 150 (1965), 971–79.

[8] Lady Holland, *A Memoir of the Rev. Sydney Smith,* 2 vols (London: Longman, Brown, Green, and Longmans, 1855), I, 3.

[9] William Nolan, *An Essay on Humanity; or, A View of Abuses in Hospitals* (London: the Author, 1786), pp. 24–25, 37–38.

[10] James Arnold, *The Question Considered; Is It Justifiable to Administer Chloroform in Surgical Operations* (London: Churchill, 1854), p. 3. He was alluding to the vivisector Professor Magendie.

[11] J. P. Harrison, 'On the Physiology, Pathology, and Therapeutics of Pain', *Western Lancet,* 9 (1849), 349–54.

[12] Charles Cunningham Langworthy, *A View of the Perkinean Electricity; or, An Essay into the Influence of Metallic Tractors* (Bath: the Author, 1798), p. 37.

[13] Benjamin Douglas Perkins, *The Influence of Metallic Tractors on the Human Body* (London: the Author, 1798), p. 23.

[14] Dr John Haygarth, *Of the Imagination, as a Cause and as a Cure of Disorders of the Body* (Bath: the Author, 1801).

[15] Henry Grimston, *An Apology for Believing in the Metallic Tractors, with Some Account of the Perkinean Institute* (London: Hatchard, 1803), pp. 6–7.

[16] René Descartes, *Discourse on Method and Other Writings*, ed. by F. E. Sutcliffe (Harmondsworth: Penguin, 1968), pp. 73–76.

[17] James Miller*, Surgical Experience of Chloroform* (Edinburgh: Sutherland and Knox, 1848), p. 29.

[18] Valentine Mott, *Pain and Anæsthetics: An Essay, Introductory to a Series of Surgical and Medical Monographs* (Washington: Government Printing Office, 1863), p. 11.

[19] David W. Cheever, 'What has Anaesthesia Done for Surgery?', in *The Semi-Centennial of Anæsthesia* (Boston: Massachusetts General Hospital, 1897), pp. 41–48 (p. 42).