‘Iron lung’ as metaphor

Abstract

Negative pressure ventilators (NPVs) were used from the 1930s to keep patients with chest paralysis alive and they remained in use during the first half of the twentieth century. At the time paralysis was most commonly associated with poliomyelitis (infantile paralysis). The most frequently used ventilators in the UK were the Both type, which were made of plywood to make them more cost effective. Despite their materiality, these wooden ventilators were, and are still, more commonly known as ‘iron lungs’. By considering the uses of the metaphor ‘iron lung’ prior to the invention of the NPV, I will argue that ‘iron lung’ became eponymous as it connected the material reality of the NPV with imagined sensory experiences for publics in the UK, though often in ways that contradicted earlier metaphors of modernity and sound.

Keywords

Iron Lung, metaphor, modernity, sound, senses

When wood becomes iron

Negative pressure ventilators (NPVs) were used from the 1930s to keep those suffering from chest paralysis alive and are most commonly associated with the treatment of polio during the first half of the twentieth century. In one of the first articles on the negative pressure ventilator, Philip Drinker and Louis Shaw, the inventors of the single use NPV that commonly became known as the iron lung, instructed that the NPV should be made of ‘sheet metal (preferably sheet iron)’ and that the device would rest on an ‘iron frame’ (Drinker and Shaw, 1929). However, Drinker and Shaw did not call the device an iron lung. This was an epithet given to the machine by an unidentified journalist in the United States some time during 1929 or 1930 (Markel, 2007).
The term ‘iron lung’ over time in the UK, arguing that this use of language suggests interesting new ways of thinking about public perception of user experiences of this significant life-saving technology.

This article is based upon a consideration of all appearances of the term ‘iron lung’ in the British Newspaper Archive (BNA) between 1750 and 1938. Newspapers became the most profitable and dynamic print form by the end of the nineteenth century and were ‘securely implanted into the cultural landscape as an essential reference point in the daily lives of millions of people’ (Jones, 2016: 2–3). The ubiquitous nature of newspapers in nineteenth and early twentieth century life allows historical access to both cultural and linguistic trends. Thus, they are used here to consider popular understanding and use of metaphors. This paper uses the BNA as a primary source as it provides coverage from across the UK thus avoiding limiting the discussion to a London-centred perspective, as consideration of, for example, The Times newspaper archive would provide. To contextualise these newspaper articles, the paper also considers biographies and other media.

The primary aim of this article is to explore the metaphorical uses of the phrase ‘iron lung’ prior to the invention of the Drinker type respirator (the first negative pressure ventilator to be labelled as such) and the first decade of its use in the United Kingdom up to, and including, the year of Lord Nuffield’s substantial donation of Both type lungs in 1938. It will be noted that familiar uses of the metaphor engaged with both human and non-human sound and modernity, both positively and negatively construed. The ‘iron lung’ therefore came with baggage. Far from causing dissonance for perceptions of the NPV this baggage instead seems to have made the term eponymous in the UK, not only for Drinker respirators but for all forms of NPV, even encompassing positive pressure ventilators such as the Bragg-Paul (McGuire et al., 2020: 6). By the nineteenth and early
The ‘iron lung’ speaks

Metaphors make sense of our experiences; they evolve and develop (Berger, 1980: 3, 5; Clow, 2016: 312). Unravelling the metaphorical uses of the phrase ‘iron lung’ over time will highlight these earlier meanings and how they linked to user and public experiences. Here I argue that, in part, the metaphorical uses of ‘iron lung’ manifested in references to the negative pressure ventilator rested on ideas of loudness, strength and modernity. Though it would be impossible to locate the first ever instance of the use of ‘iron lung’ as metaphor, the most frequently repeated use of the term in the nineteenth and twentieth centuries came from Dryden’s popular translation of the *Aeneid* (1697):

> Had I a hundred mouths, a hundred tongues,  
> And throat of brass, inspir’d with iron lungs,  
> I could not half these horrid crimes repeat:  
> Nor half the punishments those crimes have met.

Dryden’s translation of Virgil’s *Aeneid* (1697) is considered by many to be the ‘pinnacle of English Virgil translations’, in part because of his political engagement through the text, which scholars have sought to understand since its original publication (Widmer, 2017: 5). There was a general cultural awareness of Dryden’s translation of Virgil in the nineteenth century. For instance, newspapers such as the *Cheltenham Mercury* provided a single line from Book VI of the *Aeneid*, ‘throats of brass inspired by iron lungs’, and attributed it to ‘the poet’ with the expectation that their readership would understand this reference (Widmer, 2017: 25; Anon, 1862). Direct quotations of the above phrase from Book VI appeared in 34 articles between 1800 and 1899. Using ‘iron lung’ as a search term I read each article noting repeated uses as well as all errors in the algorithm (for example, ‘iron hinges’ tended to appear under this search, as did ‘iron’ when listed in shipping and trade articles). Between 1800 and 1899 there were 492 uses of the phrase and while 492 uses of the term over 99 years may appear relatively low considering the number of newspapers published daily, weekly and monthly during the period across the country, I suggest that it represents a relevant enough usage to warrant attention. For example, analysis of the spread of use implies a broad popular understanding of the meaning of the metaphor: the fact that the early uses and a later appearance in the Lord Tennyson poem ‘Freedom’ show the term spreading through popular songs and poetry that would have had wider consumption and recognition outside the readership of news print (Anon, 1884). The appearance of the phrase within articles on different topics across the country points toward a broader understanding of the base metaphor and its meanings. It is, therefore, important to highlight the popularity of Dryden’s translation more broadly since it acted as the basis from which the ‘iron lung’ metaphor evolved (Widmer, 2017: 32).

The literature scholar Arthur Sherbo has pointed out that the phrase, ‘throat of brass, inspir’d with iron lungs, I could not half these horrid crimes repeat’, was used to hint at the vast importance of a topic without having to go into great detail (Sherbo, 1974: 228–30). Iron lungs were used as ‘economical statements’ to save space, contribute to the rhythm and ability to recall the poem for performance, and to move the narrative along. However, iron lungs, in the context of Dryden’s translation of the *Aeneid* are also part of a broader metaphorical language. Peter Baehr has argued that the use of iron as metaphor ‘evokes hardness and unbending resolution’ (Baehr, 2001: 161). Lungs made of iron conjure an image of strength, and in the context of Dryden’s translation this strength is directly related to an ability to declaim at length on a topic.

Between 1750 and 1799 there was only one instance of the use of the term ‘iron lung’ in papers stored by the British Newspaper Archive. On 3 August 1750 *The Scots Magazine* published a popular song by Christopher Smart titled ‘Chaucer’s “Recantation”’.

> an hundred mouths an hundred tongues  
> an hundred pair of iron lungs.  
> Five heralds and five thousand cryers  
> With throats whose accent never tires
Ten speaking trumpets of a size
Would deafness with their din surprise
Your praise, sweet nymph, shall sing and say
And those that will believe it may

The first phrase of the stanza is a direct copying of Dryden’s translation. However, in the rest of the chorus we see additions to the metaphor’s meaning. Dryden’s iron lungs were an indication of the strength and health of the poet or orator’s voice being able to speak at length on the crimes of those in Tartarus; even though there were too many crimes to recount, he hints at more while allowing the narrative to continue. Smart’s iron lungs, while retaining associations with strength and longevity are also used to shout, ‘your praise, sweet nymph’. While the remainder of the song is tongue-in-cheek in its praise of the woman in question, the iron lungs coupled with the sounds of trumpets, heralds and criers make a mighty ‘din’. Smart’s use gives emphasis to loudness over longevity in speech. While the difference may appear negligible it is important to note the interweaving of longevity and strength of voice with loudness as we consider later uses of the phrase and how these images connected to experiences of the NPV.

Dryden’s ‘iron lungs’ were given a new lease of life by Alfred Lord Tennyson who imitated Dryden’s tradition of utilising his poetry for political ends in ‘Freedom’, published near the end of the century:

To sing thee to thy grave
men loud against all forms of power
unfurnished brows, tempestuous tongues
expecting all things in an hour
brass mouths and iron lungs (Anon, 1884).

This poem gained a great deal of attention, from political opponents’ criticism to shows of support. Between its publication and the end of the century (just over fifteen years) both oblique and direct reference to Tennyson’s ‘iron lungs’ appeared 122 times in the *British Newspaper Archive*. When not simply re-printing sections of the poem without comment or providing literary criticism, the final stanza appeared most frequently in descriptions of radical politicians who spoke loudly but said nothing: ‘the iron lungs of demagogues drown the voice of reason and the dictates of prudence’ (Anon, 1850). This connection with loudness continued into the twentieth century with 63 articles utilising the term ‘iron lung’ as part of metaphors of strength and loudness, broadly speaking, between 1900 and 1933. Tennyson’s iron lungs were loud and strong like Dryden’s and Smart’s, but they were also blustering and silencing, demagogues in their loudness and strength leaving no room for reasonable discourse.

The popularity of this metaphor and the broad understanding of its meaning is emphasised in its ability to be re-used without the surrounding context of the poems while retaining its meaning. Between 1800 and 1899, 243 articles used ‘iron lung’ variously with connotations of loudness and strength that were uncoupled from the surrounding phrases used by Dryden, Smart and Tennyson. The first use of ‘iron lung’ as a metaphor in nineteenth-century newspapers appeared on 3 November 1817 in reference to the sound of the crowd at the theatre calling for an encore, ‘both, however, were encored...with great spirit and success by the iron lungs in the upper regions’ (Anon, 1817). This seems to have become a standardised use in reporting on theatre and sporting events:

loud and prolonged applause rent the air for some short time, the force of which may easily be imagined when it is known that it arose from the iron lungs of some two or three hundred navvies (Anon, 1859)

Or ‘the roar of a hundred and fifty thousand iron lungs rent the air’ describing the crowd at a horse race (Anon, 1871). Another early appearance of ‘iron lungs’ in nineteenth-century newspapers was in the *Illustrated London News* on 24 June 1843:

Their hearts who pledge the bowl!
To-night they quaff not wine alone,
In the iron lungs of the soldiers in this celebratory drinking song we see the fruition of the phrase without the framing of ‘throats of brass’ or ‘a hundred mouths’. These soldiers’ iron lungs were strong, loud and even joyous. Pulling on the threads of Dryden we hear the human cacophony of their voices by virtue of the strength of their ‘iron lungs’ alone, without mouths or throats. Dryden and Smart acted as the foundations from which ‘iron lungs’ gained these specific connotations of strength and loudness.

It was not only human loudness and strength that were drawn out in the metaphorical use of ‘iron lungs’. Between 1800 and 1938, some 151 newspaper articles used ‘iron lungs’ to describe steam engines, clearly emphasising industrial power, modernity and innovation with the metaphorical description of their workings (Baehr, 2001: 161). The steam engine that, ‘penetrate[d] the farthest corners of the earth carrying in its train civilization and improvement’ tied together conceptions of imperial power, industrial ingenuity and whiggish progress (Anon, 1857). Artillery fire and cannon were also described as ‘iron lunged’. The tone of these metaphors was triumphal; they were cheerfully describing the progress and innovation of these iron lunged inventions.

Linking the steam engine and the human orators and crowds discussed above is the continued significance of sound within the metaphor. The ‘iron lungs’ of steam engines, factories and printing presses blurred the line between human and non-human (Anon, 1854). The sound of the steam engine was anthropomorphised, ‘puffing’ and ‘panting’ through its ‘iron lungs’. Similarly, ‘the echoing welcome, from stentorian iron lungs, as poured forth their thundering volleys, the royal artillery guns’. The thundering volleys of the ‘iron lungs’ of the guns give a sense of their power, strength and sound. The iron lungs of Dryden, Smart and Tennyson were translated into the non-human loudness and strength of machinery. Perhaps the most striking aspect of the phrase ‘iron lung’ is the blending of the animal and mineral, the animate and inanimate. Metal is given lungs to breathe and iron can be understood as breathing as it oxidises, as art historian Kelly Freeman has noted (Freeman: 2016: 19–20). Machines made of breathing iron pant like human lungs. The metaphor is particularly versatile in this regard, describing the breath, loudness and strength of human and machine and human/machines.

Through this hybridisation of human/machine it is perhaps unsurprising that references to Frankenstein’s monster appear in metaphors of ‘iron lunged’ steam engines, which ‘like the created monster of Frankenstein, work nothing but ruin to those who fashioned its huge limbs and inflated its iron lungs’ (Anon, 1849). The traditional interpretation of the monster as ‘fable of techno-scientific irresponsibility’ and as a warning of the dangers of ‘advancement’ is stark in these readings (Christie, 2016: 235). The positive images of progress, discussed above, were countered by the ‘grim monster [that] blew its hot breath from its iron lungs’ (Anon, 1852). The ‘iron lungs’ of these machines were ‘mighty and powerful’ but also frightening and even ‘hateful’ as in the below description of a race between a sail-powered clipper and a new steam-powered boat: (Anon, 1861, 4; Anon, 1861, 4; Anon, 1857)

the clipper vainly endeavouring to fly from some hateful black fiend – roaring and panting and belching forth fire and smoke and destruction from its iron lungs...the Prometheus slowly but inevitably gaining on its prey (Anon, 1857, 2).

Nineteenth-century technological advancements, while exciting and powerful, were also frightening and monstrous, highlighted by metaphors that blurred the lines between machine and human in troubling and even monstrous ways.

These early metaphors drew on the strength and loudness of both human and non-human sound. They also highlighted conceptions of modernity as both exciting and fearful where human and machine interacted in sometimes troubling ways. These meanings did not simply disappear with the invention of the NPV, and indeed can be seen embedded within use of ‘iron lung’ for it. Below I will discuss some of the personal and imagined sensory experiences of the lung and consider the ways in which they
linked to the earlier metaphors.

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Transference of feeling

As discussed above, prior to the appearance of the NPV in Britain the metaphorical meanings of the term ‘iron lung’ were embedded in concepts of loudness and strength of human and non-human sound and in ideas about modernity. These ideas translated well onto the new NPV and remained, or perhaps even gained further relevance over time. It is important to address the American experience as the story of polio and the NPV developed through published user accounts from the United States (Foertsch, 2008: 14). Furthermore, the original use of the term ‘iron lung’ to describe the NPV and the machine’s predominate association with polio also came from America.

The fact that Franklin D. Roosevelt contracted polio and his consequent organisation of the March of Dimes, Birthday Balls and other campaigns of the National Foundation for Infantile Paralysis (NFIP) – alongside the decline in more deadly childhood diseases and a culturally negative attitude toward disability – made the American population particularly aware, and fearful, of polio (Daniel and Robbins, 1997: 1; Davis, 1997: 24; Mawdsley, 2016: 8–9, 10; Sass et al., 1996: 7). The fear and stigma associated with the potentially crippling consequence of the disease were highlighted through the spectre of the iron lung that the NFIP used to great effect in their fundraising campaigns. As such, terror of polio and the image of the iron lung became enmeshed in the United States psyche (Silver and Wilson, 2007: 38).

In the UK in 1931 there was only one NPV, and by 1933 there were only three or four more, which had been built locally based on Drinker’s design (Anon, 1931, 7; Anon, 1933, 8). In the Yorkshire Post in November 1933 it was reported that the ‘life saving machine’ was found too late to save a patient from an ‘uncommon disease’, which appears to have been polio (Anon, 1933, 10). Despite earlier isolated outbreaks in the UK in the 1930s most experiences of the ‘iron lung’ were entirely imagined.

The first outbreak of polio in the UK was in 1926, with 1,160 notified cases being recorded. The disease remained relatively uncommon, with a further outbreak in 1938 with 1,462 cases (Smallman-Raynor and Cliff, 2013: 38). It was not until 1947 that the epidemic had a national impact (Smallman-Raynor and Cliff, 2013: 36). Before English footballer Jeff Hall died of polio in 1956, the disease did not have the ‘celebrity’ status that Roosevelt had given it in the US. However, ‘the story of polio in Britain was not limited by its national borders’ and the influence of international, and specifically the American experience of the disease was significant (Elizabeth et al., 2019: 17; Fisher, 1967: 122). In The Belfast Telegraph it was reported that a boy who was in a ‘courageous fight for life’ in an iron lung had received a message of support from the American president (Anon, 1933, 5). The first news story in the UK to gain country-wide reporting was that of the American millionaire’s son Frederick Snite who was taken ill in Beijing in the late 1930s. The account of his journey from China to America and the logistics of moving his iron lung from one location to the other were splashed across newspapers throughout Britain in 1937 (Anon, 1937, 8, 6; Anon, 1937, 1; Anon, 1937, 7; Anon, 1937, 3; Anon, 1937, 5; Anon, 1937, 9; Anon, 1937, 7; Anon, 1937, 6; Anon, 1937, 6).[12]

That year also marked a dramatic rise in the UK in the use of the phrase ‘iron lung’. This rise also coincided with a decline in the use of the terms ‘respirator’ or ‘Drinker respirator’ to describe the NPV (Anon, 1936, 6; Anon, 1936, 12; Anon, 1936, 6; Anon, 1935, 5; Anon, 1933, 5; Anon, 1933, 5).[13] The change in terminology came with a starker association between ‘iron lungs’ and poliomyelitis cases. Partly this related to a polio outbreak in 1938 that increased the number of patients requiring ventilators in the UK. Accounts of ‘respirators’ and ‘Drinker machines’ before 1937 dealt predominately with UK-based patients suffering from partial suffocation, electrocution and drowning or complications after surgery (Anon, 1931, 7; Anon, 1934, 17; Anon, 1934, 3).

Early accounts of the machine in the UK were overwhelmingly positive, highlighting the progress of modern technology, its mysterious romantic appeal – with so few people having encountered one – and the ‘drama’ of saving children’s lives as they were ‘brought from the shadow of death’ (Anon, 1938, 15; Johnstone, 1938; Johnstone, 1938, 8; Anon, 1938, 6). For those that did experience the machines directly the focus was on innovation and salvation, as Cecil Cooper, a 28-year-old user who was placed in the NPV in 1938 recounted, the machine had ‘laughed at death for me’ (Anon, 1938, 15). Like the steam engines, factories and artillery guns of the nineteenth century, the NPV was a symbol of progress, modernity, innovation and strength.
As Tennyson and Smart’s uses of Dryden’s translation gave new meanings to the metaphor, so the NPV would add layers of nuance to the phrase. The ‘iron lung’ retained dual meanings as indicated in a 1938 ‘joke effort’:

“Aw see Burnley’s applied for some o them theear iron lungs,” said Bill’s wife, looking up from the Express, “aye, and some foooks’ll think we've getten 'em when they hear us sheawtin of eawr Tommy to gooa an arrand!” replied Bill (Anon, 1938, 3).

This associates the term ‘iron lung’ with both the NPV in the local hospital and the sound of parents shouting at a child. Or, in the Arbroath Herald and Advertiser for the Montrose Burghs in 1937:

That Edinburgh is to have an ‘iron lung’ that's nothing. Thousands of them will make Gayfield ring tomorrow afternoon (Anon, 1937, 5).

These jokes would not work if understandings of the sound of ‘iron lunged’ people with loud and strong voices did not persist in public imaginations. Certainly the sound of the NPV reflected previous metaphors of loudness, with users describing the machine’s noise as ‘a thousand windstorms blowing all at once’ (Rudulph, 1984: 55). The sound of the lung was also described as ‘puffing’ and ‘wheezing’ as it breathed for users, mirroring the sounds associated with the ‘iron lungs’ of steam trains ‘panting’ and artillery ‘shouting’, ‘crying’ and ‘roaring’. These associations present in public discourse around the metaphorical ‘iron lung’ and their auditory experiences of modern technologies seem to intertwine.

As discussed above, with Tennyson’s poem we see loudness and strength supressing other human voices in these early uses of the term. Iron lungs ‘command undivided attention’, they interrupted a Catholic bishop, they were demanding babies, ‘no speaker would be allowed a hearing' over their noise and music was ‘almost drowned’ by the ‘iron lunged’ shouting of the crowds (Anon, 1908, 2; Anon, 1897, 4; Anon, 1898, 8; Anon, 1896, 2; Anon, 1890, 6; Anon, 1862, 3). One can argue that it was precisely these intersections between noise and silencing, strength and weakness that made the term so fitting to imagined and direct experiences of the NPV. Perhaps one of the most commonly described experiences of the NPV in the early twentieth century was the loss of voice, a silencing as the user fought to be heard against the sound of the machine and struggled to control their speech loudness and pattern against the steady rhythm of the ventilator. A broadcast in which the reporter Drew Parson entered an NPV to demonstrate its affects highlights the difficulty that those inside the NPV experienced when they had some breathing capacity with which to fight against the machine.

A patient, Pamela Walton, recalled, ‘...every time I opened my mouth to speak, the machine either knocked the breath out of me before I could say anything or forced me to breathe in and swallow my words’ (Walton, 1959: 22).

Walton lost control of her voice in the lung. As with the crowds and political orators of the past, the machine drowned her out, supressing her voice with its cacophonous sound and uncontrolled action. Even after being removed from the NPV the effect of the experience on users’ relationships with their voices could be drastically altered. Elizabeth Goodfellow, for example, believed that her time in the machine left her with a permanently shaky voice (Goodfellow, 2004: 68). Yet there was also a feeling of relief in the sound of the lung and fear when that sound disappeared. ‘I panicked when it went off because I couldn't breathe’ (Seavey et al, 1998: 26). The sound of the lung meant that it was working, it was even ‘soothing and conducive to deep sleep’ for some users (McGuire et al, 2020: 11).

The strength of the NPV might also be remarked as a factor here, in its apparent ‘iron-ness’ and linking back to the use of the phrase and its association with strength of voice. This strength also created a sense of entrapment which was reflected in various articles in the late 1930s, with reporters describing users as ‘imprisoned’ and ‘encased’ (Anon, 1937, 9; Anon, 1937, 8; Anon, 1937, 9). Shell has noted that many hospital professionals in the United States preferred to call the NPV a ‘steel cocoon’ as it gave the impression of potential progress, users entering the cocoon temporarily to re-emerge cured (Shell, 2005: 173). This points to the general feeling that the name ‘iron lung’ conjured, a sense of enclosure, of being trapped. The ‘unbending’ nature of iron contributing to this image of entrapment (Baehr, 2001: 161).
NPV user experiences and public perceptions of the machine also encompassed worries about when and where the lines between themselves and the machines began and ended. As the lung ‘entrapped’ its users did it alter them too, transforming humans into hybrid forms of human and machine in a real and imagined sense? User accounts certainly seemed to reflect a sense of cyborg identity. Mimi Rudulph expressed her feelings of being ‘ingrown’ into the lung, her body had become ‘non-human’ in the isolated space of the hospital and within the confines of the NPV (Rudulph, 1984: 113, 119). For Gary Presley, he felt he was ‘becoming something more than human and something less’ (Presley, 2008: 12). While Lawrence Alexander saw the NPV itself becoming animate and humanlike rather than noting a particular loss of humanity in himself, the machine being affected by the human body inside it as much as the human body was affected by the machine (Alexander, 1955: 34). For Martha Mason the lung became ‘the skin of her being’ (Mason, 2003: xv). Her sense of haptic engagement, through the skin, was taken over, or given to the NPV (Rodaway, 1994: 41–2, 53). As discussed above, the NPV was isolating as it silenced and controlled users’ voices. Auditory isolation was combined with visual confinement with only a small window to view the world back to front through a mirror above your head, ‘there are no whole people in the world for me anymore’ one user lamented (Rudulph, 1984: 60). The iron lung blurred sensory boundaries, between ‘self and other’, body and machine, human and non-human (Ross, 2014: 169–70). This blurring between the humanness of the machine and the machine-ness of the human was reflected in public accounts that pulled the user and the NPV together into a single human/non-human being. Frederick Snite became the ‘Iron Lung Man’, his personhood defined by the machine and the machine by his personhood (Anon, 1937; Anon, 1937, 3; Anon, 1937, 5; Anon, 1937, 9; Anon, 1937, 7; Anon, 1937, 6; Anon, 1937, 6).

Where Berger has noted the essential relation between human and animal as ‘metaphor’, this article has discussed the ways in which the essential relation between human and medical technology can similarly be defined by its metaphors (Berger, 1980: 5). The loudness, strength, modern, innovative, frightening, human and non-human associations that the phrase ‘iron lung’ had held prior to the invention of the NPV appeared to merge with imagined and real experiences of the machine. The NPV was loud and silencing like the voices of poets, orators and soldiers, like the non-human artillery fire. It troubled the boundary between human and non-human as iron breathed and engines panted, and users and publics questioned where the machine began and the body ended. It threw up questions about modernity and progress as innovative and terrifying. These ideas were interwoven in the metaphor before the NPV was built and continued to hold significance after. The ‘iron lung’ metaphors of the nineteenth and early twentieth century were made manifest in the experiences, both real and imagined, of the NPV.

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Wood becomes iron

On 25 November 1938 the Yorkshire Evening Post published an article titled “Iron Lungs” made of wood”, in which it described Lord Nuffield’s donation of ‘iron lungs’ and pointed out that though these machines were now made of plywood, ‘nothing is ever likely to displace the name iron lung in popular terminology’ (Anon, 1938, 12). The papers published after Lord Nuffield’s donation were full of similar articles, describing the new NPVs and calling them ‘iron lungs’ but pointing out the material reality did not match the name. Some even noted that a change of name would be a good idea, ‘I should take far more kindly to a wooden case than an iron one if I had to be treated’ (Anon, 1938, 4).

Above, I have traced the use of ‘iron lung’ as a metaphor prior to the introduction of the NPV into the UK up until 1938 – when Nuffield made his donation of plywood machines – in an attempt to offer an answer to the question: why was it that this name was never ‘displace[d]’ despite a more pleasant image being presented by a wooden lung than an iron one for some? I have argued that the metaphor ‘iron lung’ as it was understood during the nineteenth and twentieth centuries engaged with ideas of loudness, strength and modernity and these were reflected, positively and negatively, in sensory experiences of the NPV. In essence early metaphorical uses of the phrase ‘iron lung’ appear to have been manifested by the NPV. There is certainly more work to be done on the further development of the metaphor and its use as an eponym for all forms of respiratory equipment, including positive pressure ventilation as well as variations across geographies. However, this article has introduced new possible directions for considering life-support technologies through metaphor.

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Conclusion

Above, I have traced the use of ‘iron lung’ as a metaphor prior to the introduction of the NPV into the UK up until 1938 – when Nuffield made his donation of plywood machines – in an attempt to offer an answer to the question: why was it that this name was never ‘displace[d]’ despite a more pleasant image being presented by a wooden lung than an iron one for some? I have argued that the metaphor ‘iron lung’ as it was understood during the nineteenth and twentieth centuries engaged with ideas of loudness, strength and modernity and these were reflected, positively and negatively, in sensory experiences of the NPV. In essence early metaphorical uses of the phrase ‘iron lung’ appear to have been manifested by the NPV. There is certainly more work to be done on the further development of the metaphor and its use as an eponym for all forms of respiratory equipment, including positive pressure ventilation as well as variations across geographies. However, this article has introduced new possible directions for considering life-support technologies through metaphor.

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Tags

- History of technology
- History of medicine
- Science in the Media
- Object biography
- Twentieth century
Footnotes

1. The terms polio, poliomyelitis and infantile paralysis are used interchangeably throughout this article, though it should be noted that during the first half of the twentieth century this disease was most commonly called infantile paralysis.

2. This research has been undertaken as part of a Medicine Galleries Research Fellowship at the Science Museum, London and funded by Wellcome. I am also indebted to Selina Hurley, Curator of Medicine at the Science Museum, London for pointing me in this direction. Having taken me to look at the collection of NPVs in the SMG collections at Blythe House, Selina noted that she hadn’t seen anyone tackle the question of why they were called ‘iron lungs’ even though they were made of wood.

3. I am not attempting to trace the root metaphor in this article, which I would argue is an impossible task, instead I am highlighting uses in the UK of the term ‘iron lung’ that were common and well understood and that fed into the continued use of ‘iron lung’ as a descriptor for NPVs.

4. McGuire, Virdi and Hutton have discussed some of the issues surrounding Nuffield’s donation, specifically that the more easily transported Bragg-Paul and similar cuirass-style positive pressure ventilators were being tested alongside different forms of negative pressure ventilation by the Medical Council around the time that Nuffield made his donation. Many medical professionals including the Medical Council in Britain were not happy with Nuffield’s donation as the results of the report had not yet been published and it was not certain that the Both type lung was the most effective or practical respirator available. The donation forced the hand of the profession in most instances where the available Both type lungs meant that these were the ones used in hospitals even when other forms of ventilation may have been better or preferred.

5. The March of the Dimes was an American fundraising campaign, originally set up by Franklin D Roosevelt, which called for American children to send a dime to support polio research. Eddie Cantor called the campaign the March of the Dimes, a play on the title of the radio series March of Time.

6. The earliest appearance in the archive of the term ‘iron lung’ being 1750, no references appear prior to this date. The sheer volume of data after Lord Nuffield’s donation of over five thousand Both type iron lungs in 1938 makes analysis of uses after this date a necessarily broader project, which is ongoing.

7. There are, of course, other newspaper resources for this period that are not London specific, such as 19th Century UK Periodicals and British Periodicals. However, the restrictions to access placed detailed consideration outside the author’s economic reach. Access restrictions are an ever-increasing concern for an academic community and while this is not the topic of my paper it is worth highlighting that academic freedom and the ability to pursue new avenues of research is significantly stemmed by the ever increasing concern of access restriction in a progressively casualised and precarious profession.

8. Widmer discusses the question of who ‘the poet’ is in the context of translation. In the Cheltenham Mercury article it can be either or both Virgil and Dryden.

9. Though not the only or first use of the phrase, it seems that this was the most commonly present metaphor use of the term ‘iron lung’ in newspapers during the eighteenth and nineteenth centuries from which we can see direct interaction/translation/evolution with other uses during the period and with later use to describe the NPV.

10. 23 March 1933, this was the first article to reference iron lung in terms of the NPV.

11. All of these deal with patients in America, including Frederick Snite. By 1937 there was an explosion in use of the term ‘iron lung’ to describe the NPV with 155 uses that year. Between 1 January 1937 and 31 December 1938 there were 1,208 uses of the phrase to describe various forms of NPV and some positive pressure ventilators, ‘iron lung’ having become
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