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The Labour of Breath: performing and designing breath in cinema

Abstract:

The presence of breath in fiction film is a conscious choice by filmmakers. Since the introduction of Dolby sound in the mid 1970s we have experienced a significant development in the quality of playback systems in cinemas, which means that we are now more clearly able to hear the breathing performance of an actor. The inclusion of breath offers a technologically enhanced aural close up of characters within the story. This article will consider two ostensibly different examples, *The Elephant Man* (David Lynch, 1980) and *Rising Sun* (Philip Kaufman, 1992), both films are the work of the sound designer Alan Splet. Drawing from these films and archival material from the *Sound Mountain* sound effects library, this article seeks to address the role of breathing within these films, considering issues such as: the actor's breathing performance; breathing and disability; the gendering of breath; and the depiction of differing industrial (19th century England) and technological (20th century America) environments, both of which are associated with different levels of air quality. The archival material will broaden out the discussion of these elements illustrating the post-production design of breath and air in these fiction films.

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'All that is solid melts into air' (Marx and Engels 1848: 11).

Ross Gibson suggests that conscious and deliberate actions by the actor and editor can ultimately shape our experience of breathing performances in cinema (2013: 18). It is important and necessary to extend this collaboration to include the work of the sound designer. This article will focus on the creative choices made by the sound designer and the post-production sound crew, using close textual analysis, archival research material and interviews to document the creative choices made. The post-production sound team's collective work enhances our experience of a breathing character in fiction film. With a specific focus on two films, *The Elephant Man* (David Lynch, 1980), the second feature film that the sound designer Alan Splet collaborated with David Lynch on, and *Rising Sun* (Philip Kaufman, 1993) the last film Splet completed, I will discuss a number of instances of breath that feature in sections of the *Sound Mountain* archive.

I have chosen here to analyse *The Elephant Man* and *Rising Sun*, as there is a prominent use of breath in both films, I will discuss and problematize each in turn. However, it is important to note that these are ostensibly different films. They have significantly divergent approaches to the soundtrack due to their narrative concerns and generic conventions. I am interested here in exploring issues in relation to the auteur and the collaborative role of the sound designer, discussing both the form and content of sound design in fiction film. I will also consider the depiction of disability and gender through breath in two different environments. *The Elephant Man* is set soon after the industrial revolution in London, England, and *Rising Sun* is set in 1990s Los Angeles, USA, during a new digital revolution with diminishing oil reserves. The environmental air quality

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becomes an important sonic indicator of the concerns of the time, and this is played out through the narrative and the laboured breathing of characters within each film. Thus a focus on air and breath allows a way to consider the characters and their environments more fully. This interest in air and breath is a recently emerging area of research in cinema studies and beyond, and yet, in the main, has not been considered in film sound studies.¹

Sound Mountain Archive

Splet along with his partner and wife, Ann Kroeber, worked together until his premature death in 1994 after a long battle with cancer. Kroeber has continued to work as a sound designer and sound effects recordist and she maintains the sound effects library, *Sound Mountain*. This is an archive containing their collective sound works and one that I have drawn from for this article. Splet worked closely with a number filmmakers including: David Lynch (*The Grandmother* (1970), *Eraserhead* (1977), *The Elephant Man* (1980), *Dune* (1984), *Blue Velvet* (1986)); Carroll Ballard (*The Black Stallion* (1979), *Never Cry Wolf* (1983), *Wind* (1992)); Peter Weir (*The Mosquito Coast* (1986), *Dead Poet's Society* (1989)); and Philip Kaufman (*The Unbearable Lightness of Being* (1988),

¹ See for example the Wellcome Trust five year funded research project *The Life of Breath* which is an interdisciplinary project incorporating the humanities and sciences, <http://lifeofbreath.org/>. See also some interesting exploratory chemistry research into the influence of breathing on the air quality of cinemas based on the genre of the film screened, 'Cinema audiences reproducibly vary the chemical composition of air during films, by broadcasting scene specific emissions on breath' in *Nature* <http://www.nature.com/articles/srep25464>.

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Henry and June (1990), *Rising Sun* (1993)), amongst others.² These films are all catalogued and preserved in the *Sound Mountain* archive.

In October 2004 as part of my PhD research into Splet's sound design, I made contact with Kroeber and she informed me of her library of sound effects from the films they had both worked on. Also contained within the archive was a collection of sound effects from the American Film Institute (AFI). Splet had compiled this archive while he headed up the sound department at the AFI in the 1970s. On a week long visit to the *Sound Mountain* archive in Berkeley, California, in March 2005, I got an overview of what was contained within the library. I had time to listen to some of the AFI sound reels and the later Splet/Kroeber sound files but this was limited and involved merely an early exploratory investigation. Whilst there I photocopied the *Blue Velvet* catalogue, but it became clear that the paper was becoming fragile, and was too delicate to be put through photocopying machines. On a subsequent visit, in June 2006 using a digital camera I photographed the entire catalogues for all of the films.

When I visited the archive on a month long visit in 2006, the whole library had not yet been digitised. Kroeber reckoned about seventy five per cent had been converted from ¼ inch reels to digital sound files. I only had access to the digitised version of the library, so my research is restricted to what was available at that date. I spent the month accessing the Pro Tools (Digital Audio Workstation) files, listening to all the files for *Blue Velvet*, *The Elephant Man*, *Dune*, *Never Cry Wolf*, *The Black Stallion*, *The Mosquito Coast* and *The Unbearable Lightness of Being*. I cross-checked these with the written catalogues where they were available and with the

² Alan Splet won a Special Achievement Award for Sound Editing at the 1980 Academy Awards for his work on *The Black Stallion*.

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Excel sheets from the library. I made notes of particularly interesting sounds, repetitions of sounds, miking and processing techniques highlighted in the recordings, noting Splet's methodology.

As I was about to leave California, Kroeber offered me a copy of the entire digitised sound library. This amounted to a terabyte Lacie drive with all the *Sound Mountain* and AFI ProTools files. I signed a contract with her to use the sound library for research purposes only. Getting a copy of the library changed my PhD focus, as now I had access to the original sounds created for Splet's films. I no longer had to rely entirely on the finished films but could access the sound effect recordings, and edited, processed and manipulated sounds, in order to ascertain Splet's techniques and contribution to the overall soundtrack.

Since getting a copy of the archive I have continued to research the individual sounds that went into creating the overall sound design for many of Splet's films. The archive has played a key factor in the films I examined for my PhD as some films are better represented than others in the library, whilst some soundtracks are completely absent. Lynch's *The Grandmother* and *Eraserhead* are absent from the catalogue and sound archive.

Kroeber compiled sounds created by herself, Splet and Lynch and released them with *The Hollywood Edge* in 2000 on a three CD collection entitled *Sounds of a Different Realm*. Kroeber is currently compiling a new CD collection for *The Hollywood Edge* of wind sounds. The purpose of preserving this library is for future use in film and game sounds. Kroeber has provided sounds from the library for some of the biggest blockbuster productions. Kroeber and I are currently working on a research proposal to get the entire archive digitised and preserved, and made

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accessible online to Higher Education institutions in the UK and USA. This would be an immense resource for scholars and students of film sound.

Breathing and performance

To discuss breath in fiction film it is important to start with the work of the film actor. The breathing actor performs using her/his own breath to produce the breath for a character that is seen and/or heard on or off-screen. This requires the actor to have considerable control and training over her/his own breath. David Carey, a voice tutor at the Royal Academy of Dramatic Art (RADA), breaks down the process of breathing outlining the differences between inhalation and exhalation for the actor and identifies the physical and creative aspects of both parts of the breath for the actor's process:

Each in-breath we take is a response to one or all of the following: the physical impulse which arises as a result of chemical messages received by the brain that the body is in need of an oxygen/carbon-dioxide exchange; the psychic impulse which arises from the desire to give form to an inchoate thought; and, the psycho-physical impulse which arises from the need to express an emotion. Each out-breath is, therefore, the physical release of excess CO² into the atmosphere and simultaneously the potential expression of thought or feeling. Each out-breath is the concrete effect of these internal events in the external world. Thus, inspiration is both the physical act of inhaling air; and it is creative motivation. Expiration is both the physical act of exhaling breath; and, it is transitive expression. (2009: 186)

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Watching an actor perform onscreen can, in turn, influence our breathing (Gibson 2013: 18). The affective experience of hearing and seeing breath and breathing in cinema changes us as an audience. If a film is working on us as it is intended to, it can shape our experience. Davina Quinlivan posits:

What is key to the type of embodied perception that breathing
visuality represents is the involvement of the viewer as a
breathing body, becoming attuned and sensitive to ways of
hearing and seeing that are alive and open to the emergence of
the breathing body as a diegetic and formal presence in the film
experience. (2012: 171)

With a focus on how the breathing performance affects us as audience, I would like to explore the following three elements of breath: how the actor breathes onscreen; how the editor/sound designer edits and mixes that breath for our eyes and ears; and how the work of the actor and editor/sound designer affects us as an audience experiencing a mediated performance. Ultimately this raises the question, what is the effect of different types of breathing performances on us as an audience? Are there issues to do with, for example, race, gender, sexuality, age, size, ability and/or disability that need to be considered when listening and watching breathing bodies perform onscreen?

To get there it is important to consider whose breathing we are talking about, Judith Butler suggests:

For a concrete description of lived experience, it seems crucial to ask *whose* sexuality and *whose* bodies are being described, for “sexuality” and “bodies” remain abstractions without first being situated in concrete social and cultural contexts. (1989: 98)

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To borrow Butler's emphasis, it is essential for us to ask *whose* breathing we are listening to and for what purposes? In this regard, Kevin L. Ferguson makes a striking and bold claim:

Here is a strange riddle, almost the start of a bad joke: What do Darth Vader and Marilyn Monroe have in common? My answer: both are invaded by air, both are victims of insufflation, and both are blustery representatives of the otherwise unseen problem that breath poses to cinema. One is an icon of evil, the other of sexuality, but in their best films, these two are swept along by the same iconography of air. (2011: 33)

To consider Darth Vader and Marilyn Monroe within the same breath, so to speak, is an enticing premise to discuss more broadly the role of breathing in cinema. Monroe offers a breathy eroticised feminine vocalisation in many of her roles. Her rendition of 'Happy Birthday Mr President' is one of the most illustrative examples of eroticised breathy performances onscreen.³ It is interesting to note that the term 'breathy' is used to describe both a problem with the voice and also a characteristic of the voice (Martin 2009: 35). Monroe's eroticised breathy performance is substantially different to the laboured breathy vocalisations of the menacing, Darth Vader (voiced by James Earl Jones). We have a very conscious rendering of breath with the character of Darth Vader, his breathing is clearly marked as a signifier of a disabled villainous figure hidden

³ Monroe is certainly not the first actress to be associated with this type of eroticised breathy performance, Marlene Dietrich would be another precursor as actor and singer famous for such breathy performances. However, it is outside of the scope of this article to draw out the historical lineage of female breathy performances but it would certainly make for an interesting and important project.

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behind a mask, visualised in the form of helmet and uniform. The vocalisation of the character of Darth Vader is significantly enhanced in post-production through sound effects/ design to sound like a mix between human and machine breath.

Ferguson's choice of actor and character are particularly interesting. Monroe and Jones (as Vader) both suffered with a stutter in their youth and they took vocal lessons to get over their respective speech impediments. To overcome a stutter, a person needs to allow more air into her/his breath in order to open out the vocal chords. As a consequence both of these actors are considered to have airy vocal performances. This can certainly be heard in Monroe's and Jones' roles. Both actors have 'airy' voices due to their initial vocal disabilities, and in this article I will be exploring what is intrinsic in a breathing performance and considering the manipulation, enhancement or replacement of breath in post-production by the sound team.

Ferguson's connection between Darth Vader and Monroe's characters, posits polarised villainous masculinity and eroticised femininity as the key breathing tropes in cinema (ibid: 34). There are clearly many other breathing examples in fiction film that fall outside of this. Ferguson himself highlights the importance of the presence of air and breath in the science fiction genre (ibid: 36). Recent films have used the prominent placement of breath for various purposes, such as: *Gravity* (Alfonso Cuarón, 2013); *Mad Max: Fury Road* (George Miller, 2015); *Anomalisa* (Duke Johnson & Charlie Kaufman, 2015); *Room* (Lenny Abrahamson, 2015); *The Revenant* (Alejandro G. Iñárritu, 2015); *Breathe* (James Doherty, 2015); and *Don't Breathe* (Fede Alvarez, 2016) with many narratives

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focussed on the struggle for breath due to panic/anxiety and injury/disability.⁴

It is to this focus on disability and the laboured breathing of a character that I will now turn my attention.

The Elephant Man

The Elephant Man was the first mainstream film directed by David Lynch. The film tells the 'true story' of John Merrick (John Hurt) as the 'Elephant Man' who is abused and treated like a circus freak by his 'owner' Mr Bytes (Freddie Jones).⁵ Merrick is rescued from his harsh existence by the doctor, Frederick Treves (Anthony Hopkins). Treves shelters Merrick at his workplace in London Hospital. Merrick's physical disabilities included an enlarged skull, skin growths and tumours, having grown asymmetrically with some extended digits. Merrick struggled to breathe due to the overgrowth of hardened skin and tumours on his enlarged skull.⁶ Throughout the film Merrick's breath is laboured and shallow depicting his difficulties in completing everyday tasks and interactions.

Compounding his disability, Merrick's environment is also significantly polluted. Set in the 1880s, the air is seen to be thick with smog and this

⁴ Kevin B Lee in his video essay *Who deserves to win the award for best lead actress* in 2014 breaks down the breathing performance of Sandra Bullock in *Gravity* (Alfonso Cuarón, 2013) and highlights the fact that she is heard breathing for 62 minutes or 75% of the film, which is more than she appears onscreen at 61 minutes or 72% of the film.

⁵ *The Elephant Man*, known in David Lynch's film and many other documents as John Merrick, was actually called Joseph Carey Merrick. His story was told in the book *The True History of the Elephant Man* written by Michael Howell and Peter Ford. Throughout this article I will refer to him as John Merrick due to the centrality of the film to this discussion and to avoid further confusion.

⁶ Most recent scientific research suggests that Merrick may have suffered from a combination of Neurofibromatosis type 1 (Nf1) and Proteus syndrome (PS), although there has been no scientific confirmation of this hypothesis. There have been recent studies of Merrick's DNA but these tests have proven inconclusive. For more on these tests see (Paul Spiring 2001: 104).

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blackened air is visually and aurally related to the presence of industrial machinery and the steam engine. Lynch's film is in line with the criticism of industrialisation that was prevalent in nineteenth century literature, as in, for example, Charles Dickens's *Hard Times* (1854) which is set slightly earlier than *The Elephant Man*.⁷ Both Dickens and Lynch illustrate that the industrial revolution had an environmental impact on the air quality - the land and air were altered and shaped by industrial pollutants. However, it is the impact on the people who lived in these conditions that are of central concern. Documenting the conditions of workers at the time, Friedrich Engels writes:

The centralisation of population in great cities exercises of itself an unfavourable influence; the atmosphere of London can never be so pure, so rich in oxygen, as the air of the country...

The lungs of the inhabitants fail to receive the due supply of oxygen, and the consequence is mental and physical lassitude and low vitality [...] And if life in large cities is, in itself, injurious to health, how great must be the harmful influence of an abnormal atmosphere in the working-people's quarters, where, as we have seen, everything combines to poison the air.

(1845: 106)

⁷ It is interesting to note the connection Dickens makes between industrial machinery and the elephant (1854: 21). This connection is also made in Lynch's film, where there is a series of cuts between machine pistons and the wild actions of an elephant. The artist William Kentridge in his work *No It Is! (beyond the museum)* a five channel video installation of the short film *The Refusal of Time* (2012) makes an explicit reference to Dickens's *Hard Times* through a kinetic sculpture of *The Elephant* which also visually resembles the pistons and industrial machinery in Lynch's *The Elephant Man*.

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Merrick in Lynch's film appears as the breathing lungs of this recently industrialised world. Merrick's body, already seen and heard as a site of disability, is most taxed by the steam and pollution of the railway station. Lynch in an interview makes a connection between Merrick's body and the industrial revolution, connecting explosions in industry to the papillomatous growths on Merrick's skin (Lynch 2005:103).

When describing the soundscape of *The Elephant Man*, Michel Chion suggests that there is a duality to the sounds created:

Alan Splet is credited with *The Elephant Man's* sound design. Although Lynch and he did not have the same opportunities for fantasy that they had enjoyed on *Eraserhead*, they succeeded in using the kind of elements of the setting we mentioned earlier to introduce the sounds of dull thudding, the hiss and whistles produced by the steam, and even the sound of a soft wind of cosmic proportions. These sounds are signalled to the spectator's ear by the device, already applied in *Eraserhead*, of cutting the sound precisely when the shot changes (as in the scene where the night falls in the hospital room). In some scenes, an abstract cosmic murmur can be heard although the setting in no way requires it. This murmur is always in a precise register, which is Lynch's own, evoking intimacy, the world's voice speaking in our ear. (2006: 51-52)

The wind, steam, hiss, whistles and dull thudding that Chion refers to are the sounds of noise and air pollution of the industrial revolution. Lynch has said, 'Industrialization is never a central theme, but it *always* lurks in the background'

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(2005: 114). However, the cosmic murmuring sounds that Splet creates for Lynch are produced for the purposes of offering more than a realistic material portrayal of nineteenth century England. These sounds have the effect of providing a spiritual dimension within the narrative and establish a connection between Merrick's suffering and universal suffering, seen and heard most distinctly in the opening and closing scene of the film. In a special tribute to Splet's work in *Mix Magazine*, the sound designer Randy Thom recalls this aspect of Splet's contribution to the sound design in *The Elephant Man*:

Even in the darkest moments of *The Elephant Man*, when Alan's 19th-century industrial sound atmosphere is at its most sorrowful, there is something implied in the track as well, the promise of joy. (1995: 148)

Thom suggests that Splet was able to create 'a promise of joy' within the noisy soundscapes of industrial England. Splet's musical ear led him to create subtle differences in the tonalities of the atmospheric tracks that shifted the ambiances from an industrial reality to that of a metaphoric and hopeful soundscape.⁸ I will come back to this later to discuss how in allowing characters' to listen in the railway station scene in *The Elephant Man*, we the audience are given an opportunity to listen to the characters onscreen listening, layering our listening on top of theirs. It is in listening to breath and the soundscape that the presence of hope and joy can be perceived in the soundtrack of this film.

⁸ Splet was a cellist and continued to play music throughout his life. On Philip Kaufman's films, *The Unbearable Lightness of Being*, *Henry and June* and *Rising Sun* Splet was credited both as sound designer and music editor for the films. For more on this see Greene 2011.

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Chion also makes the connection between Merrick's breathing and the portrayal of industrial England:

Another major sound effect in the film involves the insistence on Merrick's laboured, asthmatic, terrorised breathing, well before we have seen his features hidden under his hood, as if there were a continuum between the sensation (conveyed primarily through the sound) of this worn, suffering bodily machinery and the film's rendering of industry. (2006: 52)

In an early scene when Treves is seen operating on a patient, he complains about the machines that cause such accidents and argues that there is no reasoning with a machine. Treves' comment contextualises the newly emergent machinery and stresses the problems inherent with a burgeoning industrial society. Later in the isolation ward, Merrick's breathing can be heard alongside the heightened sound of the mechanism of the clock tower.⁹ These sounds together remind the audience that every laboured breath is vitally important for Merrick's survival. Time is ebbing for Merrick, and machine and breath are linked here to metaphorically punctuate the passing of time.

The difficulties inherent in performing Merrick are that he is covered in a hood for the first twenty-four minutes of the film, and that the profound disfigurement of his face, presented through extensive special effects make up created by Christopher Tucker, allows for little facial expression. Merrick's gasping asthmatic breath initially needs to convey his suffering but when he is unmasked and Treves realises he understands him and can speak, his voice

⁹ In *The Elephant Man* section of the *Sound Mountain* archive David Lynch can be heard creating the sound of the clock tower alongside Alan Splet and Ann Kroeber. All three were involved in shaping this sound.

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becomes a critical component in expressing his character. Voice and accent were essential in stitching the audience into late nineteenth century England.

Without access to the archive, Chion mistakenly suggests that Hurt's vocal performance is purely his own work:

Without any technical artifice, Hurt gives Merrick an astonishing falsetto which combines the laboured speech of the handicapped, the plaintive intonations of a whiny child and, once the elephant man has become fashionable, the accents of high society. The unusualness of this mixture contributes greatly to the film. In addition, the naturalness and rhythm of Hurt's gestures are impressive. (ibid: 58)

Chion's assertion that there was no technical artifice is not correct, as almost all performances and dialogue tracks are worked on and improved by post-production sound teams.¹⁰ All film performances involve technical artifice as they are all mediated. That is not to undermine what Hurt achieves with his vocalisations and through the transformation of his voice in portraying Merrick's changing social position within society. Hurts' breath and voice contribute greatly to the film and allow his character to move beyond the hood and disfigurement and, instead, insist the audience relate to and empathise with his suffering. Hurt's breathing and stress on words are aided by the dialogue editing and the sound design work of Splet and his crew.

¹⁰ Most cinema industries employ post-production sound to improve upon what was captured on set. The Dogme 95 movement and Mumblecore productions are examples of some practices that do not engage in extensive post-production time; however, these types of film are less typical examples of cinematic outputs.

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Given that the *Sound Mountain* archive is composed, predominantly, of sound effects and sound design compositions, it is significant that the recorded sounds of Hurt breathing are amongst the small number of items taken from the production soundtrack of *The Elephant Man*. There is only one Pro Tools session (labelled Sync Takes, reel number 777), which contains production sync sound from the film.¹¹ This includes: Slate 437 Takes 4-5 (Treves introduces Merrick to his new home, Merrick is heard breathing and slurping through his dialogue); Slate 438 Takes 1-4 (Merrick snoring); Slate 452 Takes 1-2 (Merrick breathing and whimpering); Slate 461 Takes 1-2 (Merrick's laboured breathing as he is chased, walla of chase, and then full scene for 'No! I am not an animal...'); and Slate 462 Takes 1-2 (shorter slate to previous one, starting with 'No! I am not an animal...'). The presence of these items in the archive indicate that Splet and his team of sound post-production personnel paid particular attention to Hurt's breathing performances for Merrick. There may be a pragmatic reason for the inclusion of some of these production slates. For example, for Slate 438 Take 2 the camera can be heard prominently throughout the take of Merrick snoring, the sound of the 35mm camera would need to be filtered out for the final film, as it was as the camera sound is not present in the released film. For Slates 461 and 462 there is greater emphasis on the clarity of the breath in the final film to what is heard in the production track. These slates needed to be cleaned-up - the background sound of running water is reduced but not totally removed in the

¹¹ It is beyond the scope of this article to give an extensive overview of the Sound Mountain archive and the archival processes involved in preserving this library. However, it is important to point out here that all of the magnetic sound reels for *The Elephant Man* were digitized and made into ProTools sessions. All of the sound that was preserved from the sound effects reels for the film was accessed digitally.

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final film. A clean-up was also performed on the production track because Hurt's voice is close to distorting on a number of occasions during these takes; however, the distortion is not present in the film soundtrack.¹² The breath could be considered here as sound effect or sound design offering a further texture to the soundscape. The clean-up of the production tracks is performed to enhance the audibility of the actor's voice. From the final film I can surmise that Splet used Hurt's breath and vocalisations to some degree, although the extent of this use is unclear as there is no detailed written account of this in the sound effects catalogue for *The Elephant Man*.

Within the written catalogue for *The Elephant Man* is the inclusion of notes for wind, air, gas and steam recordings - for example, muffled Bunsen burner for Bytes' shop, factory steam puffs, gas lamp pressure, kitchen stove presence, steam for hospital boiler close up and distant, hospital steam exterior and interior, wind for Belgian circus, morning and night wind for Belgian circus, morning wind Treves exterior and interior (see figure 1 and 2). An attention to airy sounds is part of Splet's aesthetic taste and one that he brought with him onto many projects.¹³

In *The Elephant Man* we have a conscious choice to include air and other airy sounds to represent the environment. Alongside breath these aural

¹² The notes for *The Elephant Man* are not extensive and do not include details of processes applied to clean up sound, perhaps due to the fact that this is a normal post-production process and does not need to be noted. What is included in the notes for *The Elephant Man* are the sound effects recorded and sourced to build up the background layers of the soundtrack/soundscape and the inclusion of animal sounds and processing of the mother's voice.

¹³ During the extended production period of *Eraserhead*, Splet went away for over a year to live in Iona, off the coast of Scotland and there he recorded many reels of wind sounds, which are used in many films today. Kroeber is currently curating a special edition release of these winds for the Hollywood Edge collection.

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slowed down rhythm of the train as it enters the station. The volume remains the same to the previous shot as we see the steam from the train moving up towards the roof of the railway station. A whistle and hiss can be heard alongside the brakes of the train as the engine sounds fade out in the soundscape. As Merrick disembarks the train an engine sound re-emerges, the sound develops and increases in the mix, the rhythm becoming a constant beat as a boy begins to harass Merrick and follows him up the stairs.

John Morris's musical score for 'Train Station' is faded in, the rhythm and pacing of the music is now heard in sync with the heightened sound of the steam engine, which is coming from below the bridge. At this point we see two boys joining the first boy, the harassment gaining momentum in numbers and sonic elements. As Merrick moves away as fast as he can from the boys, he accidentally knocks a girl to the ground, which gains the attention of a group of men. A man removes Merrick's hood and it is only at this point that we begin to hear Merrick's breath within this scene, his laboured breath becoming more prominent as he moves down the stairs as quickly as he can. His breathing is the same pace and rhythm now as the musical score and the juddering sound of the steam engine. All three sonic elements are layered and mixed together which heightens this crisis point for Merrick. The volume is loud within this sequence, and it is loud for a purpose.

When Merrick arrives at the gated area and realises he cannot escape the men, both the sound of the train and music fade away to the roar of the approaching men. Merrick's voice cuts through their din. When he shouts, 'No', the background sound quietens to listen to what he has to say. A few footsteps can be heard, but apart from this initial shuffling sound the soundtrack offers a

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dynamically different background, it is relatively silent in comparison to the volume we have just heard. Merrick exclaims, 'I am not an elephant. I am not an animal. I am a human being. A man. A man.' Some walla/rhubarb sounds can be heard when Merrick collapses to the ground.

This moment of relative silence and stillness is an important one to unpick. Within this scene we are listening to Merrick exclaim that he needs to be treated just like everyone else, with some human dignity. But we are not just listening to Merrick, we are also listening to the men who surround him listening to him. We are watching them and we hear that his words are having an impact on them. Although his words are surrounded by his slurping vocalisation and he is wheezing for breath, he has the ability to hold the attention of his audience. By creating a scene with a dynamic range of sound through varying rhythms and different amplitude, we begin to hear not just the action but also ourselves listening in to that very same action.¹⁵

Merrick's breath is prominent throughout this scene, accompanied by the slurping sounds he makes as he talks. Within this larger sequence we have heard Merrick moving in sync with the pace of the train and music. The realist production sound is minimised; we cannot clearly hear the first boy as he harasses Merrick rather it is the impression of harassment that is conveyed to the audience. The breathing is synched with other sounds in order to elicit the frantic nature of this chase sequence. What is achieved here is an affective experience based on seeing and hearing Merrick's body being chased and feeling

¹⁵ Chion has spoken about this silence at the *School of Sound* when he said, 'Any silence makes us feel exposed, as if it were laying bare our own listening, but also as if we were in the presence of a giant ear, tuned to our own slightest noises. We are no longer merely listening to the film, we are as if it were being listened to by it as well' (2003: 151).

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that rhythm and threat. Joanna Weir Ouston outlines this type of rapid breathing as a primitive response to danger (2009: 95). We feel the panic of the chase with Merrick. This is one of the most affective sequences in cinema due to the attention paid to the editing of breath, the sound of the train and the music, which are all mixed together. Through Hurt's performance, especially from his breathing and slurping vocalisations, a rich illustration of Merrick's character is drawn. We make some connection with Merrick through his eyes but a lot of our empathy comes from hearing the strained vocalisations of his character. Merrick's disabled body becomes something with which we can sonically empathise, and this is due to a well-designed and -edited soundtrack, picture composition, cut, narrative and acting performance.

Splet's general interest in airy sounds informed the use of an industrial atmosphere for this film, which is filled with winds, steams and other gas sounds. These airy sounds work exceptionally well in detailing the poisoned air quality of industrial England in the late nineteenth century, but they also further crystallise Merrick's character as he struggles to breathe. The layering and mixing of air and breath build and fade away throughout the film, illustrating the temporality of Merrick's short life.

Rising Sun

Rising Sun, based on the 1992 eponymous novel by Michael Crichton, tells the story of Japanese business interests in the USA. It represents a moment of crisis for American capitalism during the technological or digital revolution. American business is stumbling in comparison to Japanese corporations and this is most keenly illustrated through the depiction of diminishing oil reserves. The plot

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centres on the murder of a white sex worker, Cheryl Austin (Tatjana Patitz), on a boardroom table in Los Angeles. This murder is committed by a Japanese man in the book, and most likely by a white American man in the film (the film leaves an element of ambiguity over the real murderer of the woman).¹⁶ *Rising Sun* in many ways plays out the race tensions of many American cities in the early 1990s, but specifically the problems that were encountered in Los Angeles where the film is set.¹⁷

As with *The Elephant Man* environmental issues can be seen and heard in the film, through narrative, genre, cinematography, soundscape and the breathing characters on screen. Alongside concerns about oil reserves, the air and smog of the city figure prominently in this neo-noir film. The presence of air and breath are both literalised and metaphorically applied to the soundscape, and controlling air and breath is important within the narrative. Captain John Connor (Sean Connery) can be seen blowing on a mirror disclosing the absence of a photograph, which is a key plot point. He is also seen performing a martial arts move on an opponent's throat that leaves his foe gasping for breath. The air quality in Los Angeles appears to be similarly breathless due to the build up of

¹⁶ Kaufman adapted the film for the screen, initially with the aid of Crichton and Michael Backes. After Crichton and Backes quit due to disagreements, Kaufman went on to make significant changes in the adaptation. He cast Wesley Snipes to play a character, Lt. Smith, who was written up as a white police officer in the book. Kaufman made other race changes, predominantly to create ambiguity for the ending of the film, muddying the conclusion of the case, leaving it unresolved over who killed Austin. Kaufman's adaptation is not as overtly racist as the book but some of the montage and sound/music choices implicitly denigrate the Japanese community, in particular the use of Taiko drumming over the murder sequence. It is outside the scope of this article to deal with the racist application of music in *Rising Sun*; however, Deborah Wong has previously written an excellent piece on this topic (see Deborah Wong, 2006).

¹⁷ Los Angeles was to be a significant focal point for race tensions due to the beating of Rodney King, and after the acquittal of the police involved, subsequently leading to the LA riots of 1992.

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smog in the city; a haze of smog is present in all of the exterior daytime scenes within the film.

Contemplating the presence of smog in the environment, Steven Connor notes:

As industrial smoke was added to domestically-produced smoke, smogs not only got worse, they began to be identified with broader fears, about contagion, for example, or the contagious effects of revolution [...] Smog is a ghastly parody of the living second skin of the atmosphere. It seems to signify the decomposition of the differences and distinctions that make meaning possible at all. It is the cloud of our unknowing, bitter asphyxia of our self-sameness. (2002: np)

Connor is describing the presence of smog during the French revolution (1789-1799), but his description also provides a fruitful way to consider the smog of the LA riots, represented in television news and images from newspapers, with black smoke billowing out of burnt out cars and buildings. Douglas Muzzio, in his work on the American city in cinema, suggests that, 'Cities, to many Americans, are dirty, dangerous, and congested, homes of the unhealthy, the immoral, and the foreign, in short, sinkholes to be avoided, not treasures to be sought or even problems to be solved' (1996: 192). Muzzio, drawing on the writings of sociologists White and White, traces this argument back to leading thinkers, authors and writers, such as Thomas Jefferson, Edgar Allan Poe, Herman Melville and Frank Lloyd Wright, suggesting there has been a bias against the city in writing and intellectual discussion since the foundation of the American state. White and White suggest that cities seem to be:

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too big, too noisy, too dusky, too smelly, too commercial, too crowded, too full of immigrants, too full of Jews, too full of Irishmen, Italians, Poles, too artificial, destructive of conversation, destructive of communication, too greedy, too capitalistic, too full of automobiles, too full of smog, too full of dust [...]. (1962: 222)

The connection in the city between smog, dirt and racism are clearly articulated in *Rising Sun*. There were a number of films that came out about race relations in Los Angeles around the same time as *Rising Sun*, such as: *White Men Can't Jump* (Ron Shelton, 1992); *Boyz n the Hood* (John Singleton, 1991); and *Grand Canyon* (Lawrence Kasdan, 1991). However, it is only *Rising Sun* that makes an explicit connection between built up cities, smog and race tensions.

In *Rising Sun* Austin is represented as a sex worker with a preference for sexual asphyxiation. The fact that she is choked to death allows some space (deeply problematic as it is) to suggest to the audience that she was asking for this kind of action, if not murder itself. Although we are introduced to Austin at the beginning of the film, we are not given much time to connect with her character as she is murdered in the twelfth minute of the film. Her murder is to a certain extent dismissed and condoned within the narrative due to her sexual preferences. Later in the film, Kaufman decided to use her breath as sound effect in a number of scenes. In an interview with Gavin Smith, Kaufman takes full credit at script stage for this use of asynchronous sound. When asked specifically by Smith about his collaboration with his sound designer - 'What ideas about sound design did you come up with Alan Splet?' - Kaufman replies:

Wesley thinks he's closing in on the murderer. And as time goes

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on, it becomes clear that things are closing in on him as well. As you search the mystery, the mystery searches for you. Sound begins to close in around them. Right from the start, we're hearing the windshield wipers with the gasping sound of the strangled girl – we used the girl's voice. The gasping sound is even hidden in the sound of the oil wells, in front of which Snipes and Connery have their confrontation, so that it really is saying, You have to get going. Even some of those optical wipes have a little sense of breath. It's almost like she's calling from beyond the grave – I wrote it that way in the script. (1993: 40)

Austin's breath is mixed with the sound of windshield wipers and oil wells, and is also included in the wipes of the edit. Kaufman outlines why he used the voice of the 'girl' after her death as the police search for her murderer. The sound becomes associated with Lt. Smith (Wesley Snipes) as he pursues the killer. He hears her breathing and later sees her in a flashback; her breathing is present in order to haunt the soundscape. From a narrative perspective, problems arise with this use of sound effect as this sound, or later the image of Austin, is not one that Lt. Smith could have witnessed. There is no link between Lt. Smith's recall and what he actually heard and saw on the recorded CCTV footage. What is seen and heard does not conform to cinematic conventions of point-of-view or point-of-audition. This use of sound illustrates that an asynchronous approach is not always possible, and that sometimes the metaphor can be stretched too far.¹⁸

In the written catalogues for *Rising Sun* in the *Sound Mountain* archive there

¹⁸ Walter Murch has noted that the metaphoric use of sound does not always succeed in cinema (1994: xx).

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are a number of listings for the sound of windscreen wipers. This is important as the windscreen wipers are often in use when Lt. Smith is in the car, due to the presence of rain. Moreover, the sound of the wipers becomes central because of the way in which Kaufman wanted the sound of the woman's gasping breath to be mixed and synched up with these sounds. To get the wipers and breath to work together required experimenting with various vehicles and microphone distances.

The breathing and gasping sounds were recorded from at least two voices (vocalised by Kroeber and another woman named in the archive as 'Laura').¹⁹ This indicates that the actor Tatjana Patitz did not provide these breathing sounds. This is perhaps unsurprising as Patitz was better known as a supermodel; in fact, this was her first proper film performance. Her role is somewhat dismissed in a review by Vincent Canby in the *New York Times* when he says, 'Ms. Patitz doesn't get the opportunity to say much, but she's a very attractive victim' (2003: np). Hiring a supermodel to act as a sex worker - who is killed off within the opening twelve minutes of the film - limits Patitz's opportunities to perform a more significant role. However her body is seen on display through flashback and her breath lives on in the soundtrack throughout the film.

Various breath recordings were lined up with different sounds for wipers and oil wells, and were then mixed together and synched to picture. A final edit effects list is included in the archive with the time and frame numbers to sync these breathing and wiper sounds (see figures 3, 4 and 5). This would have been intricate work in getting the various windscreen wipers, oil wells and gasping sounds to work in sync with the picture. The sounds needed to be varied to avoid

¹⁹ Kroeber informed me in interview that she did some of these vocalisations herself (2007: np).

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appearing like the same breath and wiper movement repeated over and over again. This type of sound editing is standard practice for sound effects editors.

Although the sound effects are technically well-executed, the narrative motivation to include them lacks a connection with a character's point-of-view or point-of audition as mentioned above. Thus, asynchronous sound falls short here. There is nothing technically or creatively wrong with this sound, but the story has not opened up a gap for a metaphoric use of sound to occur. The sound of Austin's breath in the oil wells is less obvious and, in fact, could be missed if the audience was not specifically listening out for it. Although Kaufman expresses a desire to create a mystery with this sound, instead it draws attention to the lack of ambiguity and subtlety present in the film.

Trailer for *Rising Sun*

The use of Austin's breath for the trailer of the film is perhaps even more contentious, as it uses her gasping breath to create an erotic charge to promote the film. The first sound heard on the trailer is Austin's gasping breath exaggerated in volume to what is actually heard in the film. This gasping vocalisation accompanies the appearance on screen of the Twentieth Century Fox logo. When taken out of the context of the film and used for a promotional advertising trailer, the breathy vocalisations become eroticised without the audience being aware of the significance of this choking breath. The eroticised breath of Austin is used throughout the trailer to punctuate the action. This is a cynical use of female vocalisation that in effect fetishizes the sound of a woman as she is murdered. The dubious manner in which the gasping breath is used in the feature film is further compounded here, leaving the trailer sounding less like a thriller or erotic thriller

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and more that of the a pornographic film or snuff movie.

Drawing on the work of Linda Williams on hard-core pornographic film Ferguson proposes that the sound of pornography is the sound of exhalation:

The aural landscape of hard-core films, mainly feminine, serves to prove to the viewer that pleasure is occurring [...] diegetic sound in the pornographic film is primarily the sound of exhalation, breath, of the immaterial aspect of sexuality that is so difficult to show—pleasure. (2011: 41)

The affect of this repeated use of sound effect in the feature film could prove disturbing for an audience. To listen to the gasping breath of a woman being choked to death mixed with windscreen wipers, oil wells, and in the optical wipes of the edit is to be placed in an uncomfortable position with a fetishized aural object. For it to be indicated in the narrative that this is her sexual preference allows the filmmaker some scope to exploit this sound. But when the sound in turn becomes the sound of a murder, and then is repeatedly used, that sound creates a significant ideological problem for the film. And when an unknowing audience, watching a trailer for a film they have not yet seen, hears this sound then the inclusion of the breath becomes even more exploitative.

There is no information about the making of the trailer in the *Sound Mountain* archive. James Deaville and Agnes Malkinson's extensive international research into the film trailer offers a useful way to consider the trailer for *Rising Sun*. They note that it is difficult to find out information about the making of trailers (2014: 130). The fact that Kaufman takes credit for the sound of the gasping breath in the feature film may suggest that it was his idea to feature the breath so prominently within the film's trailer. However, it might also be the case

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that no discussion occurred between the makers of the trailer and Kaufman and the sound team and instead the trailer producers used the breath due to its narrative placement within the film.

Deaville and Malkinson outline what are the typical sonic features of over 100 trailers that they have analysed, stating:

They demonstrate in general how studios exploit what could be called a 'trailer ear', which, in contrast with narrative film: (1) normalizes heightened audio practices of saturation, density and volume (sonic over-determination as a style feature); (2) compresses and minimizes traditional thematic/structural devices like leitmotif and rounded musical forms; (3) elevates sound to the level of formal element; (4) relies upon aural montage as a constitutive feature of trailer narrative; and (5) intensifies the experience of temporalization through synchresis between sound and image. In other words, the trailer experience of the cinematic ear is excessively sonorous, musically constricted, sequentially constructed, and audiovisually compressed. (2014: 124-125)

It is clear that the *Rising Sun* trailer does fall into the common soundscape of the 'trailer ear', displaying characteristics that are 'excessively sonorous, musically constricted, sequentially constructed, and audiovisually compressed'. It will be interesting to see what happens when this research team approach hybrid crossover films, which was outside of the scope of their initial project, but I would suspect that the *Rising Sun* trailer would sound like other action/neo-noir/soft-porn trailers if such a hybrid crossover thread were established. The 'excessively

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sonorous' elements of the breath that are prominent in the trailer exacerbate the use of breath within the feature film.

As a consequence, the trailer for *Rising Sun* can be deemed more exploitative than the feature film due to the aural shorthand of the 'trailer ear'. Deaville and Malkinson suggest that this is understandable due to the time constraints of the form (2014: 125). But it does raise the question of how sound is used and in what context it is played in, as the trailer for *Rising Sun* does not account for the breath being heard out of context. There may be ethical questions that are specific to the production of film trailers.

Conclusion

In *Rising Sun* the gasping breath is synched precisely in the edit with the windscreen wipers, oil wells and optical wipes. But unlike *The Elephant Man*, there is no extended sequence where those sounds are attached to what is heard and experienced by a character within the diegesis, through point-of-view or point-of-audition. Although Kaufman attached this sound and recall to Lt. Smith, it does not convince, as Smith did not witness this murder, or more precisely, he did not hear this sound coming from the CCTV footage. Some of the breathing sounds are very low in the mix, especially when coupled with the oil wells, and this could suggest a lack of confidence in this sound choice in the mix. By contrast, *The Elephant Man* uses the edit and sound design of breathing in sync with the sound of the steam train engine and the pace of Morris's original score to give a subjective point-of-audition of Merrick's anxiety. The breathing is made overt here, mixing with other airy sounds and it is purposefully loud.

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Rising Sun and *The Elephant Man* prominently deploy the sound of breath for different purposes. This breathing sound allows a way for us to think about gender and disability and at the same time experience the social context of that sound within the broader environmental soundscape. However, it is not enough to realise technically great sound. A film needs to be served through the integration of all of its elements: scriptwriting, direction, actor's performance, cinematography, costume, production design, hair and make-up, special visual effects, editing, sound design and music to create a significantly a/effective cinematic experience. Sound alone cannot create a mystery if there is no space for that mystery within the film.

Through my research into the archive, listening to the sound reels as Pro Tools sessions and reading through the written catalogues, I have been able to see and hear some of the processes (documented in the archive) undertaken by Splet and his team on these two films. For *The Elephant Man*, I have been able to problematize Chion's assertion that Hurt's performance was 'without any technical artifice', hearing the clean-up on the production sound for the film, listening to various takes illustrates the 'technical artifice' inherent in sound design. On *Rising Sun*, I was able to see and hear the sync points created for breath, view the extent of recordings created for the cars and windshield wipers, and learn about the different voices that performed Austin's breathy utterances. Research into the sound design archive allows for a broadened understanding of what the post-production sound crew intended for a film. Some of this evidence is clearly present in the archive, but it is also through some of the marginalia and paraphernalia that interesting and critical information has been garnered. Jaimie Baron in her work on archival research suggests that:

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[a]lthough they acknowledge that the historical “real” can never be accessed as such, New Historicists often search the archive for eccentric anecdotes and enigmatic fragments that interrupt and exceed the homogenizing force of grand narratives by grounding themselves in the contingent and unruly “real”. (2013: 110)

In the ‘eccentric anecdotes’ and ‘enigmatic fragments’ from *Sound Mountain* I have been able to garner some items of interest. Hearing Lynch, Splet and Kroeber together on a recording creating the sound effects for the clock tower offers a way into reading the auteur and collaborator relationship and how this is problematized within this case study. This article asserts the need to include the work of the sound designer in considering how breath is shaped in fiction film. Through interview and archival research there is much to be learned about the sound designer’s methodology.

Walter Murch, in his book *In the Blink of an Eye*, suggests that audiences hold back from coughing when they are emotionally and intellectually absorbed by a film (1995: 71). The audience are literally holding their breath and keeping their bodies in check during heightened moments. When we experience cinema communally we may become aware of our own body, the bodies of the audience around us and the bodies onscreen. In her writing about theatre, Katya Bloom suggests that this knowledge occurs ‘without going through a cognitive process’ (2009: 237). We are not always conscious of our breathing bodies. It would be exhausting to attend to our own breathing and the breathing of others, as it is such a constant presence in our lives. As the editors of *Breath in Action* suggest:

At a rate of approximately eighteen times per minute, one thousand and eighty times an hour and twenty-five thousand

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nine hundred and twenty times a day, it is not surprising there is a desire to ignore this complex, repetitive activity. Clearly, to be conscious of it at all times would be unbearable. (Boston & Cook 2009: 13)

And yet, there is clearly something to be gained from paying attention to this aspect of the soundtrack. We can learn, as we do from these two examples, that complex details of ethics, narrative, character and the environment can be distilled succinctly through the close attention to how an actor labours to breathe in film and how the sound designer labours to design that breath for the soundtrack.

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