Sounding the Overflown

A critical-victimological study of environmental harm through the example of aircraft noise in London, UK

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Abstract

Noise pollution is among the top global environmental risks among many others, especially in urbanised areas due to the prevalence of motorised transport (EEA, 2020; UNEP, 2022). Although the health effects of persistent noise exposure, including cardiovascular diseases, are well-documented, noise is a neglected pollutant compared to visually traceable ones. Noise emitting from transportation is not recognised as a statutory nuisance. Often-contested sound metrics and defining noise merely as ‘subjective’ have become dominant in noise management. As a result, the noise victims' suffering often remains invisible in academic research and public discussion.

This thesis offers a closer look into how the invisibility of noise is maintained from a green-critical criminological perspective focusing on victims’ experiences. It is probably the first empirical study of the lived experience of noise using this specific perspective. By interviewing those who live under the flight paths of London airports and are impacted by aircraft noise, the study reveals noise as a complex issue sustained through several social and institutional/corporate mechanisms. Each empirical chapter of the thesis presents noise and its victimisation from different angles: First, how noise disrupts everyday life, including its rhythms, is articulated. Second, examining the experiences of complaints procedures reveals that corporate denial strategies sustain noise victimisation. Third, the role of the discursive and common sense understandings about noise and its victims are presented as the sociological backdrop which maintains the invisibility of the harms and sufferings.

In summary, noise as actual - but invisible - harm is facilitated by corporate denial, which is further underpinned by discourses and common sense revolving around 'sensitivity', which works to individualise the problem. Discursive tropes influence the victims' imaginaries and others, hindering noise from being understood as an environmental risk. The thesis invites us to think critically and imaginatively about noise, highlighting the existential function of sound in the 'sonic backyard' of philosophy, sound studies and sensory sociology in going beyond the normalisation of noise as a pollutant.

Table of Contents

Abbreviations

AEF	Aviation Environment Federation
ANIS	Aircraft Noise Index Survey
ANASE	A National Study of Attitudes to Aircraft Noise
BSI	British Standards Institute
CAA	Civil Aviation Authority
CPRE	Campaign to Protect Rural England
DEFRA	Department for Environment, Food and Agriculture
DfT	Department for Transport
EEA	European Environment Agency
HACAN	Heathrow Association for the Control of Aircraft Noise
HPA	Health Protection Agency
ICCAN	Independent Commission on Civil Aviation Noise
LCA	London City Airport
NATS	National Air Traffic Services
PBN	Performance Based Navigation
SoNA	Survey of Aircraft Noise
SHE	Stop Heathrow Expansion
UN	United Nations
UNEP	United Nations Environment Programme
WHO	World Health Organisation

Chapter 1: Introduction

The present study was written at a time of excessive emissions. As of 2021, air pollution hit record highs, leaving 99% of the world population exposed to air which is unsafe to breathe (WHO, 2021). Although relatively more neglected, noise pollution was described as the second most harmful environmental pollutant after air by World Health Organisation (WHO) in 2011. In the EU, one in three individuals during the day and one in five at night were exposed to 'unsafe' environmental noise levels (especially that of road, rail traffic or aircraft) for prolonged periods (WHO, 2011). European Environment Agency (EEA) (2020) makes clear that this corresponds to more than 100 million people exposed to long-term noise at levels which exceed the safety thresholds in World Health Organisations' (Berglund and Lindvall, 1999) standards[1]. EEA's (2020) report estimates that the number will likely raise due to increased transportation activities and urbanisation. More recently, noise was highlighted as a top environmental threat in a recent report published by the United Nations Environmental Programme (UNEP) (2022), describing the levels of noise in the world's largest cities such as Delhi, New York, Bangkok, Barcelona, Cairo, Nairobi, Karachi, London as not merely inconvenient but dangerous. Given that one-third of the world's population will be living in urban areas by 2030 (United Nations, 2016), noise should properly be regarded as a ubiquitous and persistent pollutant closely linked to the patterns of systematic production of goods and services. Transportation-related noise is the most prevalent kind among other noises (EEA, 2020:8). While this thesis focuses on the effects of noise pollution on humans, it is notable that road, railway, and aircraft traffic noise also affects various animal species (Barber et al., 2010; Kleist et al., 2018; Tennessen et al., 2018).

Environmental harms are unequally distributed worldwide, typically affecting the poor and the marginalised more (Jorgenson, 2006; Carmin and Agyeman, 2010; Bullard, 2018; UNEP, 2021). However, aircraft noise, the subject of this thesis,

[1] The safety thresholds for noise exposure were higher in the 1999 guidance of WHO than in the most recent one (WHO, 2018). The EEA (2020) document highlights that the number of people (100 million) exposed to unsafe noise levels was likely to have been underestimated in 2011. The following chapter will clarify these thresholds.

affects many in the United Kingdom, one of the wealthiest countries in the Global North. A Guardian investigation found that: 'More than 2 million people would be exposed to additional aircraft noise if Heathrow builds a third runway, according to a government analysis.' (Topham 2018). This figure was obtained as part of a freedom of information request and was not publicly announced. Indeed, facts and information showing the *actual extent* of noise pollution are generally absent from government websites. Nor is noise given proper attention in the news media. Even when it is, as in the Guardian investigation, it rarely sparks public debate on the vicissitudes of the pollutant. Nevertheless, an active search on the Internet reveals that according to the Civil Aviation Authority's (CAA) estimates, more than 700,000 people were affected by noise from planes flying to or from London Heathrow Airport (CAA, 2011). Heathrow was Europe's busiest aviation hub until 2020 and is still one of the biggest airports in the area today. However, information documenting exposure to aircraft noise (and its consequences) is more regularly published on the websites of local campaign groups such as Heathrow Association for the Control of Aircraft Noise (HACAN), local NGOs, such as the Aviation Environment Federation (AEF) or more prominent NGOs such as the WHO, EEA or United Nations if one would like to obtain data on noise affecting more expansive areas.

Although absent from public debates and everyday knowledge, extensive research documents that persistent transportation noise, or exposure to extreme levels or types of sound in general, can be dangerous for health or even fatal (outlined in Chapter 2). Strikingly, the WHO (2011) states that one million healthy years are lost in the EU every year due to regular exposure to transportation noise. Environmental noise is linked to heart diseases (inter alia Babisch, 2014; Munzel et al., 2014;2018; Vienneau et al., 2015), stroke (inter alia Seidler et al., 2018), and sleep disorders (inter alia Halperin, 2014). Aircraft noise was the most annoying transportation noise (Miedema and Oudshoorn, 2001). So far, it is associated most notably with heart disease (Jarup et al., 2008; Huss et al., 2010; Hansell et al., 2013), sleep problems (Basner et al., 2008; Basner and Siebert, 2009; Clark and Stansfeld, 2015), type 2 diabetes (Eriksson et al., 2014), cardiovascular death (Munzel et al., 2021). It interferes with cognitive abilities in children (Haines et al., 2001; Clark, 2015). Even

at lower levels, aircraft noise is associated with increased stroke risk (Seidler et al., 2018).

Despite the severe health consequences, most forms of anthropogenic noise are not appropriately addressed by legislation in the UK (Maynard, 2010). Only 'noise emitting from premises' is recognised as a statutory nuisance by the Environmental Protection Act 1990. Road, rail and aviation noise, not included under this law, are generally addressed through recommendations (e.g. DEFRA, 2010) and policy frameworks (e.g. Department for Transport, 2013). In terms of aviation noise, major UK airports are responsible for monitoring aircraft noise levels and producing noise maps (Environmental Protection Act, 1990; DEFRA, 2019b). Airports are also the key point of contact for receiving aircraft noise complaints from the public. Sound metrics play a central role in aviation noise management procedures concerning airports' noise contour maps (Environmental Protection Act, 1990). The issue at stake here is that these policies and approaches to noise are not suited to address or prevent the harms caused by noise, but they focus on particular, often technocratic ways of *managing* noise. In short, the fact that noise is both produced and managed by corporations, with the victims stripped of their legal powers, presents itself as an urgent issue to be brought to the attention of, first and foremost, critical criminology.

This thesis is the first study to subject noise pollution to critical-criminological scrutiny based on lived experiences. In doing so, it seeks to understand the 'invisibility' (Davies et al., 2014) of noise and its victims due, for the most part, to the lack of adequate attention in the law, policy and media. It takes aircraft noise as a case study, filling out a significant gap regarding the knowledge about the first-hand lived experience of noise victimisation and the mechanisms which further contribute to its invisibility. Noise pollution has - until now - been absent from criminological research in terms of qualitative research (discussed more below). The study invites sustained attention of criminology to noise and surrounding issues, highlighting the inevitable interdisciplinarity of the subject matter both as an auditory and an ecological phenomenon. Nodding to the ongoing 'sensory turn' in criminology (see McClanahan and South, 2020; Herrity et al., 2021), the present critical-green perspective is fed by interdisciplinary frameworks of philosophy, sound studies and

sensory sociology. The thesis illuminates the harms of noise presented through victims' accounts and makes several arguments. First, it puts forward that noise is an ontologically real threat – that is, it is not merely 'unwanted sound' as some have claimed (Gurney, 1999; DEFRA, 2010; Maynard, 2010). In particular, it offers a novel concept, *spatio-temporal subsumption*, to articulate the ontology of noise as social-environmental harm. Secondly, the thesis identifies denial mechanisms and discursive formations that maintain the invisibility of noise victims, examining how the airports manage noise complaints and how noise complaints are construed in society.

In the following section, I will discuss how the problem of noise pollution fits into the agenda of green and critical criminological studies. Then, I will provide an overview of this study's journey within the interdisciplinary conceptual realm of urban noise as an auditory experience. After that, I will introduce the methods used, summarise contributions, and provide an outline of the thesis chapters.

Noise as social harm: from the personal to public

The starting point for this research was the scant attention to environmental noise and its victims within relevant academic fields and in general public discussions (outlined above). I also experienced this 'absence' in my personal life when I moved to London from Turkey at the start of my studies. I was exposed to several types of noise, including that of the overflying planes starting from 4.30 am and our next-door neighbour leaving their radio on for months during the first lockdown. The consequent struggles for quietude within the dominant culture of keeping quiet when it comes to noise became crucial moments during my research. It was impossible to address the harm through individual negotiations or legal routes. Although noise disturbance from my neighbour was a statutory nuisance, it was challenging in practice to communicate noise disturbance to the individuals and the authorities despite the sleepless nights and anxiety which gave way to more severe illnesses. I was making a lot of 'noise' to be heard, but I was 'invisible'. Compared to noise nuisance, of course, aviation noise is more legally protected. It was also part of this 'culture of silence' (Brisman, 2013), the tacit acknowledgement of its existence.

Moreover, it was a result of the powerful corporate activities of the Capitalocene (Moore, 2015;2016), which seemed inevitable. Following Natali (2015) on the importance of recognising the violent hegemony which obfuscates the reality of harms, it became a pressing concern to understand the conditions which enable noise to be systematic and persistent, as well as the social mechanisms and power relations which maintain the invisibility of its harms and victims.

Noise in the present study is viewed as social-environmental harm based on a green-critical criminological approach. The theorisation of such harms from the state-corporate perspective will also be helpful, as so far has been shown (Bradshaw, 2014; Brisman and South, 2015). Subjects for green crimes and harms has so far included animal trafficking (Sollund, 2015; Hill, 2015), oil spill (Gulijk, 2014), and water injustice (McClanahan, 2014), to name just a few. This body of research highlights the side-lining of responsibility for producing such harms globally. Moreover, it was also evident that the legal definition of environmental crimes does not necessarily overlap with the actual environmental harms (Lynch et al., 2017). Relatedly, the established literature on social harms (e.g. Kramer, 1985; Hillyard et al., 2004), which encompasses environmental harms (Davies et al., 2014), provides a further critical lens for analysis, highlighting their invisibility and the power structures which enable harms to be constantly produced. Noise pollution can be theorised drawing on these paradigms. Walters (2010; 2013; 2014) already applied the social harm approach to air pollution, identifying the conditions for its manifestation through 'lack of knowledge, lack of political and media attention, an absence of policing and regulatory focus, and an unwitting and ill-informed public' (2014:142).

Similarly, noise as predominantly defined as an individual wrong-doing (Environmental Protection Act, 1990), and the lack of proper legislation for other (and most persistent and harmful) types of environmental noises is the primary motivation to define noise as invisible harm. Inadequate media and public attention compound the legal gap. I shall also add the lack of empirical research on noise per se in criminology (and relatively scant attention to systematic noise pollution in humanities in general).

Again, the social harm status of noise becomes most evident when we scrutinise its legal definition and contrast it with the actuality of noise emissions. Noise has the status of 'street crime', in Box's (1983) terms, because the only type of noise which can be deemed illegal in the strict sense of the word is that of the premises, that is, caused by individuals. Moreover, not only the offender is formally identified as such, the definition of noise as unwanted sound in national policies (e.g. DEFRA, 2010; EU Commission, 2002; Maynard, 2010; Notley et al, 2014; EEA, 2020) further presents the matter as a *personal* issue, concealing the production of noise as harm which inflicts upon the individual beyond subjective interpretations (see Clark and Stansfeld, 2011; Halperin, 2014). As I will examine in Chapter 2, the definition of noise is as problematic as the hegemonic culture, which side-lines pollution and makes the victim invisible due to its implication to the subjective, as opposed to real, present and threatening. As I will explore in Chapter 3, this is an aspect unique to noise pollution partly because of the diverse conceptual resonances of noise as auditory, beyond what is deemed objective and its implication to the refutable, relative and subjective (Malaspina, 2018). Our visually-dominated modern world (Jay, 1993; Sterne, 2012) would confer sound and noise even more irrational, questionable connotations, which in turn would resonate with the dismissal of the noise victim, muting the real harms. Therefore, the current project calls for a breakthrough in approaches to noise, shifting the focus from the concepts of individual wrong-doings to continuous production and exposure to better fit noise within the unique way of persistence of the ever-present ecological problems.

A novel approach to the invisibility of noise

This study first and foremost contributes to the field of green criminology by introducing environmental noise as a subject matter. Secondly, due to the absence of previous research directly linked to noise based on such a critical approach, it is necessary to theorise further and outline the concepts of noise *and* pollution. The radical vein in green crimes and harms (Lynch et al., 2015; 2017, 2019; Lynch and Stretesky, 2003; 2014) focuses on analysing environmental harms through Marxist approaches to the concept of the environment. Building on this critical criminological literature, the present study suggests a novel conceptual framework

based on critical studies on the concept of ecology. As Halsey (2013) once argued, the unprecedented speed of technological developments and their employment precipitated certain environmental risks which are almost impossible to foresee ('accidents'). Echoing this, and based on the theoretician Wyck's (2005) conception of pollutants, I suggest employing the concepts of *virtuality* (and the inextricable notion of *actuality*), which refers to a state of existence whereby an entity is real without being actual (Massumi, 2002:30) in order to describe noise pollution and the example of aviation noise. Virtuality can therefore be regarded as another feature of the invisibility of noise as harm (in addition to the lack of legislation and other features): Lack of accurate *perception* or understanding based on experience. If the pollutants as risks are produced beyond the grasp of the everyday processing of our brains, or any other means available, then the pollution must be radically addressed within a compatible ontological framework. This aspect will have crucial implications regarding noise as social harm: there is no 'ontological reality' to crime (Hulsman, 1986; Hillyard et al., 2004), whereas the existence of pollutants can be articulated on the surface of the everyday by focusing on the lived experience of what already exists as *virtual*. Therefore, concepts of actual and virtual will be key tropes weaving through the thesis, most importantly, the primary theory underlying the emerging concept of spatio-temporal subsumption in Chapter 5.

Interdisciplinarity of noise

Based on its characteristics as social harm, this thesis understands noise as *persistent, potentially harmful sounds which are allowed to unceasingly and unstoppably emanate, conditions of which lie not in individual experience but external social mechanisms in the context of contemporary capitalism*. Health research on the adverse effects of noise presents the matter in all its urgency, as stated earlier. Another essential motive to highlight the broader social structures which facilitate noise pollution reveals itself when one looks into the history of the urban sound environment: Ethnographies on sound experience highlight the essential function of attending to the surrounding sounds for placemaking and building a lifeworld (Turnbull, 1961; Feld, 1990; 1996; Feld and Basso, 1996). Our fundamental mode of being in the world as an interpreter, not least because we need

to be able to understand sounds which indicate danger, is manifested through hearing and listening (Barthes, 1991; Nancy, 2009). Our sensory existence as part of a sonorous world is inextricable from sounds and other sensory stimuli (Merleaux-Ponty, 1964; Pallasmaa, 1996; 2009). Similarly, sound per se cannot be imagined outside the conceptual territory of hearing without reference to the ear and the subsequent complex neurological functions in order to process the sensory input (Moore, 2012).

The deterioration of the urban sound environment per se was evident in the first soundscape[2] studies as part of an acoustic ecological approach. Murray Shafer notably showed our historic 'sonic descent' (Kelman, 2010:2016) into the cacophonic, anxiety-inducing through comparative analyses of the dominant sounds of the contemporary urban sphere. Where have we come from if we have descended into pollution and health hazards? The architecture of the past reveals our different relationships with sounds. We know that the church bells in Medieval European cities, for example, were essential to communicate important events and the temporal organisation of the everyday (Holl et al., 2006). The design of the cities would allow reverberation, reinforcing the sense of belonging (Pallasmaa, 1996). The contemporary mechanical soundscape and urban architecture, which absorb sound, prevent distinct sounds from reverberating, curbing their role in communication (Thompson, 2002). Noise as harm, with all its materiality and affective aspects, cancels meaningful listening, violating our sense of being in the world (Voegelin, 2010; see also Goodman, 2010).

Even under such conditions, the increased ignorance of persistent noise within the urban context becomes once more evident under the lens of sensory sociology and anthropology. It is well-known that hearing is historically viewed as secondary to vision because of the modern sensory organisation (Ong, 1967; Howes, 2006; Jay, 1993; Vannini et al., 2013). In addition to the historical contingency of the sensory

[2] Following Schafer (1994), the term soundscape broadly refers to ‘aural environment’ throughout the thesis. Soundscape has a standardised definition, however, in BSI (2014:1) as ‘acoustic environment as perceived or experienced and/or understood by a person or people, in context'. The particular soundscape approach based on this standard will be problematised in this study, more specifically, in Chapter 2.

structure, ethnographers have looked into indigenous cultures still present in the period of Western modernity, which have entirely different understandings of their senses as a result of their distinct social organisation determined by a myriad of factors such as religion (e.g. Malinowski, 1922). The importance of these studies for the present project is that they clearly illustrate the possibility of an *alternative sensory environment outside the ongoing ecological and sensory (as well as physical, as health research has shown) destructions of the present*. They show us the 'otherwise', which was possible in other times and places and can be created anew, in the resistance to victimisation which the study of environmental harms ultimately hopes for (Natali, 2015:69, see also Lynch et al., 2018). They also illustrate the inevitable interdisciplinary outlook when studying noise pollution (or other pollutants as far as they emerge on the level of the senses) in both theory and practice. In short, the umbrella discipline of sound studies, which encompasses several critical approaches to noise from acoustic ecology to sonic materialism, is an exceptional resource in foregrounding the vital function of the sound environment vis-a-vis the reality of ubiquitous noise pollution. On the other hand, the role of the socially constructed sensory organisation, which prioritises the visual, emerges as the sensory-sociological connotation in problematising noise victimisation in the contemporary urban environment. In Bull and Back's (2003:2) words, sustaining the project of the 'democracy of the senses' is also an essential agenda in an attempt to resist noise victimisation as such, as it points out both the often-overlooked noise as a pollutant and its lived experience as inextricable from the social processes which preclude the lived experiences of noise from being recognised politically and publicly.

The research questions and method

Based on the problem of noise pollution and its victimisation outlined above, this study addresses the following questions from a green-criminological perspective:

1- How are the daily lives of victims impacted by noise? In other words, how does noise pollution become actualised and emerge on the level of everyday rhythms?

2- How does the institutional management of noise impact the victim and contribute to their invisibility?
3- How do discursive framings and common sense make the victims invisible?

The specific questions explore the invisibility of noise and its victims in three different but interrelated contexts: The everyday, the institutional-corporate, and the sociological-discursive. These different levels were examined based on the lived experiences of those impacted by aircraft noise in London. Despite the invisibility of noise pollution, it was not hard to recruit respondents. I did so via relevant, organised campaign groups for victims of aircraft noise pollution, such as HACAN. Stop Heathrow Expansion (SHE) also assisted with reaching out to participants. These organisations were indeed instrumental during the recruitment process. I conducted open-ended, in-depth online interviews with 26 residents. Most of the participants live under the flight paths of the aircraft of two major airports in the city, namely, Heathrow and London City Airport. The interviews elicited valuable insights into how the destructiveness of noise is revealed. They provided the first glimpses into the emerging concepts on how noise is actual/manifest and the specific ways in which it is ignored. Focusing on the victims' voices presented us with the experience instead of institutionalised ignorance manifested through the lack of proper legislation. It further challenged the obfuscating definition of noise as unwanted sound as adopted by the official policies on noise. The findings will inform future research on green harms and crimes and potentially influence policy on noise in general and aviation noise in particular.

It is important to note that the method of online interviewing was not the original plan. The global pandemic of Covid-19 has impacted the project during the fieldwork stage in early 2020. Initially, I proposed using an array of in-situ ethnographic methods, including observations, listenings and face-to-face interviews with participants at their homes as it is the location they are exposed to aircraft noise. Previous research on such auditory experiences within sound studies and sociology entailed a mix of ethnographic tools, which helps the researcher immerse in the research setting, produce field notes and establish better rapport (Atkinson et al., 2001). The pioneering study of Lorenzo Natali (2016), which explores an

environmental victimisation case through visual research methods, the kind of study in criminology which is the closest to the present research in terms of approach and subject matter, also employed qualitative tools which prioritise the narratives of those who suffer from pollution. I discuss and evaluate such examples of qualitative research relevant to noise and its experience in Chapter 3. The in-situ research experience may be absent from the present study in the conventional sense. However, since I was also based in a London neighbourhood which is impacted by aircraft noise, participant observation/listening was possible in an exaggerated 'socially distant' manner. Moreover, the online aspect of the hour-long interviews had advantages in terms of convenience and privacy. Thanks also to the urgency of the matter, I was able to establish good rapport and elicit rich, influential, insightful qualitative data.

Summary of contributions and thesis plan

The present qualitative empirical work on the lived experiences of noise pollution generated insights into the invisibility of the victim and the pollutant. It offered a novel conceptual lens to make sense of and articulate noise as a pollutant and revealed the social mechanisms which maintain the conditions for the invisibility of noise and its victims (which may also be relevant to other kinds of pollutants). It primarily contributed to the field of green criminology. However, it also speaks to sound studies and sociology by challenging some mainstream understandings and definitions of noise, highlighting its emergence (or non-emergence) as an ecological threat to the social fabric of the urban space. The more extensive academic relevance of the research will be discussed in more detail in the last chapter of the thesis.

The following chapters will ‘uncover’ the invisibility of noise and its victims in several ways. **Chapters 2 and 3** of the thesis describe the necessary ‘stops’ in the interdisciplinary journey into the theoretical and methodological backyard of environmental noise victimisation as a novel subject for criminology. The main discussions of **Chapter 2** revolve around the notions of noise, environmental harm and the victim. It explores these concepts primarily through criminological lenses of green and social harms and critical victimology. It also draws on the existing work

on corporate crime and crimes of the powerful to discuss several aspects of maintaining the invisibility of social harms posited as relevant for noise pollution. The chapter opens with the critique of the definition of noise as unwanted sound to better connect noise to the notion of systematic harm, problematising the privatisation of the exposure to the pollutant, as briefly mentioned above. I then situate noise as harm within criminological fields and conceptualise noise as pollution through virtuality, referring to the contemporary theories on ecology and the sociology of environment and risk. I review the health effects of noise in detail, from the auditory to non-auditory, which also pertains to the materiality of sound and noise. I then present the case of aviation noise as social harm and unpack its problematics.

After noise as systematic harm is discussed, I shift the focus towards a discussion on the urban sound environment in **Chapter 3**. Through an interdisciplinary perspective, this chapter has two functions: First, it shows the alternative picture to the status quo by highlighting necessary research from sound studies which examine the inextricable relationship between our sensory existence and the soundscape. Second, the chapter visits ethnographic studies on the role of sound in placemaking in order to review qualitative methodological tools for researching noise as auditory experience. In this context, the intricacies of the subject matter of the present study can be interpreted as a reversed version of the sonic ethnographies: *noise as destructive* of the lived experience instead of *sound as fundamental* to building social worlds and meaning. The chapter first presents an overview of the urban sound environment from a historical perspective, visiting sensory architecture and acoustic ecology. I briefly explore sound and listening as concepts and present a critical understanding of noise based on sonic materialism, which is connected to the idea of noise as slow violence. I presenting an overview of the sonic methods utilised so far to explore auditory experiences.

In **Chapter 4**, I turn to the actual qualitative method operationalised in this study. I discuss the way in which I adjusted my methodology to be able to conduct my fieldwork under the lockdowns of the Covid-19 pandemic. Recognising the benefits of the in-situ research on environmental victimisation of noise, I elaborate on the

present research process. Against the backdrop of a critical ethnographic approach, I explain the method of online unstructured interview and how it was helpful in researching the lived experience of noise victimisation. I present the sample, describe the research setting and outline the strategy for data analysis.

Chapters 5,6, and 7 describe and analyse the findings emerging from interview data and are organised around significant themes linked to the relevant research questions, which highlight the experiences of noise victims on the everyday, institutional, and discursive levels, respectively. **Chapter 5** presents participant accounts of the experience of noise in the everyday rhythms; in other words, how noise ceases to be *virtual* and becomes *actual*. Through the conceptual lens of the actuality of pollutants explained in Chapter 2, it aims to present the alternative narrative in which noise is experienced outside the categories of unwantedness or other corollaries such as quantitative sound levels. I present the complexity of the experience through the discussions of habituation, loudness, frequency (of occurrence) and irregularity of noise. The expectation of noise becomes the central theme of the chapter, which inspires the concept of *spatio-temporal subsumption*. Through this, I put forward the idea that noise brings the individual to a liminal state, violating the organisation of the everyday through inflicting upon the body and minds, seizing the perception of time and space. The finding of this chapter has implications for theorising social harms and victims based on the novel ontological perspective offered. We need to be able to attune to the actualisations of noise as a pollutant, I argue, in order to articulate such harms as real threats operating beyond institutional and mainstream categories.

In **Chapter 6**, I shift the attention to the institutional/corporate through what is revealed in the informants' experiences of complaints and consultation procedures due to lack of legislation. Such processes, which mainly entail contacting the relevant airport and sometimes the CAA, are revealed to be the only means whereby an individual can make an official complaint about aircraft noise. In this chapter, the participants' accounts are utilised to show how noise victimisation is denied through several strategies, which I identify through the techniques of neutralisation (Sykes and Matza, 1957) and corporate denial types of Whyte (2016). For example, the

airports overturned the complaints by re-constructing the flight event in question using overly technical language, which disconnects the reality from noise and its harms. This technique is identified as the 'denial of cause'. Another type of denial, appeal to higher loyalties, was also found, mainly in the accounts of the consultation meetings, whereby the representatives of the airports would highlight the economic benefit of aviation in order to legitimise the purposes of their business, assigning noise pollution a secondary status compared to the primacy of profit. Taken together, I argue that the denial types dismiss the victims and harm and maintain invisibility by swerving the efforts of the victims to complain and challenge the polluting status quo of aviation. I also argue that secondary victimisation is inflicted by indirect harms caused by the complaint processes in the form of emotional distress due to being disregarded by the officials. Therefore, the chapter's findings pertain directly to the background of green harms and crimes as a result of state-corporate wrong-doings.

Chapter 7 focuses on the discursive justifications and common sense at work to support the denial and further maintain the invisibility of the victims. I apply Foucauldian discourse formation and Gramscian concept of common-sense approaches to the experiences of the daily conversations about noise (as well as participants' reflections on noise). The chapter finds noise sensitivity, the discursive trope already implied in the institutionalised definition of noise as unwanted sound, as an essential idea that underlies the participants' subject positions through which they make sense of the noise experience. It also highlights common sense as a victimising force marked by stigmatisation and displacement of the noise victim. The participant understanding regarding noise sensitivity was twofold, however: The ones who tend to wholesale reject the category of the sensitive did so in order to resist noise exposure and surrounding injustices.

On the other hand, noise sensitivity as a discursive trope was implicated in the accounts of those who were reluctant to refuse the benefits of aviation, such as financial profit or modern lifestyle. Then, common sense and discursive uses of noise sensitivity are differentiated based on the accounts of others' views and victims' reflections on noise experience. Also, how these different uses pertain to

specific denial strategies are explored. I argue that the use of noise sensitivity contributes to the invisibility of victims, obscuring the actual production of harms by those who are responsible by drawing attention to the individual who makes a complaint. As a result of the stereotyped ideas revolving around sensitivity, the individual, not the presence of noise, becomes problematic. The finding of the chapter has important implications not only for critical victimisation studies but also for sensory sociology in analysing the social dynamics of noise pollution.

Chapter 8 is the final main section of the thesis, in which the results of the empirical chapters are discussed in relevant sections. In general, the chapter discusses the implications for how aviation noise illustrates the invisible environmental victimisation through different layers of empirical study: the actuality of noise as spatio-temporal subsumption, denial as a mechanism for corporate maintenance of victimisation and the discourse and ideas on noise sensitivity as sociological background to justify further and sustain the denial and victimisation. I first re-state the central questions of the thesis, providing an overview of the disciplines from which this study has benefited. I put the findings of each empirical chapter in the broader context of the relevant disciplines with which the particular insights resonate. They are discussed in terms of the ontological reality of social harms, the corporate backdrop to environmental harms, and the sociological-criminological significance of dismissing the noise victim based on public discourse and stereotypes. After re-stating the contributions (primarily to green criminology) of the study in more detail, the painting of the picture of the study's interdisciplinary conceptual territory it has been built on is completed. At the end of the chapter, I provide suggestions for future research and discuss limitations and policy implications.

Chapter 2: Noise as Environmental Harm

Introduction: Problematising 'noise'

Noise is yet to receive adequate attention within studies of harms and crimes. Noise, however, has been the subject of many disciplines. The political economy of noise (Attali, 1985), sociological and anthropological studies on noise as dirt (Destree, 2013; Pickering and Rice, 2017), nationwide surveys on noise attitudes and annoyance, medical research and policies on noise, noise *music*, for example, all focus specifically on noise and its effects on us and how it is made sense in one way or another. Even if we focus only on anthropogenic noise (caused by humans), we would still encounter historical research on the campaigns against industrial noise (Bijsterveld, 2001), for example, or studies on contemporary urban soundscape from an ecological perspective (Schafer, 1994). Noise is 'visible', in this sense, within some academic fields and policy documents. As will become clear in the following sections, how noise is defined is a crucial point for the present analysis of noise victimisation. When it comes to noise as environmental harm, the departure point here is how it has so far been defined as a concept and the subsequent direction that research takes as well as its possible consequences for policy and discourse which all determine the conditions for comprehending noise victimisation. Problems of definition aside, the invisibility of noise as the subject matter is not as much a case within the humanities as it is within the studies on environmental harm and victimisation.

The main purpose of this chapter is first to provide a critique of the definition of noise within the relevant academic fields and noise policy. It will also offer an overview of the relevant literature on green crimes and harms and critical victimology and will demonstrate how the present study fits well within their agenda, encouraging critical analyses of ecological destructions. I will offer a novel understanding of noise as a pollutant and noise as social-environmental harm based on contemporary ecological conceptions of the ontology of pollutants. Noise effects on health will also be delineated. Finally, this journey will help articulate the

relevance of the example of aircraft noise in studying noise and its victimisation as systematically produced social harm in the final section of the chapter.

Demystifying the 'unwanted'

From a critical-criminological point of view, what lacks proper analysis in the literature is rather the conception of noise as a systematically produced pollutant and the dominance of certain understandings that enable (or disable) its emergence as ecological and social injustice. The critique of existing conceptions, as will be argued, will also reveal the need for ethnographic research on how noise exposure is lived and understood in its actuality, as opposed to the mainstream narratives of it. Noise is neglected, then, to the extent it is defined other than a systematically produced ecologically destructive energy. For this study, the problematisation of noise originates from the immense gap between the de facto normalised circulation of this ubiquitous toxic pollutant which can cause an enormous range of health effects and the vitality of sound as an integral element of the space we inhabit along with other species[3].

Sound as constructive of space, the self, social relationships and life-worlds is an established phenomenology within anthropological studies. As mentioned above, the vast multi-disciplinary field of sound studies is devoted to such approaches and many more, as will be explored further in the following chapter. However, the senses other than the visual have only been gaining weight within criminology regarding methods and subject matter (McClanahan and South, 2020). In other words, it is introducing noise and its victims to criminology as the subject matter that is important. On the other hand, a critical introduction to the problem of the definition of noise is not only crucial because of the requirement of discussing a key concept in any academic undertaking. It is a strategic move towards addressing the mainstream definition of noise, the way it is put to function, the consequences of such a

[3] The cohabitation of humans and non-human is addressed in the section entitled 'A new ontological frame for noise as harm'. The main theme of Chapter 3, where research on sound is explored, will be the wider discussion on how sound and listening are a crucial part of the lived environment to illustrate further how it contradicts the status quo of noise pollution.

definition in noise governance and management approaches to noise, including the academic branch of soundscape management, and finally, who may profit from it from a criminological perspective. It has direct implications regarding how victimisation works and how it is maintained.

More specifically, the ambiguity of the term 'noise' is frequently linked to the absence of research on anthropogenic noise and its experience within sociology and criminology (Have et al., 2011; Ruiz and South, 2018). In an agenda-setting article, criminologists Ruiz and South (2018:1) state that 'Noise is also an unusual form of environmental pollution in having a physical impact – it is 'heard' and can be 'felt' – but is predominantly interpreted subjectively.' Here noise, its subjectivity and unwantedness, and the subjective nature of its experience tend to go hand in hand (Bijsterveld, 2008). This approach can be traced back to cultural and social studies on noise, often defined as 'unwanted sound' (e.g. Gurney, 1999; Pickering and Rice, 2017). Policies follow this definition's straightforward adoption (DEFRA, 2010;2011;2014a; Maynard et al., 2010, EEA, 2020; see also Environment Agency, 2022). Here, there seems to be a consensus on the 'unwanted', but the reasons for the 'unwantedness' within these different fields of academic research and policy which determine the institutional practices on noise do not necessarily overlap. The picture gets even more complicated when we ask, 'what is sound?'. I will leave the discussion on sound and its treatment within different disciplines to the following chapter and argue in this section that what is meant by 'unwanted sound' is not only vague and can lead to inconsistency throughout the social scientific literature, including that of the criminological. However, using such a definition (especially within policies) reproduces a certain understanding of noise exposure which may undermine personal experience and victimisation. It may also maintain existing relations between the corporation (in this case, mainly the airports) and the state on the production and management of noise.

If we start from the very fundamentals, the philosophical understanding of noise, one cannot easily identify a canon. Early texts on noise as a concept include a short piece called 'On Din and Noise' by Schopenhauer (2000 [1851]) and a few reflections by Nietzsche in 'The Birth of Tragedy' (1990). Several definitions and perspectives on

noise are scattered around the disciplines under the roof of sound studies, each of which problematises issues around sound and noise in different contexts, such as aesthetics, music, history, culture, anthropology and sound art. There is also plenty of room to ceaselessly alternate between the metaphorical use and empirical meaning (Malaspina 2018). For instance, noise can denote undecidability and potential within music (Cage, 1961). In contrast, chaos, ceasing to be a metaphor, may be deemed undesirable in acoustics and cybernetics as it obscures the desired signal (Terranova, 2004:12) (e.g. white noise, pink noise). Moreover, unwanted sound, as I would like to highlight and explore further, refers to the category that does not fit into what is defined as pleasurable sounds psychoacoustically (Goodman, 2010). Therefore, Malaspina, the author of the most recent comprehensive philosophical investigation into the epistemology of noise (within the relevant literature written in English), confirms the interplay of the meaning of noise. As she argues, 'the unstable concept of noise is itself an example of epistemological noise in the communication of concepts across theoretical boundaries' (2018:8). We can add the empirical boundaries due to different problematisation of noise within different approaches.

Within wider cultural and historical studies, noise is generally referred to as 'unwanted sound' (e.g. Attali, 1985; Bijsterveld, 2001; Picker, 2003; Mody, 2005). As Mrozek (2016:123) summarises, this line of thinking within sound studies generally tackles these questions: 'How are the denotations of sounds socially negotiated? Which sounds represent social groups? Which sounds do people demonstrate for or against?' Here, sound is a matter of concern regarding how the *meanings and symbols* surrounding this phenomenon are exchanged individually or collectively around a particular event instance. As Bijsterveld (2001) argued and Pickering and Rice (2017) expanded, the concept of 'unwanted sound' can be in line with the Douglassian 'dirt out of place' based on a set of social norms and rules which are ascribed to what is counted and discounted as 'purity' (Douglas, 2003[1966]). As it will be discussed later, while acknowledging the salience of sounds and their role in cultural affairs, this thesis goes beyond symbolic-interactionist tendencies[4] to understand noise as a pollutant to connect victimisation

[4] For a brief critique of symbolic interactionism in critical victimology, see Mawby and Walklate, 2002, p.18.

to wider structural issues of pollutant production and ecological destruction and not only to the social processes which may underlie it.

From an acoustical (as well as cybernetic theory) perspective, on the other hand, noise refers to sound which is not a signal and cannot be identified by its acoustical properties like frequency (Volcler and Volk, 2013:10 in Malaspina, 2018:152). In other words, it refers to irregular and 'meaningless' assemblages of waves. Moreover, although unwanted sound, or noise, is always a 'background' sound and that which distorts the signal - the sound -is not considered 'unpleasant' (Terranova, 2004:12; Volcler and Volk, 2013). Therefore, this definition refers to unwanted sound as the signal that distorts the process of turning sounds into 'meaningful' signals. Sounds here refer mainly to quantitative indications calculated by mathematical formulas of sound intensity and other aspects measured by acoustic devices (Kang, 2007).

Within the context of social sciences and humanities, however, an unwanted sound is unwanted by humans (as well as other living organisms) in their everyday life. Their point of departure is not an indication of a sound meter, the 'listening' of a device or how we interpret it, but the perception of noise and the numerous ways in which bodies and communities are affected by it. What is unwanted or not will depend, therefore, on individuals. Studies within the urban sociology on noise, for example, have so far explored the annoyance caused by neighbour noise (e.g. Destree, 2013; Weinhold, 2015). The main focus here is questions such as: who is affected by noise, who is making the noise, the urban conditions which enable this and how it can be addressed. There is correspondence between those who commit noise in these studies and what the 1990 Environmental Act of the UK defines as noise nuisance (such as barking dogs, loud TVs and speakers or DIY sounds) and what can be done about it (making a complaint to a local authority). Cultural studies on noise also focus on relations to class, ethnicity, and gender (Pickering and Rice, 2017), which are manifested through noise offences and subjections as such. In short, these studies dealt with '*unwanted sounds'* created by *individuals* which affect *individuals* or *groups*.

In contrast, the present study suggests that problematising *persistent noise* created by *corporations* affects *large sections of the public*. Noises coded as unwanted, regardless of whether they are unwanted from an acoustical or a cultural point of view, do not refer back to their creation at the source but to their interpretation *after* they emerge on the surface of the social reality consciousness. In other words, noise production by corporations, e.g. aviation noise or traffic noise, is not implicated in the definition of unwanted sound.

When it comes to noise not caused by an individual or a group, it is far from straightforward to pinpoint who is responsible for the production and those who suffer from it, let alone the meaning of that noise. Transportation noise reflects this difficulty in not being legally given a nuisance status. What is even less clear in this literature is how individuals experience and make sense of exposure to noise pollution. Because of the very connotations of subjectivity (Bijsterveld, 2008:2), unwanted sound cannot convey the objective persistence of noise created by industries and corporations. In the context of policies, it may blur the effects of noise on an individual. Just as this definition can bear different functions in different fields of inquiry (e.g. cultural studies, health, economics), it can facilitate state-corporate collaboration in noise emission by subverting the responsibility to affected individuals. Green criminological studies have reported on several environmental cases whereby the responsibility is shifted towards the victim (see Williams, 1996). In terms of the consequences of conceptualising noise as unwanted sound, the findings in major noise attitude surveys which inform policies seem to reproduce the mainstream idea of the subjectivity of noise (e.g. Brooker et al., 1985; Le Masurier et al., 2007; Notley et al., 2012). The tenacious grip on the premise of noise annoyance as a highly subjective matter makes a strategic conceptual choice[5]: even if the survey results suggest that a significant majority is annoyed, it is by default the 'majority' who should be 'managed' rather than the noise creators who should bear the burden of responsibility.

[5] As I will argue in Chapter 7, this discourse formation (see Foucault, 1972;1978) emerges as an important lens through which victims of aviation noise understand noise experience. I will also highlight how the discourse serves denial of responsibility, contributing to the invisibility of noise victims.

As a further example of the persistence of defining noise as unwanted sound, especially in UK noise policy, this paragraph from a Health Protection Agency[6] document exemplifies the perspective of unwanted sound within UK policies:

> […] we first draw a distinction between the objective nature of 'sound' and the subjective nature of 'noise'. […] All noise is sound, but not all sound is noise. ….] Sounds only become noise (often defined as 'unwanted sound') when it exists in the wrong place or at the wrong time […] 'Sound' can be quantified objectively according to the traceable international standards. 'Noise', on the other hand, is a subjective phenomenon and its measurement requires a different approach. […] quantifying 'noise' is considerably more difficult than quantifying the 'sound' itself. However, for policy purposes it is clearly necessary to be able to evaluate the negative effects of 'noise' (Maynard et al., 2010:1).

It is quite clear here how sound experience is neatly divided along the lines of objectivity and subjectivity, whereas the latter is made subordinate to what can be measured through technical means of sound metrics. I argue here that mainstream institutional understandings display a 'relativistic approach' (Malaspina, 2018:156; Goodman, 2010:203) whereby any disturbance would easily be reduced simply to an issue of *personal preference*. The problem here ceases to be ecological, persistent harm through framing it as a personal annoyance. Along the same line, it should be noted that the fledgling area of soundscape studies, also based on subjectivity approaches, investigates ways to tackle 'annoyance' rather than the actual problem of noise, including industrial noise (e.g. Davies et al., 2007; 2013; Kang, 2007; Aletta and Kang, 2015; Aletta et al., 2016b; Axelsson et al., 2010;2020). A recent example is ANIMA, 'Aviation Noise Impact Management through novel Approaches', an EU-funded project worth €7.5 million. Although they state that addressing noise at its source would be supported, they make clear that the aim of the project is not to

[6] The Agency ceased to operate in 2013, with similar duties are currently covered by UK Health Security Agency. A 'UK-wide non-departmental public body', the duties of the former were 'to undertake both health functions and radiation protection functions' (Health Protection Act, 2004).

> […] endeavour to lower noise but to reduce annoyance. Annoyance is also depending on non-acoustical factors and works conducted in ANIMA are primarily to understand these factors and to alleviate the annoyance endured by communities through these factors rather than by lower noise itself. In that sense, this is an original and complementary approach (ANIMA, 2020).

Based on the standardised definition of soundscape as 'acoustic environment as perceived or experienced or understood by a person or people, in context' (BSI, 2014:1), the study explores the 'human response' to sounds in order to develop solutions to noise pollutions issues, therefore, improve the soundscape for the health benefits of good acoustics (e.g. Davies et al., 2009). However, the ultimate aim of soundscape interventions which target the sound perception of noise through sound design, directly precludes noise pollution from emerging as a social problem, making it difficult to highlight and address the structural issues surrounding noise production and the corporate victimisers (Williams, 1996). In this sense, the soundscape approach contrasts the agenda of environmental victimisation whereby the harm and the victims are endeavoured to be visible, and the responsibility for noise unmasked. My critique here nods to Stan Cohen's (2001) call: "[…] to challenge and undermine the 'cultural alibis' and scientific denials that are employed to suggest that—whether the matter is corporate pollution, environmental victimisation or climate change—'there is no problem here' […]" (cited in Brisman and South, 2015:37). If harmful noise is reduced to personal annoyance, it ceases to be a socially-resisted and legally-addressed problem. Moreover, as soundscape is a human-centred approach, there is also the risk of ignoring the non-human victims of noise - although they are beyond the scope of this thesis - as well as the effects of the soundscape input on them to echo eco-justice approaches (e.g. White, 2018b; Lynch et al., 2019). As part of the positivistic branch of sound studies (Pinch and Bijsterveld, 2011), the soundscape approach will also be discussed in the next chapter, contextualised in the wider studies on soundscape, listening and hearing. For now, it is crucial to state the relevance of a criminological approach to noise pollution and highlight the wide consequences of the uses of the definition of unwanted sound as it presents noise

pollution as an issue which merely appears but not as a result of persistent corporate activities such as transportation. Finally, it is important to note that by conceptualising noise as 'unwanted' sound, noise is understood as a management problem which ultimately benefits the responsible parties. When the mainstream understanding is accepted, interventions such as noise masking becomes practical solutions. The problem gets individualised, and the actual responsibility is more easily evaded.

Conceptualising noise as unwanted sound can lead to ignorance of the vulnerabilities of bodies and the negative effects of various ways of exposure to certain types of sounds. I would like now to discuss the following examples as scenarios to present the complexity and variety of harmful noise experiences, illustrate how they pertain to different interdisciplinary outlooks and state anew the consequences of the use of the definition of unwanted sound for noise as harm before moving on to the discussion of noise in the criminological literature:

1- X is a researcher working from home, but her next-door neighbour's ongoing radio sound daily severely disrupts her work. When she spoke to them about it, they found it unreasonable as the sound level was very low for them. No one has ever complained before. The house's walls do not isolate the low frequency component, which leaks out despite the sound level. It is also known that some people are more vulnerable to lower frequencies while others may not even hear it (Moorhouse et al., 2009).
2- Y moved to an area just outside London two years ago to enjoy quietude, but due to the expansion of the nearest airport, they are now being overflown frequently by aircraft starting from 4.30 am until 12 am Monday to Saturday. His wife does not seem to be affected by it, but Y is regularly woken up by planes arriving early in the morning. He is afraid that he will have concentration issues at work and high blood pressure due to a lack of sleep. The airport offers them acoustic isolation as compensation (Heathrow Airport Ltd, 2019).
3- Z used to live nearby a busy main road but has just moved out to a quiet residential area. She noticed that the neighbourhood gets overflown

sometimes and even more disturbed by the intermittent noise, especially when trying to fall asleep. The neighbours are also affected, but they do not know how to deal with it as the area does not seem to fall under the flight path on the maps and aircraft noise is not a statutory noise.

4- T is a factory worker with substantial hearing loss and vertigo due to excessive noise emanating from the machinery. It is now compulsory for each worker to use single-use earplugs during their shift.
5- The infrasonic weapons induce the desired psychoacoustic effect.
6- One researcher was seriously injured due to a technical failure in Large European Acoustic Facility that caused sudden exposure to sound levels above 154 decibels.

The first scenario[7] is an example of noise nuisance where the affected and the responsible parties can be identified. It also points to the fact that using modern loudspeakers with advanced bass technology, especially in homes with little or no sound insulation, can cause significant disruption. The lack of acoustic knowledge can lead to communication failure between X and her neighbour. From a cultural studies perspective, it might interpret what this conflict would reveal regarding, for example, their social status, class or gender. The main focus would be on the relationships between the social actors. The second and third cases, which are also likely scenarios for the present study cases, however, require a different lens from that of the micro-dynamics of social groups as the noise is produced industrially. Scenarios numbered 4, 5 and 6[8] point to other consequences that certain types of sound exposure can have. It is interesting to find out the actual ubiquity and the immense range of effects that noise can have upon the body, on which the following sections will elaborate. The ever-presence of noise constitutes another point on which the definition of unwanted sound is misleading: it fails to encompass conceptually the fact that we reached a point where various aspects of sounds are produced and used to have such effect on the body (Malaspina, 2018; Goodman, 2010). These effects range from temporary hearing impairment to *death* (Altmann, 2001).

[7] A real-life scenario experienced by myself in London.
[8] Case 5 was realised by the US Army when they attacked Panama Canal (Goodman, 2010:xv).

Defining noise as unwanted sound facilitates not only the concealment of accountability but the aspect of denial of such capabilities of sound[9]. Malaspina (2018:157) confirms that WHO (2011) too 'casts a blind eye on the development of technologies for the deliberate use of noise' by 'presenting noise as a toxic but accidental by-product of industrial development and urban density'. A similar argument against the unwanted sound approach can be presented about using and abusing sounds outside the audibility range (ibid:159). Goodman (2010) advocates for recognising sound as a vibrational matter capable of immediate effects that should be considered outside cultural dispositions and meaning. Recent developments in sound materialism, albeit mostly with an aesthetic concern, highlight such affective powers of sound (e.g. Cox, 2011; Schrimshaw, 2016). Similar to their focus on how 'sound communicates beyond meaning' (Have et al., 2011:3), the present study proposes to focus primarily on how noise *destroys* the lived experience rather than how it *builds*.

The use and abuse of the sounds that are outside the human audibility threshold are obviously outside this thesis's scope. It argues, however, how everyday sounds have now become a ubiquitous health hazard. Generally, the discipline of acoustic ecology demonstrated well how the contemporary urban sonic environment has become rich in low frequencies (Schafer, 1994) and drone effects (Augoyard and Torgue, 2005) which are allowed to emanate from the machinery to pass through acoustically vulnerable buildings. This over-saturation of the auditory background is not only disturbing to humans but also the non-humans (Krause, 1993). Given the ubiquity of these destructive sounds (Berglund et al., 1999; Augoyard and Torgue, 2006), especially in the example of aircraft noise which does not recognise any urban-suburban boundaries in effect (see Lee et al., 2017a, 2017b, 2017c), 'unwantedness' simply cannot grasp the scale of the problem.

The definition of noise, therefore, should not reinforce mainstream assumptions about sound and the hearing subject, which may legitimise victimisation within the

[9] It echoes the denial of environmental victimisation (e.g. Williams, 1996), which will be discussed soon.

dominant environmental management approaches such as soundscape that focus on impacting the annoyance. The present research attempts to highlight at the same time how *the sound environment is vital and noise pollution is harmful* while making clear the actors behind its creation and exposure. However, it is not the intention of the present research to offer a conclusive definition of noise, as this would require a much more robust epistemological analysis. More precisely, the harms and victimisation of noise and how they are structurally made invisible, rather than noise in the acoustical or cultural sense per se, is the focus of this thesis. The interdisciplinarity of noise as a concept will be acknowledged, albeit radically, to problematise its violence. Noise is the subject matter of this thesis' topic so far as its harms are documented, and the main purpose of this research is to document the experience of persistent noise exposure based on a victim-centred approach. The tension between the amount of information available about the negative *effects* that became more well-known through medical and acoustical knowledge and how this information is filtered out or ignored through institutional and environmental management approaches is the main motivation for this study. The definition of noise as 'unwanted' is important because it serves as a possible state-corporate collaboration to discount the noise as harm from which individuals suffer. Sound in this project will be rendered as a part of the critical analysis of the subjection to the current destructive ecological pollution, how the state-corporate interests permit it and how the individuals and communities are coping with it. In doing so, I have so far tried to unveil the direction the 'unwantedness' path has taken us, and now, I will shift the focus on how noise as harm is made relevant within the studies on the environment, harm and its victims.

Noise and the critical-criminological approach

There is a good match between the aims of the present study and critical-green criminological fields which have been developing for the last few decades (e.g., South and Beirne, 1998; Lynch and Stretesky, 2003; 2014; Ruggiero and South, 2013; White, 2013b; Davies et al., 2014; White and Heckenberg, 2014; Lynch et al., 2019). My project does not only respond to the lack of research on noise as a pollutant within the literature on environmental crimes and harms but also brings in

contemporary ecological conceptions to critical criminological approaches to environmental harms, which are accepted as part of the systematic ecological disorganisation due to capital accumulation and constant growth as dominant ideology (Lynch et al., 2018b; 2019).

Extensive environmental destruction, including noise pollution, fits within the broader context of harms caused by the powerful such as the state and corporations (e.g. Hillyard et al., 2004; Davies et al., 2014). The main purpose of the social harm approach is to problematise existing legal categories of crime to bring the harms that are not necessarily dealt with within the criminal justice system to the attention of the criminological agenda. As Stan Cohen (1998) underlined repeatedly, harms and atrocities brought about by the state are many times greater than crimes that are prosecuted. Hence the focus of the present study on transportation noise, including that of aviation, identified as a top environmental risk (UNEP, 2022) and a serious health hazard (WHO, 2011; EEA, 2020) compared to the legal status of noise as reduced to an individual nuisance caused by, again, individuals (Environmental Protection Act, 1990). The scoping of noise as harm rather than a crime echoes what Box (1983) referred to as street crimes. On the other hand, persistent transportation noise is not a matter of prosecution. Planning regulations (e.g. Ministry of Housing, Communities and Local Government, 2019) or noise mapping guidelines deal with such noise. [10] (e.g. DEFRA, 2019b). It is part of the policy frameworks (DEFRA, 2010; Department for Transport, 2013), ad hoc independent commissions of investigations (e.g. Maynard et al., 2010), and recommendations (e.g. ICCAN, 2020b), but transportation noise is beyond the scope of legal sanctions.

It is important to note here that cultural criminology has included the study of sound and noise, particularly the urban sound environment, in its research agenda. Initially, Hayward (2012:457) drew attention to the use of sounds by the states, for instance, to prompt behaviour change, such as in the example of the broadcast of classical music in the management of youth crime in the UK. He called for studying the

[10] Producing strategic noise maps is required by EU law (EU Noise Directive, 2002). Again, the unfulfillment of this requirement does not lead to actual sanction. The EEA states that several countries do not provide the necessary data. In any case, it is unclear whether the UK will still adopt this law after Brexit adjustments, as before [The Environmental Noise (England) Regulations 2006].

'cacophonous' urban sounds, which have been so far absent from criminological attention. Here, Hayward views sound as the indicator of crime or manipulation, but he does not consider industrial or environmental noise. Aural criminology should, among other things, take seriously 'Everyday noise pollution', which includes, for him, 'neighbour noise and other forms of anti-social behaviour' (ibid:458), though there is an acknowledgement of the abject effects of sound on the body. Likewise, Ruiz and South's (2018) agenda-setting for aural criminology tends to conceptualise noise as unwanted sound. McClanahan and South's (2020) broader scope of both cultural and green criminology include the sensory aspects of crimes and harms, highlighting the relevance of the socially structured sensory organisation on the emergence of these issues. However, their invitation to broadly address many sensorily intertwined phenomenological investigations of crimes and harms is ultimately disconnected from the wider conditions that activate the liminal experience exposed by persistent noise. Their emphasis is on examining environmental harms' invisibility from a perspective that engages with the multi-sensory construction of meanings. However, the emphasis on the predicament of subjective interpretation of sensory input has the risk of obfuscating the 'ontological reality' (Hulsman, 1986; Hillyard et al., 2014) of noise as harm and persistent pollutant, as discussed earlier. With acknowledgement of the emerging field of sensory criminology as such (Young, 2014; Herrity, 2019; Herrity et al., 2021; McClanahan and South, 2020), this study, therefore, adopts a more critical perspective akin to critical criminology and victimology (Fattah, 1989; Mawby and Walklate, 2002) in highlighting and examining the ontology of harms and victims in the context of contemporary ecological crisis and its localised experiences.

Noise created by the individuals or social groups or the way particular sounds are employed for social control mechanisms would therefore be a better fit within the scope of cultural criminology in revealing micro power dynamics through more symbolic interpretations (see Mead, 2015[1934]). The shift from the individual noise nuisance to noise as systematic harm, on the other hand, first requires the recognition of the latter as serious harm despite the legal definition of it as a crime (Davies et al., 2014). In terms of the state-corporate lens, as Tombs and Whyte (2020:18) argue, it seems like the lack of suitable legislation on persistent noise of transportation,

especially aircraft noise, seems like ensuring ‘that capital—in the form of the corporation—continues to reproduce itself regardless of its deleterious effects on the capacity for human life to reproduce itself'. State crimes, as a reputable sub-field, highlights states as the responsible party for suffering which cannot be dealt with legally, such as war crimes and genocide (Cohen, 1993; Krain, 1997). Similarly, within green criminological literature, it is a sustained motif that environmental harms caused by corporations owe their maintenance to state permissions and their omission as a statutory nuisance as a result (Pearce and Tombs, 2019[1998], Lynch and Stretesky, 2003; Davies et al., 2014). More specifically, the critical vein within the studies of environmental harms suggests that the adoption of the ideology of growth only intensified the ecological destructiveness of the usual corporation business. The harms occur "usually with the approval ('it is for the greater good') or denial ('there is no evidence of real damage') of the state" (Brisman and South, 2015:31). This argument also resonates with how Ulrich Beck (1992) conceives the ‘risk society’ and the constant reproduction of the ecological threats due to the patterns of modern solutions or management-based approaches to environmental problems. All of these resonate with the absent legal status of noise as a statutory nuisance and the 'culture of silence' (Brisman, 2013) surrounding the harms of noise and its constant production.

There are historical, social, and economic dynamics at play in the commitment and maintenance of social harms and its victims, which are, for the most part, made invisible due to these factors (Jupp et al., 1999; Hillyard et al., 2004, Davies et al., 2014). Concerning these contexts, Jupp et al. (1999) identified specific features which make social harms invisible: ‘no knowledge, no statistics, no theory, no research, no control, no politics and no panic!’ (Davies et al., 2014:1). These features are also pertinent to the lack of visibility of most environmental harms (ibid:14-15). Similarly, Walters (2014) highlighted the invisibility of air pollution due to a combination of these factors. When it comes to noise pollution, the lack of legislation and policy prioritising the victim are two of the most important features of its invisibility. Relatedly, the lack of knowledge, especially among the public, can also be due to the role of law in firmly ingraining certain ideals regarding crimes as social norms (Findlay et al., 2013). Despite the considerable knowledge and statistics

regarding the harms of noise and the scale of the circulation of noise, it cannot arise onto the public consciousness due to the lack of attention in the media or social media: there is ‘no panic’ (Jupp et al., 1999:5) as there is no representation of noise in the first place. Other dynamics that underlie the invisibility of noise and its victims will be explored throughout the thesis.

In addition to invisibility, Walters (2013) also revealed other dynamics of air pollution, which would also be highly relevant for the case of noise as state-corporate harm. He showed how creating the impression that the toxic air is 'inevitable' serves its 'normalisation' (see also Walters, 2014; Walters and Martin, 2013). Based on Bourdieu's (1999) work, he argued that industrial enterprise claims a 'status of habitus' by presenting the environmental catastrophes they cause as mere unlucky business incidents (ibid). How the corporate discourse of the necessity of capital expansions is instilled into public awareness to underrate the extent of the harms caused is also addressed in Stretesky et al. (2012;2014), referred to as the 'Treadmill of Production'. Moreover, Walters argues that breaching pollution limits is not prosecuted but rather 'regulated': it permits the corporation to further their wrong-doings, even if they get a serious warning (Walters, 2009; 2010; White, 2015:33). Therefore, substantial critical work on pollution and environmental harm explored some inextricably linked aspects of pollution: evading the responsibility of harm, the problem of enforcement and the discourse shaped by state-corporate power. These are also relevant aspects in producing noise and maintaining its invisibility which will be considered in this study. Indeed, we tend to think environmental noises are merely inevitable sounds that we need to endure (Schafer, 1994) and do not need to know from where they come. A normalising effect of this discourse, as Walters (2013) would put it, has been successful in internalising the assumption that noise almost 'magically' happens: it becomes difficult to ask the questions of 'why' and 'by whom', not least because the right to pursue legal proceedings is taken away from individuals to protect the corporation. In aircraft noise and other forms of industrial noise and pollution, the accountable is disembodied, abstracted, out-of-reach and virtually anonymised with the face of a corporation.

In addition to recognising noise as social harm in the academic context, the necessity of the legal definition of it as a crime was put forward within the relevant debates. One legitimate reason for this would be the need for recognition of the victim and the criminal in the first place to address and resist victimisation properly and direct the sanctions 'against those deserving sanctions' (Christie, 1986:29). Garland (2011) also finds the concept of crime as a powerful tool in resolving justice issues. Within green criminology, the sub-field of conservation criminology is primarily concerned with the breaches of environmental laws and issues within natural resource management (inter alia Gibbs et al., 2011; Gore, 2017). It is responsible, and the victimised parties are at the centre of the investigation at the same time as far as they have legal counterparts. It is clear; however, the criminalisation of environmental harm perpetrators, often corporations, may not necessarily guarantee that sanctions are properly addressed to those responsible (Ozymy and Jarrell, 2002). Again, we go back to the trope of critical criminology: Existing law-making and criminalisation processes themselves are questionable, for the wrong-doings of corporations are historically ignored and, at times, indeed facilitated by the state, as it is already documented (e.g. Alvesalo-Kuusi 2002; Brisman and South, 2015; Tombs and Whyte, 2015), and this includes the perpetration of environmental crimes. Green criminology has so far revealed the extent of several types of ecological destruction caused by corporations and how they usually get away with them, including air pollution (Walters, 2013), water pollution (McClanahan, 2014), radioactive waste (Ringius, 2001; Walters, 2007), gas leak (Katz, 2010), oil spill (Bradshaw, 2014), illegal trade of wildlife animals (Sollund, 2015) and decline of species (Lynch et al., 2015). These are such harms that even if they are criminalised, enforcing their relevant law is improper. Therefore, in a context where profit-driven corporate expansions rule, then the ills of this system must be addressed by capturing the harmful events rather than working within the conceptual boundaries of the criminal justice system, which tend to back up corporate decisions. Contrary to what Zedner (2011) argued, casting a blind eye to the ever-pressing concerns regarding environmental destructions would indeed undermine the academic integrity of the discipline. Focusing on harms does not mean ignoring existing 'crimes'. Rather, it is the endeavour of broadening the definition of harm as a starting point in analysis (Hillyard et al., 2014) in order to achieve clarity regarding not only those who

commit harm and those who become a victim, but we also need to present the underlying structure which sustains the commitment of these harms such as dynamics of the legal machinery as mentioned above and the silencing of the victims.

As it became clear above, green criminology's preoccupation with green harms and crimes has produced critical insights on the state-corporate environmental wrong-doings, including prosecution problems and the ignorance and justifications of harms. However, the history of research focusing on the experiences of victims of green harms is relatively recent (e.g., White, 2013a; 2015; Spencer and Fitzgerald, 2013; Davies, 2014; Wilson and Ross, 2015; Hall, 2013; 2017a;2017b; Natali, 2010;2015;2016;2019; Natali and Budo, 2018). A green-cultural approach, the primary outlook of this body of work, highlights the cultural nuances in understanding the environmental harms among victims (Hall, 2017b; Brisman, 2017; Natali, 2016;2019; Natali and Budo, 2018; Natali and McClanahan, 2017). Natali's work (2010;2015;2016) examining environmental pollution issues through visual methods for the first time in green criminology is highly relevant for the present study regarding the affinity of the subject matter and methods. His 2016 monograph on the victims' perspectives on waste pollution in Huelva, Spain, through a visual lens is particularly relevant for revealing insights such as how the victims' interpretation of pollution is marked by denial. One distinct aspect of the present study would be, apart from the type of pollution, which is a non-visible material, the caution with the symbolic interactionist approach, which mainly focuses on symbolic interplays of meaning (Mrozek, 2016:123). Following the critique of critical victimologists (Miers, 1990; Mawby and Walklate, 2002), I will highlight, first and foremost, victims' experiences from a critical perspective whereby the cultural renderings (as well as the reflections) of noise pollution are primarily connected to and understood as part of the wider structural issues of ecological destruction of global capitalism. Critical victimological perspectives indeed promote going beyond what is taken for granted when it comes to crimes and harms and investigating that which constitutes the social reality of victimisation (Mawby and Walklate, 2002:19). However, this process should also entail the job of unveiling the ideological constellations which underpin the ecologically destructive conditions and support the

social construction processes (Sumner, 1990). As Kramer (2014:23) has suggested, the study of ecological harms and victims first and foremost considers the 'cosmic concerns' and threats brought about by environmental harms caused by global warming and climate change. Similarly, it can be argued that any analysis of pollution should be made sense in the context of global capitalism and the ideology of growth (e.g. Griefe and Stretesky, 2013). Although Natali's (2016) work recognises environmental harms (through what he calls *radical* symbolic interactionism), there is still room for critically theorising on the issues emerging from pollution, such as dismissal or ignorance of the harm for the sake of constant production of goods and services.

Noise pollution is too characterised by deeply ingrained and reproduced environmental injustices, the silencing of the victims and the institutionalised ignorance of these issues. A critical victimological approach, as delineated in the pioneering work of Williams (1996) on environmental victims, would reveal aspects of victimisation which would otherwise remain in the shadows. Victims, for example, do not always consider themselves affected by the harms or crimes in question. This reluctance may be particularly pertinent to noise in the lack of public attention and legal devices regarding the detrimental effects of noise. The discourse on getting used to the noises, 'habituation' (Stansfeld, 1992; Smith, 2003), is another aspect which makes understanding noise victimisation difficult. However, as I discuss below, noise is an insidious pollutant harmful to health even if we do not notice it or do not find ourselves as impacted by it (Altmann, 2001; Goodman, 2010). A critical victimological perspective is an appropriate framework for articulating noise victimisation, therefore, as it is based on the indications of the violations of human rights as well as scientific evidence. In this case, the evidence concerns the impacts of noise on health. Thus, critical victimologists' awareness of the objective conditions is significant for this study.

An important question may arise as to whether it makes sense to research victims' everyday experiences where they may not be aware they are victimised. The methodological connotations of this question will be discussed in the next chapter. For now, the answer lies in how we frame the understanding regarding the

emergence of pollution in everyday life. After all, victims can respond to the research as far as they know about the pollutants and find themselves, to some extent, impacted. Firstly, based on the materiality of sound, therefore noise, I will have already argued that it is a force which operates 'beyond meaning' (e.g. Have et al., 2011; Cox, 2011) (it will also be explored further in Chapter 3). The second part of the answer pertains to the conceptualisation of *pollution* rather than noise. I will argue that to understand noise better, our conceptualisation regarding pollution should be attuned to the contemporary critical theorisations of ecological harms and their impacts. Today's risks and threats, including pollution caused by ecological disorganisation, are insufficiently understood within green criminological literature. To better understand its emergence within everyday rhythms, I suggest a novel ontological framework which will resonate with the purpose of examining noise experience as it is actualised. We are then able to lend an ear to capture the experience radically.

A new ontological frame for noise as harm

How we define the environment has implications for research on green crimes and harms (White, 2013b:20). From the anthropocentric point of view, human beings are entirely separate from and above all other species. Non-human beings are instrumental to humans, and the whole of nature can be exploited when it is deemed necessary (Brisman and South, 2018:4). On the other end of the scale is the ecocentric perspective, as Brisman and South (ibid.:5) clarify, which does not foresee a hierarchical relationship between nature and humans. It rather emphasises the interconnectivity of the two by underlining the global consequences of human production activities (White and Heckenberg, 2014:65 in ibid.). One can argue that the anthropocentric conceptions of the environment dominate policy-focused conservation criminological studies (Gore et al., 2010), while ecocentrism is prevalent among the critical approaches to environmental harms, which are considered along with wider risks posed to the whole planet and how these risks are produced. Soundscape design interventions offered as a solution to noise pollution would also be anthropocentric as far as it increases 'environmental input' (Jackson, 1996) instead of addressing pollution at the source. Because the ecocentrism

approach foresees humans as existentially inextricable from their habitats and environment, any intervention will have not only 'human' but ecological consequences.

There is a strand of theories on ecology which I suggest in order to better underpin the ecocentrism in green criminology. The theme of interrelation between us and the environment, as briefly mentioned above, is a key idea in the ecological theories of several philosophies (see de Certeau, 1986; Serres, 1995; 2008; Prigogine and Stengers, 1984; Guattari, 1989; 1995; Bateson, 1972; Virilio, 1990; 1993; Morton, 2010). The crucial aspect of this stream of ecology[11] would refuse the binary opposition of human and 'nature'. For example, Morton argued that the idea of Nature (with capital *N*) indicates a distant, reified, romanticised thing with unnatural qualities of 'hierarchy, authority, harmony, purity, neutrality, mystery'. It is associated with sceneries of green and mountains in the wild (2010:3). This conception of nature is the underlying motivation of human behaviour, as if it is inexhaustible and taken for granted. The critical green-criminology of Lynch and Stretesky (2003), for instance, examines this very behaviour of endlessly consuming environmental resources and producing harm in turn. Ecology, however, is a vital coexistence whereby no human or non-human is isolated from each other. Ecological thinking, therefore, is a project through which we reframe our approach to environmental harm with paying attention to this relationality[12].

Early works in environmental sociology were also marked by anthropocentrism (e.g. Buttel, 2000; Dunlap, 2010. For Marxist works, see Schnaiberg, 1980; Schnaiberg and Gould, 2000[1994]). Within this literature, the environment is usually seen as a subset of or an external addition to social theory in which pollution is still addressed

[11] More precisely, I refer to a post-structuralist strand of ecology. Although structuralism seems to be the main resource from which ecological thought emerged (as it is based on the idea that terms and signs never exist in isolation), the following generation of thinkers seem to have overcome the hierarchy that is presupposed in structuralism, namely, the subsumption of the full subject (agency) to the system (nature), and systems as the main subjects of analysis. In one of his interviews, Levi-Strauss notably went further to say that nature and humans cannot be defended at the same time (1991:35 in Conley, 1997:66).

[12] Philosophical underpinnings of such a conception can be traced back to Leibniz's monadology (for the relationship between monads and the oikos, e.g. Lyotard, 1993) and Spinoza's ethics (for bodies and affects, e.g. Deleuze, 1990).

within the 'environmental management' (Jackson, 1996) approach. Jackson (1996) contrasts environmental management with preventive steps taken before environmental harm is produced ('management vs prevention'). Although his aim was primarily to describe ways to maintain a functioning economic system, his distinction is indicative of how modern corporate solutions to ecological issues may be problematic. The management approach also echoes the binary imagination of 'Nature' and the ideology that human beings are not only external but also superior to it. In the face of the modern lifestyle's superiority, pollution is reduced to a mere side-effect to be fixed.

Therefore, the ideology of infinite economic expansion and human control over nature determines how pollutants are defined (or ignored). Serres (1995) mentions the problematic rationality of the desire to possess and master and argues that infinite economic growth leads to a huge gap between the Real and the rational (also see Zizek, 2002). The economic gain takes precedence over reality, representing the ideology as rational. Therefore, with the combined effect of technological advancements and the modern ideology of the appropriation of nature and limitless growth (Halsey, 2013; Griefe and Stretesky, 2013), the concept of pollution has to be re-defined. Once the 'rationality' of economic growth is unmasked, reducing pollution to calculations and predicting risks in environmental management approaches emerges as a problem. Hazards today operate well below and above our thresholds in their perceptibility, ubiquity and the way they circulate due to the unprecedented growth of technology. As mentioned before, the spatial existence of environmental harms spans local to global (White, 2011) thanks to these processes. The need for reconceptualising the contemporary environmentally harmful events can thus be articulated: Pollution and other hazards have gone beyond conventional spatiotemporal coordinates (Adam, 2005), perception and consciousness (Goodman, 2005; Malaspina, 2018). The 'acceptable' limits of pollution, their regulation in the symbiosis of state-corporate harms (Rothe and Kauzlarich, 2016; also see inter alia Lynch et al., 2018), and the disappearance of these processes from social reality becomes even more problematic through the contemporary framework of the pollution as such.

Thinking about the ontological resonations of ecological harm, Wyck (2005), based on his analysis of radioactive waste and its 'symptoms', suggests that contemporary ecological threats can actualise themselves in a wide range of forms, from that of the imperceptible expositions to noise to nuclear power accidents that can erase life on earth. The unexplored aspects of the potential destructiveness of sound (Altmann, 2001) and the creation of thresholds, metrics and standards (Critchley and Ollerhead, 1990; BSI, 2014) illustrate such an aspect of noise as ecological harm as well. However, the actuality of the sonic experience cannot be represented by the existing standards anymore – the everyday life in a polluted environment, which is taken for granted, should be examined to render it significant. The everyday experience of pollution should be taken seriously as the layer on which the effects become visible and manifest.

In terms of the ecological interrelatedness and management problem, it should also be noted that Beck's infamous 'reflexive modernity' (1992) refers to the vicious cycle, the ambiguous assemblages, of 'problems-solutions-side effects', as a way of dealing with environmental issues. According to his theory, the kinds of solutions or interventions also become the main sources of risks and hazards since they arise from the same circular logic of environmental management and business.

> A rising ocean. A falling building. A toxified river. A disappeared species. A nuclear landscape. All of these representing completely different matters and forces gathered together uniquely (Wyck, 2005:x).

Wyck (2005) carries Beck's analysis one step further and uses interconnectedness per se as epistemology in making sense of contemporary risks and threats. I propose to apply his framing of virtuality as the prominent aspect of contemporary threats to environmental noise. Also used by sonic materialists (e.g. Cox, 2011) I will present later; virtuality is defined as ‘a lived paradox where what are normally opposites coexist, coalesce, and connect; where what cannot be experienced cannot but be felt-albeit reduced and contained' (Massumi, 2002:30). The threat is a lived paradox as the effects of threats do not have to be actual in order to become real. Threats like Bovine spongiform encephalopathy (mad cow disease), HIV or global warming are

something that seems unreal yet possible[13] (Wyck, 2005), thanks to the magnitude of risks that today's technology can produce (Adam and Loon, 2005). Noise as threat exactly refers to the virtuality of sound (e.g., Cox, 2011) as its immense capability to affect through its materiality and energy; loudness, frequency and pitch; and anything in between that carries the potential to induce stress, to deafen, to demolish, or in contrast, to help make someone feel 'at home'. A critical ecology, however, presupposes accountability: it designates the systematic commitment of this harm to the particular ways the pollutants are produced, allowed to circulate and managed within the 'Capitalocene' (Moore, 2015; 2016; Patel and Moore, 2017).

The logic of capital in the ideology of constant growth is the fundamental process in the 'Treadmill of Production' (Stretesky et al., 2012; 2014; Lynch et al., 2018a;2018b) of pollutants which defies the boundaries of perception, space and time. Activating the novel radical perspective of the virtuality of noise, the ‘traces’ of this pollutant can be followed more clearly as it emerges on the level of everyday rhythms. Through the sensitivity induced by the virtuality frame, we can become attuned to, as Massumi argued, the aspects of the experience of noise pollution, which can only be felt in a 'reduced and contained way'.

In other words, the elusiveness of the pollution experience makes it necessary to get closer to the reality of noise victimisation to ‘hear’ the actualisations of noise in all its complexity and in the context of its structural production fuelled by the desire to grow economically. The close link to the critical criminology of this approach also emerges in its alignment with the invisible/visible harm concept. Invisible harms ontologically exist as virtual, whereby their visibilities are moments when they become actual. The nuance lies in the virtuality-actuality axis resembles a spectrum on which the invisibility of harms is manifested to various degrees.

[13] The most recent – lived – example is the spread of Sars-Cov-2 in 2020, during which this thesis was written, mostly referred to as a consequence of the negative impact of anthropogenic activities on wildlife habitats (Johnson et al., 2020).

Interlude: Health effects

This section aims to present a compilation of research on health and acoustics that documents the range of the destructive physical effects of noise as it constitutes the main source of knowledge about the most severe consequences. This knowledge is key in making noise and its victims visible and understanding its actualisations to contribute to public awareness and its status as a research topic. In the beginning, it is interesting to note that the invisibility of noise in its least metaphorical meaning refers to sound's essential feature as energy which does not leave any 'residue' (Gokhale, 2018:565). In that respect, convincing someone that noise is a threat is harder. On the other hand, WHO (2011) estimated that persistent noise exposure is responsible for losing one million healthy life years annually within the EU. The following paragraphs are a glimpse into what happens between the onset of annoyance complicated by our hearing mechanism and the actualised 'visible' consequences such as stress and illness. I will try to highlight the range of invisible (or inaudible) degrees of destructiveness through research on health which provides important clues not only on the more directly felt violence but also on the *cumulative*, insidious effects of noise.

Noise is the leading cause of many auditory conditions, including tinnitus, usually researched in work environments (Lusk et al., 2017; Shore and Wu, 2019; Lindblad et al., 2011), acoustic trauma (Mardassi et al., 2016) and of course, hearing loss (Basner et al., 2015; Daniel, 2007; Metidieri et al., 2013; Savastano, 2008; Silwinska-Kowalska and Davis, 2012). In terms of non-auditory impacts, which are based on persistent exposure, on the other hand, anthropogenic, especially transportation noise, is linked to cardiovascular diseases (Babisch, 2000; 2008; 2014; Cai et al., 2017; Munzel et al., 2014; Viennau et al., 2022) including heart rate variability (El Aarbaoui and Chaix, 2020), myocardial infarction (Selander et al., 2009), hypertension (de Kluizenaar et al., 2007; Jarup et al, 2008; Van Kempen and Babisch, 2012; Harding et al., 2013; Halonen et al., 2015), arterial stiffness (Foraster et al., 2017), coronary atherosclerosis (Wang et al., 2021), stroke (Seidler et al., 2018) and ischemic heart disease (Babisch, 2011; Vienneau et al., 2015). These cardiovascular illnesses are also the top causes of death locally (Lusk et al., 2017)

and globally (Lozano et al., 2012). Noise is known to have adverse effects on non-cardiovascular health. It is linked to obesity (Pyko et al., 2015), developmental delays and low birth weight due to exposure during pregnancy (Ristovska et al., 2014), occupational injury (Yoon et al., 2015), job and academic performance impairment (Tzivian et al., 2015) and mental illness (Tarnopolsky et al., 1980). It has negative impacts on children's school performance, reading skills and memory (Clark et al., 2006), cognitive abilities (Haines et al., 2001), mental health (Lercher et al., 2002), learning (Klatte et al., 2013) and it causes annoyance (Stansfeld and Clark, 2015) and distraction (Stansfeld et al., 2000).

According to a widely accepted view of hearing, after the acoustic properties of the sound sources enter the auditory system to be processed, they are ascribed meaning based on their qualities (Russell, 2003 in Smith and Pijanowski, 2014). The body's decision then follows this psychological process of responding to the stimulus. Following the meaning ascribed, the body gives physiological reactions such as adjusting blood pressure and hormone levels (ibid.). Allostasis theory (Sterling and Eyer, 1988) is a notable frame that explains the process of responding to environmental stimuli. As McEwen (2006:368) describes:

> (…) the body responds to almost any event or challenge by releasing chemical mediators—e.g., catecholamines that increase heart rate and blood pressure—that help us cope with the situation; on the other hand, chronic elevation of these same mediators—e.g., chronically increased heart rate and blood pressure—produce chronic wear and tear on the cardiovascular system that can result, over time, in disorders such as strokes and heart attacks.

The 'invisible' journey of how noise is processed is therefore remarkable. The link between noise exposure and changes in heart rate is an example of actuality; although it is difficult to discern, it remains as *reality*. It belongs to the spectrum of the effects of virtual ecological threats: from the most severe in actualisation (in the form of an accident, catastrophe, violence) to the most ordinary, *infinitesimal* (annoyance – the smallest rupture, leak into every day that starts the catastrophic

process, a moment in the actualisation of pollution). According to McEwen (2006), severely violent events are acute stressors that inflict classical 'fight or flight' short-term responses that might inflict post-traumatic symptoms, a highly actualised situation. On the other hand:

> The most common stressors are (…) ones that operate chronically, often at a low level, and that cause us to behave in certain ways. For example, being 'stressed out' may cause us to be anxious and or depressed, to lose sleep at night, to eat comfort foods and take in more calories than our bodies need, and to smoke or drink alcohol excessively. Being stressed out may also cause us to neglect to see friends, or to take time off or engage in regular physical activity as we, for example, sit at a computer and try to get out from under the burden of too much to do. Often we are tempted to take medications— anxiolytics, sleep-promoting agents—to help us cope, and, with time, our bodies may increase in weight… (ibid.).

In addition to this daily stress, then, noise, as an environmental stressor, most of the time operates at a lower level of threat which is shown to annoy (Miedema, 2007; Stansfeld and Clark, 2015). Once perceived as a threat or an unwanted situation, the autonomic nervous system mediates short-term responses such as changes in heart rate, blood pressure, endocrine outputs, muscle tension or vascular constriction (Stansfeld, 1992). Chronically elevated hormones or blood pressure levels are induced by chronic exposure to noise, leading to the risk of more permanent damage to the cardiovascular system. This process means that the ability of the body to achieve 'stability through change' (Sterling and Eyer, 1988:636) is mutated. Sleeping disorders and deprivations induced by noise inflict 'wear and tear' on the body (Muzet, 2007; Hume et al., 2010; Munzel et al., 2014; Halperin, 2014; Basner and Samel, 2004; Quehl et al., 2017). Nocturnal environmental noise triggers 'biological changes in the form of stress response', which leads to short-term effects of 'daytime sleepiness, tiredness, annoyance, mood changes as well as decreased well-being and cognitive performance' (Halperin, 2014), followed by long-term cardiometabolic damages (Hume et al., 2010).

Overall, in physiological studies on the effects of noise, the probability of health risks, especially heart diseases, are sought within the relationship between the sound pressure level and the length of exposure; i.e., dose-effect/response relations (Van Kempen et al., 2002; Babisch, 2008; 2014). In terms of non-auditory effects, the most severe health impacts occur in chronic exposure to sounds that exceed 55 dB(A)[14] (Smith and Pijanowski, 2014:66). Exposure to more than 75 dB(A) (an example is living near an airport) to severe heart conditions. On the other hand, Van Kempen et al. (2002) concluded that the risk of ischemic heart disease increases by 1.09% for each 5 dB(A) increase for daytime noise exposure between 50 and 70 dB(A). It has already been shown that in urban areas, daytime exposure levels seldom fall below 50 dB(A) (Babisch, 2008 in Smith and Pijanowski, 2014). However, 30 million people within the EU were exposed to night-time noise exceeding 50 dB(A) in 2012 (Babisch, 2012). WHO (2018) recommends limiting average aircraft noise to 45 dB Lden and night-time aircraft noise to 40 dB Lden. EU Noise Directive (2002) requires airports to produce noise maps in order to document areas exposed to noise levels exceeding 55 dB(A) during the day and 50 dB(A) at night. On the other hand, the general UK noise policy adopts 57 dB Laeq as the threshold where the community annoyance begins (CAA, 2017:4). The ways of translating noise experience as mere annoyance on the one hand and reducing annoyance to numerical sound metrics on the other can be made questionable concerning noise as harm. However, the thresholds adopted in policy and the actual exposure levels are already clearly above the updated limits of WHO (2018), regardless of the evidence of adverse effects of louder sounds.

Other ways in which sound can harm bodies are astonishing. In terms of the audition, 130 dB is the threshold of pain, and the sound of this loudness induces hearing loss (Dobie, 2004). 10-15 dBs, on the other hand, can be barely heard (Kang, 2007:3). Sound levels above 140 dB increase the risk of permanent damage to nerves (ibid.). The risk of NIHL (Noise Induced Hearing Loss) is generally related to

[14] A-weighted decibels (dB(A)) are adjusted units of loudness when the lower frequencies that the human ear cannot hear are taken into account in calculating the sound pressure level (or loudness) (Meyer-Bisch, 2005). This unit is the most commonly used weighting network in noise legislation (Kang, 2007).

working environments and is usually higher among orchestra musicians, farmers, and construction workers (Ostri and Parving, 1991; Sliwinska-Kowalska and Davis, 2012) and military officers and service members (Lindblad et al., 2011). Lutman (2000) argues that while the risk of NIHL is not significant at 80 dB(A), it becomes material at 90 dB(A) and above. However, studies show that short-term exposure to a high level (120 dB) and long-time exposure to a moderate level of 82 dB can cause hearing loss, varying in degrees of seriousness (Ward et al., 1981). Sudden impairment of hearing after a short-time exposure to an intense sound is called acute acoustic trauma and usually follows explosions and the use of noisy weapons and vehicles which sound as loud as 100 to 140 dB to which military officers are likely to be exposed (Mardassi et al., 2016).

The destructiveness of the immediate effects of 'extreme' noise, on the other hand, is known to have been abused. It was employed for lethal and non-lethal purposes targeting certain groups or individuals in military or secret service operations. There is an invisible history of research and use of acoustic weapons in which not only the audibility of sound levels but the frequency range of audibility in terms of pitch recognition[15] (20 – 20.000 Hz) has been exploited (Goodman, 2010:15-25). The first examples include the use of loudspeakers for psychological abuse in the Second World War and the development of infrasound (below 20 Hz) projectiles for inducing hearing loss until the 1970s (Volcler and Volk, 2013 in Malaspina, 2018: 157-58). These not only introduced the dimensions of infrasound and ultrasound to the field of power but also precipitated the use of other forms of sound, such as popular music, for manipulation and torture (Goodman, 2010; Johnson and Cloonan, 2009; Cusick, 2006). Examples include infrasonic weapons used for 'psychoacoustic correction' in the Waco siege, panic-inducing high-volume audio-harassment campaigns in Vietnam and Laos (Goodman, 2010: 19), loudspeakers broadcasting hard rock, heavy metal and rap music for harassment in Iraq by the US and sound and music used in CIA interrogations (Malaspina, 2018:158).

[15] Hearing does not stop outside these thresholds: as long as the sound pressure is enough, the human ear can hear frequencies as low as 1 Hz (Altmann, 2001: 179).

According to place theory, the sound moves further along the nerves as the frequency gets lower (Moore, 2013). The infrasonic frequency of 6 Hz, for example, coincides with Theta waves, and long-term exposure is known to induce feelings of depression, confusion, fatigue and anger (Jirakittayakom and Wongsawat, 2017). Other effects of the use of infrasonic waves include discomfort, disorientation, nausea, vomiting (due to infrasound emitting from very large speakers), blunt-object trauma (plasma created by high-frequency, non-penetrating acoustic bullet) and finally, death (high-power, very low frequency acoustic bullets fired from few metres) (Altmann, 2001:169). Moreover, Goodman (2010:69-70), with reference to Ledoux's (2015) discussion of sonic activation processes, states that conscious emotion and the use of cognitive faculties are unnecessary and are short-circuited in the production of fear responses in the brain. On the other hand, mundane exposure to low frequency sound, to which some people are more vulnerable than others, regardless of the sound intensity, can cause intense disturbance (Leventhall et al., 2008; Moorhouse et al., 2009). Finally, ultrasound could benefit many areas of research since it can 'interact with material', kill bacteria and viruses and travel underwater over long distances (Goldsmith, 2012:164).

The extreme effects are only exemplary of sound as material violence. Noise as an ecological threat, too, has the capacity to become extreme events, such as in the example of cardiovascular disease and the subsequent death. Before reaching a point where an extreme situation as such becomes visible, noise is experienced at the level of what can be called the 'infraordinary' (Perec, 1997:210), as opposed to extraordinary events, actualisations in the form of illness. The threat of noise as harm is virtuality constantly evolving towards actuality, entangled within the ordinary perceptions, lack of knowledge, and the struggles over noise and environmental justice.

The Anatomy of Aircraft Noise as Harm

As mentioned earlier, this study focuses on the example of prevalent aircraft noise in London, UK and investigates the invisibility of environmental noise as harm and its victims. What makes this case prominent is that it is a notable lens in entailing the

multidimensional issues raised above about noise as harm. From an initial glance, it contains all the problematic aspects of the invisibility of noise as harm, including lack of legislation and lack of public consciousness. Moreover, the adoption of the management approach to noise instead of prevention and institutional definitions of noise as subjective contributes to the invisibility of noise. In short, there is an actual contradiction between the extent of aircraft noise exposure and the degree of invisibility of its victims and harms in London.

London Heathrow Airport, for instance, located in the Borough of Hillingdon in west London alone, is among the top 10 busiest airports in the world, with a total number of 80 million passengers in 2018 (Annual World Airport Traffic Report, 2019) and the noisiest in Europe which affects more than 700.000 residents in London (CAA, 2011). It accounts for 65% of aviation noise exposure above 55 dB Lden (Grollman et al., 2020:7). As mentioned above, chronic exposure to sounds above 55 dB(A) is linked to serious health issues (Smith and Pijanowski, 2014:66; Van Kempen, 2002), most notably cardiovascular diseases (Babisch, 2008). With all the expansion plans debated since 2013, it is estimated that the number of people exposed to Heathrow's aircraft noise would only reach 2.2 million should another runway be developed (Topham, 2018). As mentioned, London has five more major airports, namely Gatwick, London City, London Luton, London Stansted and London Southend. London skies are, as a result, encrusted with the flight paths of all six airports in varying degrees, with the busiest ones having the most impact. Some boroughs are most impacted by more than one airport's planes simultaneously (HACAN, 2017).

According to DEFRA (2019b), the government is responsible[16] for monitoring the level of transportation noise by producing noise contour maps illustrating the number of people impacted by the given noise thresholds. 57 dB Laeq indicates, for instance, community annoyance threshold, whereby 63 dB Laeq corresponds to ‘medium’ annoyance and 69 dB Laeq means ‘high’ annoyance (Critchley and Ollerhead, 1990 in CAA, 2017:4). It is important to note that Laeq indicates the *average* sound level

[16] The Environmental Noise (England) Regulations (2006, as amended) is the transposed version of the EU Commission Environmental Noise Directive (2002) provides detailed technical guidelines for noise modelling. However, they are now under revision following Brexit procedures (CAA, 2022a).

during the day or night, excluding individual noise events, smoothing out the individual annoyances. The daily experience of noise is therefore reduced to a single unit of loudness, meaning annoyance does not exist outside these categories. The noise thresholds used in policies are based on noise surveys mainly preoccupied with understanding acoustic factors (namely, loudness) that affect the annoyance response. (e.g., Brooker et al., 1985; Critchley and Ollerhead, 1990; Le Masurier et al., 2007). In other words, noise experience in the UK has historically been reduced to problematic loudness units that cannot grasp the actual disturbance and harm through averaging numbers and side-lining authoritative guidelines such as the WHO (2018).

As opposed to other transportation types, monitoring noise caused by aircraft is to be implemented by airports (DEFRA, 2013). In other words, airports are responsible for monitoring noise emissions. Like transportation noise, aviation noise contour maps show noise exposure based on certain sound level thresholds, which are used to represent the 'onset of significant community annoyance' (Lee et al., 2017a:1). Another significant aspect of aviation noise management is that the noise complaints are handled by airports (DEFRA, 2019a). The CAA, although they are the regulator for aviation, clearly state that 'If a particular aircraft is causing noise nuisance but is not breaching the Rules of the Air[17] we don't have legal power to restrict its activity.' (CAA, 2022b). Noise monitoring strategies and action plans are in the form of regulations and recommendations for the operations (ICCAN, 2020b). Moreover, they are 'neither clear nor consistent' to stakeholders (ICCAN, 2020a:64). This situation resonates with most instances of corporate liability (e.g. Alvesalo-Kuusi, 2017): the wrong-doings are not prosecuted but regulated through the use of noise metrics which cannot properly grasp the essence of noise experience and the actual scale of noise emissions. Abstraction of the noise experience through Laeqs facilitates manageable noise monitoring procedures. As Nold (2017:208-9) discussed, the convenience of numbers smooths out much of the policy-making process and thus frustrates the community who thinks they are silenced by these metrics. The creation of thresholds, the number representing community annoyance,

[17] Standardised European Rules of the Air (SERA), the EU law concerning aviation's general operations and services. Again, this may have been transposed or revised by the CAA in the UK.

would further assist airports in implementing their business within their allowed boundaries of decibels that do not count the single events of harm.

The myriad of effects of noise, including from aviation, has been widely documented (e.g., Basner et al., 2014; 2017). Extensive research revealed the adverse health effects of aircraft noise in particular. It is most prominently linked to sleep disturbance (Basner and Samel, 2004; Basner et al., 2008; 2014; Kim et al., 2014; Kwak et al., 2016) and impairment of children's learning and cognitive functions (Haines et al., 2001), hypertension (Jarup et al., 2008), cardiovascular disease (Hansell et al., 2013) stroke (Siedler et al., 2018), myocardial infarction (Huss et al., 2010), metabolic interference (Eriksson et al., 2014). Here, again, the concept of unwanted sound is unable to problematise exposure to sound and pinpoint corporate liability. Although it sets out to acknowledge the importance of well-being first, the institutional approach on noise is based on the definition of noise as 'unwanted sound', presenting it as 'an inevitable consequence of a mature and vibrant society' (DEFRA, 2010). To put it bluntly, defining a top global risk with serious health consequences as merely a subjective is untenable. Further, conceptualising noise as an indicator of a better society is outright dangerous in the context of a national policy which is expected to guide the industries de facto and predominantly shape the discourse[18]. This approach is also reflected in the Aviation Policy Framework (Department of Transport, 2013:55), which makes it very clear that the government's projection in aviation is a trade-off between noise exposure end economic gain. Noise, seen in this way, becomes an inevitable part of the aviation industry with its wide-scale emissions, whereby health consequences are side-lined.

This study problematises the representation of noise pollution as a manageable part of the usual business when in actuality, it is an ecological threat. It is complacent to assume a trade-off between a habitat where life can be enjoyed and the persistence of noise exposure. This negotiation means rejecting a conception of an environment in which, as Rachel Carson argues in the influential 'Silent Spring', we 'accept as inevitable that which is inferior or detrimental' (1962:12). The consequences of

[18] Far from describing a better state, the following chapters will show how the contemporary 'sound of modernity' (Thompson, 2002) denigrates our sensory existence.

being in constant search of sound levels that are 'not just quite fatal' (Paul Shepard in Carson, 1962), as well as the definition of 'unwanted sound' currently dominate the ways in which noise is governed. As opposed to these approaches, I will offer a qualitative exploration to reveal the actual harms of noise and its victims. However, this is not to identify another threshold of annoyance based on which we can then decide the 'acceptable' sound levels, but to provide an account of the actual lived experience of noise exposure in which we can grasp the complexity of the relationships between what are supposed to be thresholds and the individual and collective reality of noise. Similar to the way that medical studies contribute to our existing knowledge on the actualisations of noise pollution in the health and wellbeing context, this study will aim at providing a glimpse into how noise affects and destroys on the level of personal and collective lived experience based on a critique of mainstream understandings and management of noise.

Based on the discussions presented throughout this chapter, this thesis investigates the lived experience of noise victims through the lens of aircraft noise via three research questions in which salient aspects of the problem are highlighted:

1- How are the daily lives of victims impacted by noise? In other words, how does noise pollution become actualised and emerge on the level of everyday rhythms?
2- How does the institutional management of noise impact the victim and contribute to their invisibility?
3- How do discursive framings and common sense make the victims invisible?

In order to reconceptualise noise as harm, each of these questions is posited to explore noise actualisations and victimisation through (1) the everyday, (2) the institutional/corporate, and (3) the discursive/sociological, respectively, as they are the levels on which victims are grappling with harms: noise first becomes actual on the everyday rhythms through certain disruptions. Second, it is made invisible through the institutional mechanisms, as signalled by the lack of legislation to protect victims. Thirdly, mainstream conceptions such as unwanted sound create tensions which would make noise and make its victims further invisible and

powerless. Other issues weaving through these questions pertinent to each level will emerge as we look closer to the first-hand accounts of those experiencing significant aviation noise.

Conclusion

This chapter's first and second sections sketched out noise as environmental harm due to its status as an urgent but underrated ecological threat. I followed the thread of the definition of unwanted sound to show its prevalence in the institutionalised understandings of noise in the UK as well as some relevant academic, social sciences disciplines, and even certain tendencies within criminology which overlap with concerns over the symbolic meaning of noise and sound. I then moved the critique into the discussions within green criminology, which has so far articulated environmental harms as state-corporate wrong-doings. I also analysed noise as invisible harm to show the common features thereof, such as lack of legislation, knowledge and media attention, among other characteristics unique to noise (such as its definitions or its management). The subsequent section offered a nuanced understanding of noise as invisible harm through the lens of ecological threats as 'virtual' and articulated its visible harms as having degrees of actualisation spanning from mere annoyance to fatal effects. Noise, like other pollutants, is characterised by the minimal effects appearing on the surface of the everyday, which evolve into catastrophe, I argued, to which we need to be attuned. I also outlined the health effects of noise as extreme actualisations and finally discussed aircraft noise as a suitable case in studying the various actualisations of noise which cause victimisation and make the victims invisible. Overall, I presented the extreme effects and wide production of noise and argued that institutionalised dismissal is an obstacle to its emergence as a public issue. In order to re-articulate the harms of noise, the need for victims' voices to reveal the specific mechanisms that maintain the existing tensions becomes evident. Victims' experiences explored qualitatively will challenge the present governance of noise informed by problematic assumptions regarding subjectivity and quantitative measurements of noise which do not prevent but, in fact, facilitate noise production.

The next chapter will explore existing methodological tools to address the research questions. A search for a methodology for a critical combination of noise and qualitative research becomes immediately interdisciplinary as the experience of sound and noise has been the main focus through numerous approaches, including qualitative methods in different fields in sound studies. Examining this existing literature on sound and noise experiences will also reveal that the way sound emerges in the lived experience has vital functions in addition to its disruptive effects. The conditions that enable noise to circulate will be made clearer through a juxtaposition of the history and presence of urban soundscape widely explored in those studies.

Chapter 3: Sonic Construction of the *Oikos*[19]: Approaches, concepts, methods

Introduction

This chapter shifts the focus from noise pollution as an ecological threat (and the conceptual green-criminological means to capture its production) toward sound as auditory experience. The theoretical assumptions and problematisation about noise as human-made systematic harm are briefly set aside in order to find tools to grasp noise exposure through a journey into a wide range of fields which have so far concerned with not only the city din but urban *sonic experience*. Overall, this chapter unfolds through conceptual comparisons and juxtapositions: binaries of sound vs noise, construction of sound vs destruction of noise, vital vs toxic, past vs present, and the areas in between.

This investigation's two essential purposes inevitably entail an interdisciplinary approach throughout the chapter. Firstly, it conducts an excavation of the historical depths and conceptual surfaces on the present conditions of abject noise pollution in order to show the contingency of the noise-polluted space. It shows the alternative to the given conditions, which are characterised by ubiquitous noise. In doing so, it looks into the close relationship between sound and space and its evolution through time. Modernity here becomes a crucial moment which prompts the unprecedented historic change to the urban sonic environment characterised by the machinery of capitalist production, which dominates all other sounds. Secondly, the chapter aims to give an overview of appropriate methodological tools for qualitatively exploring noise experience. It does so by presenting an overview of the qualitative methods which have so far been employed in sound studies. This choice, as stated earlier, is prompted by the lack of empirical research on noise pollution in criminology, while there are abundant approaches to sonic experience in the sound studies literature (see Bull and Corbussen, 2021). In addressing this gap in this thesis's primary literature, I

[19] Oikos means 'home' in Ancient Greek. The term ecology is coined based on oikos and logos (science) (see Begon and Townsend, 2006).

then establish a dialogue with sonic-methodological literature whereby I evaluate the main concepts, approaches and methods emerging from this body of research. Acknowledging the significance and the relevant parts, I will then divert back to the critical approach to noise victimisation in the following chapter when I explore the methods in practice for the present research.

The following sections will embark on the journey into the world of sound first through the topic of urban space, highlighting the ancient experiences of sounds as reverberation and its vital function in communication. It will be contrasted with the dominance of the modern soundscape as analysed by acoustic ecologists. These will be the topic of the first part of the chapter. The second part will focus on sound and the body and explore the intricacies of hearing, listening, and the senses; how sensitivity to them further informed ethnographies on sound and what these insights could tell us about the ever-presence of noise as a pollutant.

The sonorous city: from sacred to toxic

Noise pollution is arguably a concern primarily in urbanised areas. To recap the critical data referred to earlier: in 2016, nearly half of the world's population lived in cities, and it is expected that one in three people will be urban dwellers by 2030 (United Nations, 2016). Cities have become crowded and noisier. Within the European Union alone, in 2002, 100 million people were impacted by traffic noise, according to the EU Noise Directive (WHO, 2018). EEA (2020) stressed that this impact is likely to be underrated and is estimated to increase in the future. It becomes interesting to explore how urban soundscapes have reached a point whereby noise becomes ubiquitous and harmful.

However, a different version of the built environment was actual in the past. A gaze into pre-modern times presents a different overall sonic experience in daily life, implying the historical contingency of surrounding sounds. Here, it is essential first to understand the relationship between the senses, especially the auditory, and our experience of space in our exploration. ‘Sound and space’, as Eisenberg (2015:193) explains,

> […] however one defines these terms - are phenomenologically and ontologically intertwined. […] The intimate link between sound and space holds true whether one conceives sounds inextricably linked to the perceptual faculty of hearing or as a 'vibration of a certain frequency in a material medium (Friedner and Helmrieich, 2012:77-78).

Closely related to the emanation of sound through the material and its bodily experience, Juhani Pallasmaa (1996, 2009) notably advocated the embodied experience of the integrated senses. His idea is based on unification, not a separation, of how we feel, hear or see; and how these experiences are simultaneously shaped and determined by the notion of space. In this Merleau-Pontian (1964) phenomenology, sensory experiences are fundamentally spatial through embodiment. In this sense, we are *one* with our surroundings:

> Human consciousness is an embodied consciousness; the world is structured around a sensory and corporeal centre. 'I am my body,' Gabriel Marcel (quoted in Merleau-Ponty, 1964:xii) claims; 'I am what is around me,' Wallace Stevens (1990:86) argues; 'I am the space, where I am,' Noel Arnaud (quoted in Bachelard, 1969:137) establishes; and finally, 'I am my world,' Ludwig Wittgenstein (1972:68) concludes (Pallasmaa, 2009:13).

This line of thought is also compatible with the aforementioned ecological theories, which stress the interrelationship between us and our environment; our fundamental co-existence in the world (e.g. Serres, 2008; Morton, 2010). As such, sounds surrounding us can determine our experiences within the space. Echoing this phenomenology of space, Nancy (2009) further argues that sound constitutes the subject, a rhythmic and resonating body, in both the cognitive and phenomenological sense of the word. It does so through reverberation.

Before industrialisation and corporate activities gained momentum, the experience of the urban sound environment was quite distinct thanks to the particular function of

this aspect of sound. The fundamental psychological formation of community identity and belonging in relation to the unity of senses and space come to be exemplified in the role of specific sound sources, most importantly church bells in Medieval European cities (Holl et al., 2006:87). Church bells created a sense of space through regular community calls. A unique resonance was created by the materiality of the bell and its tower, as well as the *echoes* travelling from the adjacent square into the streets of the town, reinforcing the sense of citizenship (Pallasmaa, 1996:51). In a society organised around religion, bells used to signify masses, sermons, prayers, benedictions, beginning and end of the days, as well as weddings and funerals (see Corbin, 1998; Garrioch, 2003). Bells were able to create a particular sonorous space via reverberation through surrounding places and streets. Pallasmaa makes it clear that sound also makes us comprehend the *scale* of space through this phenomenon (1996:51).

Akin to the process of hearing and the way sounds fundamentally reverberate throughout our bodily existence in both literal and metaphorical senses (Nancy, 2009), it can be argued that the cities reflected this essential capacity to bodily affect and be affected by sounds. However, modern architecture and urban planning paradigms altered the city's sound map. The bells, once the loudest-sounding signals throughout the city (Garrioch, 2003:9), do not function as they once did: their sound cannot reverberate much in wide-open streets or inside the buildings due to sound-absorbent materials used in buildings (Pallasmaa, 1996; 2009). We cannot speak of the difference between the distinctive sound of cities - determined by the unique pattern and scale of its streets and the dominant architectural style and materials (e.g. of Renaissance or Baroque). Echoes that regulate the everyday rhythms and that which indicate character are eradicated from contemporary cities (Pallasmaa, 1996:51).

Ancient civilisations were also aware of the role played by architecture on the connectivity of echo or reverberation with mind, body, space and time (Martinho, 2017: 129). Architecture has the potential to create spaces which bring together the interior and exterior as if in a dialogue, which in turn makes us experience *ourselves* (Leitner, 1999 in ibid.). After all, senses connect what is external to us with what is

internal, as Pallasmaa would put it. Nevertheless, early modern architecture did not sufficiently consider sound in the design process (Thompson, 2002; also see Martinho, 2018:14-15). Moreover, the dominance of occularcentrism within the field is also an essential contributor to how sound is ignored (Pallasmaa, 1996). The term aural architecture, introduced by Blasser and Salter in 2007, expresses concern about the lack of sensitivity to sound. Its difference from physical architecture lay in its consideration of the complex experience of space through listening and its behavioural aspects. Similar to Pallasmaa and others, they refer to the construction of the sense of space through the sound field that surrounds us (Blasser and Salter, 2009:1). Not only can the sound of a room affect our body in numerous ways (Leitner 1999, 293), but the effect of the same sound would also be entirely different if we change the setting (Blasser and Salter, 2009). Each architectural space has a 'sonic character' (Rodriguez-Manzo 2008). Undermining sound in architecture and urban design, therefore, has roots in modernity (Thompson, 2002) which will escalate into a problem which goes beyond the individual events of noise disturbances into a collective issue.

Urban density, neighbours and noise

The production of non-reverberant and isolated micro-spaces went hand in hand with the expansion of the cities and the sharp increase in population. Densely built, high-rise tower blocks brought about novel problems. Due to the affinity between neighbouring flats, the interconnection between sound and space is disappeared; the sense of ‘safeness’ at home has vanished (Mee, 2007). The high-rises composed of ‘superimposed boxes’ (Bachelard, 2014[1969]:26) are positioned on the streets, which are dominated by constant traffic din. ‘The streets are like pipes into which men are sucked up’ (Picard, 1956:119 in ibid:27). Cities, instead of producing a sense of identity and belonging through echo and reverberation, inflict constant noise on residents’ bodies. On the other hand, neighbour noise has become a significant issue, especially in the social housing estates and certain apartment types (Peterson, 2016). It introduces social conflicts, which can also lead to destructive health consequences (Weinhold, 2015). Neighbour noise is a social and moral issue as it includes 'politics of behaviour' (Flint, 2004). Boundaries between every single unit

of living imposed by architectural design determine the quality of social relationships through the leaking sounds. This feature makes noise a material problem as well as a social one (Power, 2015).

Noise as a nuisance: from individual to systematic

Noise as a nuisance existed before neighbour noise as we know it became significant. According to Cockayne (2017), as early as the 16th century, hawkers and their rattling coaches, milk sellers, alehouses as well as pigs and dogs on the street were among the primary sources of noise in the city of London. This multitude of noise was referred to as a 'hideous din' (ibid: 107). From the 17th century onwards, due to the economic growth of the city and increased population, the primary sources of noise were replaced by trade and traffic as well as street musicians (ibid: 122). The latter remained a public issue for a long time (see Attali, 1985; Goldsmith, 2012).

Busking became a problem from the 1830s onwards: some musicians would even 'use their noise as weapon', playing outside expensive houses 'until they were paid to go away' (Goldsmith, 2012: 112). The struggle of the professional and intellectual community living around West London (Chelsea, Kensington and Belgravia), including that of Thomas Carlyle, Charles Babbage and Charles Dickens at that time, was expressed in letters, petitions and other efforts to deal with the issue. Carlyle, for instance, built himself a soundproof attic (Picker, 2003). Babbage (1864) referred to street music instruments 'organs, brass bands, fiddles, harps, harpsichord, hurdy-gurdies, flageolets, drums, bagpipes, accordions, halfpenny whistles, tom-toms trumpets' as 'instruments of torture' (Goldsmith, 2012: 113). The tone of the complaints could be subjected to political scrutiny as part of a cultural approach, as Attali (1985) conducted. These interpretations aside, the complaints of these intellectuals all contributed to the first regulation of street noise, the Metropolitan Police Act in 1839, exemplifying the relative power that the public had at that time on regulating street noise. However, at that stage, noise does not appear as systematic and constant sound yet.

By the late 19th and early 20th century, the dynamics of urban space, and London in particular, have changed dramatically. In these periods, it was not the human or animal sounds but instead the incessant humming of motor vehicles becoming prevalent after Industrialisation (Bijsterveld, 2008; Thompson, 2002). Around the 1930s, the sonic environment of central London was increasingly dominated by the honking and roaring of tramway cars, motor cars, lorries, motor-omnibuses, motorbikes, and horse-drawn carriages (ibid.). In this period, collective efforts were initiated as environmental noise caused by machinery gradually increased. The noise was framed as a public health issue from the 1920s onwards (Drever et al., 2021[20]) mainly because of the widely circulating arguments of the vital anti-noise campaigns led by medical experts framing noise as bad for health (Mansell, 2016). Starting in 1930, The Anti-Noise League was the first thoughtfully organised long-term noise abatement campaign in London until the establishment of the Noise Abatement Society in 1959. The Noise Abatement Act passed through the parliament in 1960 (see Bijsterveld, 2008; Mansell, 2016). The Act, which initially defined street noise as a statutory nuisance, is today addressed under the Environmental Protection Act (1990).

Therefore, the legal definition of noise as an individual nuisance has its historical roots in the anti-noise campaigns and the way it is addressed within the legal context. Although noise was considered bad for health in the notable periods of active campaigns, the law individualised responsibility. Industrial noise escalated from the beginning of the 20th century (Thompson, 2002), however, and the aspect of the ubiquity of the sound of machinery became incessant (Bijsterveld, 2008), expanding the gap between what can be captured through the *legal definition of noise as street nuisance* and *emission of noise as systematic harm*. The following section presents descriptions and analyses of the soundscape dominated by emissions.

Acoustic ecology of systematic noise

[20] A field recording campaign dating back to 1928 initiated by the Daily Mail newspaper in the UK was revealed and presented through sound mapping for the first time by a team of researchers of which the author is part (Drever et al., 2021; for the soundmap see www.londonstreetnoises.co.uk).

Murray Schafer (1994) and his team pioneered the endeavour to incorporate acoustical knowledge and the ecologically-concerned aesthetic sensibility into the analysis of a post-industrial sound environment in the 1970s. His acoustic ecological approach in the consistent study of the 'soundscape', which broadly refers to ‘any acoustic environment’ (ibid.), produced detailed analyses of the contemporary sound environment of the cities. Keynote sounds, for example, would comprise the background sounds in a given environment. In contrast 'sound signals', which attract more attention, would refer to the foreground sounds (Wrightson, 2000:10). In general, acoustic ecology is concerned with the critical study of the soundscape as a broad concept which can include human and non-human sound sources (Augoyard and Torgue, 2005). Sounds emanating from a landscape would be a blend of biophony (sounds of organisms); geophony (sounds produced by geophysical-environmental events such as wind, thunder, rain or earthquake), and anthrophony (sounds of any human-made objects such as cars and air conditioners) (Pijanowski et al., 2011). Contemporary cities are places where anthrophony dominates all other sounds of the ecosystem (Figure 1) and is therefore responsible for causing disruptions to all other sounds which are essential for, first and foremost, communication.

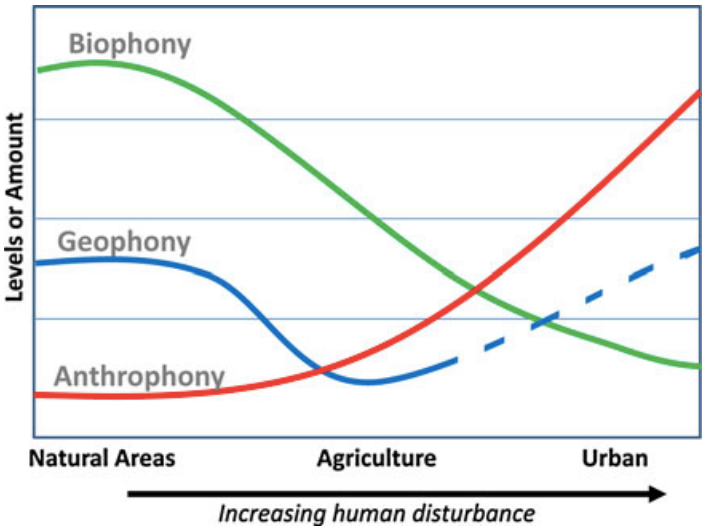

Figure: 'Conceptual model of variations in soundscape elements across a human disturbance intensity gradient. Dashed line represents one possible pattern that could exist' (Pijanowski et al., 2011). There is increasing evidence of non-human disturbance due to the dominance of anthrophony.

Schafer (1994) describes the post-industrial sound environment as 'lo-fi' (low fidelity) in contrast to the pre-industrial, 'hi-fi' (high-fidelity) soundscape (Wrightson, 2000:10-11). In a lo-fi environment rich in low frequency sounds, due to the generalised use of motors, there is the almost complete absorption of the meaningful sounds to noise (Ruocco, 1974). In a hi-fi environment, however, a particular background or foreground sound does not dominate. For example, in places without anthrophony, animals create a sound environment whereby different rhythms and frequencies do not merge but create a balance (Schafer, 1994). According to Krause (1993), these sounds are arranged as such, so there is enough space, or 'acoustic niche', for each distinct animal sound to fit into (Wrightson, 2000:11). Indeed, due to anthropogenic noise, or anthrophony, birds have difficulty mating, finding a suitable territory and in chick development (Schroeder et al., 2012). Noise can also disturb underwater species (Braun, 2015; Li et al., 2015; 2018). They comprise pertinent evidence for the studies on ecocentrism in green criminology (see White, 2008, 2018a, 2018b). The adverse health consequences for human victims, most notably cardiovascular risks, on the other hand, are also well documented, as outlined in the previous chapter.

To re-iterate in terms of the interrelation of sound, space and identity (of cities and people): meaningful sounds that would indicate the boundary of 'home' or community, or, as in the example of church bells, different time of days or events, are subsumed into the lo-fi environment, and they are transformed into 'disinformation: "noise"' (Wrightson, 2000:11). The surrounding sounds cannot transmit information. It also results in a forced dissimulation of the sound character of the cities. The subsumption of lo-fi makes soundscape not an environment to inhabit and enjoy but a nuisance to be ignored or avoided (Schafer, 1994). In doing so, human bodies became the sites of 'blocking out' or 'masking' noise with the increased use of headphones and loudspeakers (Bull and Back, 2003). Sound in the form of music is a 'defensive barrier' which, alongside the possibility of disturbing the community, creates what Schafer calls 'The Noise Generator', increasing the overall loudness and lo-fi character of the sound environment (Wrightson, 2000:12).

Going back to the frame of the technological production of risk (Jackson, 1996; Adam and Loon, 2005), as mentioned in the second chapter, masking and insulation become environmental management interventions as in the examples of mainstream industrial (e.g., Heathrow Airport Ltd, 2019) and acoustic or soundscape solutions (e.g., Davies et al., 2007; Aletta and Kang, 2015) to noise. In this sense, soundscape design represents the positivistic strand of sound studies (Pinch and Bijsterveld, 2011) as it aims to reconstruct the *perception* of sound through such interventions instead of the dominating noise emission sources. The possibility "to cancel out or mute traffic noise by affecting individuals' aural perceptions using a process known as informational masking" (Hellstrom et al. 2014) becomes a fundamental assumption of such endeavours. More specifically, they can include adding specific sounds to the sonic environment (e.g. Van Renterghem et al., 2020), increasing vegetation and other visual clues (e.g. Hong and Jeon, 2014) and building noise barriers (e.g. Joynt and Kang, 2010). Hence the contribution to the inevitability and normalisation of noise emissions through integration with technology and industry becomes pertinent to the vicious cycle of risk (see Adam and Loon, 2005).

In contrast, a critical approach must refrain from masking the problem by interfering with the perceptual or environmental consciousness towards existing noise by manipulating the subject. It needs to focus on the source of noise and the suffering of individuals and communities by making visible the systematic production behind the dominance of 'lo-fi'. Acoustic ecology is meaningful for critical victimology: it provides a picture of the external conditions to be resisted (see Mawby and Walklate, 2002; Natali, 2015) via the critical analysis of the present soundscape through acoustics.

The resonant body: from vibration to meaning

This section shifts the focus from the descriptions of the harmful conditions through urban soundscape or the auditory environment to highlighting hearing and listening as bodily as well as existential functions to further make the status-quo of noise pollution problematic. This endeavour is inextricably linked to the concept of sound since a description of its perception inevitably assumes a particular ontology. We

encounter differences throughout sound studies in the construal of listening and hearing, thanks to the fundamental diversity in understanding sound. For example, it would be a commonplace practice to tacitly acknowledge a mainstream definition of sound as waves, as Grimshaw and Garner (2015) argue. In the field's culture-focused strand, sound's role is seen as that of a cultural artefact (ibid.). The main preoccupation would be different modes of listening (Mody, 2005; Bijsterveld et al., 2014; Bijsterveld, 2019), for instance, or how technology transforms listening (Birdsall and Enns, 2008; Bull, 2000; Sterne, 2003). This cultural approach to listening would also be valid for historical studies on sound (inter alia Cockayne, 2007; Picker, 2003; Smith, 1999). On the other hand, Sonic materialism highlights the study of the ontology of sound by emphasising its affective aspects beyond cultural definitions (Cox, 2011; see also Goodman, 2010; Schrimshaw, 2016; Voegelin, 2010).

According to Cox (2011), sound must first and foremost be defined through the affective properties that cannot be represented by something other than the sound itself. Similarly, problematising noise as an ecological problem needs to incorporate its materiality and its specific way of existence in terms of virtuality. Cox (2011) and others also employ virtuality (Massumi, 2002) to grasp the underlying affective powers of sound. It echoes the fundamental articulation of noise, which has vast potential effects materially, beyond culture and representation, just like other 'invisible' pollutants operating beyond perception (see Wyck, 2005). Acoustic and health research on sound, as shown before, illustrates the totality of the endeavours on sound, which in turn point out to the vast plane on which a sound event can be actualised, from music to destructive noise. The cultural nuances *as afterthought* in the realisation of these effects aside, the present study focuses on how the adverse effects are *realised*. We get a different picture if we shift the attention to the materiality of sound and base our conception of listening on this particular approach in so far as it would become relevant in problematising noise as harm rather than primarily understanding noise as something which is a bearer of cultural symbols.

As mentioned before, the definition of noise as 'unwanted sound' can be adopted widely throughout the cultural studies on sound (Bijsterveld, 2008; Pickering and

Rice, 2017), echoing some anthropological approaches (e.g. Destree, 2013; Pickering and Rice, 2017) as well as the early agenda of cultural criminology on sound (e.g. Ruiz and South, 2018). The departure point for the cultural studies of sound was the listening subject to shift the attention from objective accounts of sound to address the elements of the 'auditory culture' (Bull and Back, 2003). In short, the unwanted sound definition may be more suitable in the context of cultural studies, but in the context of ecological harms, it can fail to acknowledge the agency in noise creation as well as the wide range of effects which is ingrained in sound as virtuality (as in the case of systematic pollution). In the study of noise as harm, both the responsibility and the virtuality aspects should be reflected in the approach to sound in order to overcome the invisibility of the auditory harm and its victims.

Listening

Sound as virtual, with both material and immaterial properties (Cox, 2011), has implications for the listening subject. It would require us to consider the complex relationship between sound and hearing. Sound, actualised as systematic noise, inflicts through listening bodies. There has been a great diversity in endeavours to understand listening. As in the example of sound, the research aims to determine the distinct approach to the faculty of perception and interpretation of sound. Scholarly interest in listening, however, has a relatively short history in social sciences, not least because of the bias towards the visual (Vannini et al., 2013). This occularcentrism is evident throughout the ancient history of philosophy: 'Idea' originally means 'to see' and is often linked to the 'visible image', which is at the basis of the theories of perception (Mitchell, 1987:5). To perceive with one's mind is equal to seeing, as fundamental to the Cartesian thought which inspired rational argumentation (Hacking, 1975). Literature on listening as an interpretive function is not expansive, whereas more abundant research on hearing focuses on merely the audible range of frequencies (Truax, 1984:13-17). When Schafer referred to listening, on the other hand, he advocated for a particular definition of conscious listening instead of the more unconscious process of hearing (Kreutzfeldt, 2010). With an aesthetic concern, composer and theorist Pierre Schaeffer (2017[1966]) put forward the idea of reduced listening that focuses on the specificity of what he

defines as ‘sound object’, which invites much more attention from the listening subject. Finally, in an often-overlooked piece on this topic, Barthes (1991) describes three distinct forms of listening: indexical (or alert), hermeneutical and modern. The first refers to hearing as a faculty not differentiated from an animal's hearing: listening *for* prey or danger; sounds as indices. It is implicated in the fundamental biological function of being alert in the environment and goes hand in hand with safety concerns. On the other hand, Hermeneutical listening is where *decoding* is at work, on a more cognitive level. It is when we listen to decipher *the meanings* of sounds or spoken language, a function unique to humans.

Indexical hearing points out the anthropological function of listening and the relationship between the condition of our habitat (1991:246-47). While the role of the other senses in nutritional behaviour may be more significant, hearing is fundamentally associated with spatio-temporal evaluations[21]. Like the tradition of acoustic ecology, he argues that our auditory background determines our listening. Pollution occurs when those sounds occupy the whole phonic space. This phenomenon is indeed pertinent to the subsumption of the hi-fi, information-rich foreground sounds by the contemporary industrial lo-fi sounds (Wrightson, 2000). Hearing functions as a capability of maintaining the *safety* of our territory. As Barthes argues, the unrecognisable state of our essential habitat results in a communication breakdown, and our defence mechanism fails. Listening becomes impossible as far as listening *for* the indices is cancelled. In other words, indices turn into constant sensory inputs that do not inform anymore but directly induce stress.

It becomes interesting to further theorise about listening against the background of indexical listening. Hermeneutical listening is based on the fact that there is a message to be decoded. If no meaningful message emanates from our territory because of that which absorbs the auditive background, then the result is disorientation and alienation. In the context of mythology, Hermes, the messenger deity, brings messages from Gods through sound, but, at the same time, a bad Hermes is capable of taking over through noise (Serres, 2008:10)]. In a similar vein,

[21] Feld (1996)’s acoustemology based on Kaluli people precisely refers to the ways in which the places are known through sounds.

the example of church bells becomes prominent as they used to be linked to orientation and identification in the city (Holl et al., 2006), as mentioned earlier. In Christianity, a particular 'message' was valid just because it was heard, as an 18th-century theologian implied (Lyotard, 1991:178). This conception significantly differs from the modern narrative of hearing, in which sound perception is viewed as a result of sound waves reaching the ear. In short, the subordination of hearing to vision is a modern phenomenon (Barthes, 1976; Jay, 1993).

In summary, discussions on listening reveal at the same time the fundamental functions of hearing and the vulnerability of the listening body if the aural aspects of the environment no longer resemble 'home' and become 'strange' through pollution (Wyck, 2005:xi). Another aspect also became pertinent through further analyses of listening: the subordination of hearing in the modern hierarchy of the senses (see Bull, 2019). The unique intersection, therefore, appears between *the dismissal of the auditory as a sensory register* and the *deteriorating soundscape*, which altogether challenges our essential being as listening and sensory subjects (Nancy, 2009). Therefore, the systematic ignorance and dismissal of personal experiences and health consequences of noise can be put in the context in which listening is traditionally ignored in the sensory organisation and modern problematic environmental approaches. Overall, this picture of the listening subject as being 'subjected to noise' through the perspective of sound studies provides an essential background to the systematic noise exposure, which this study attempts to grasp and critically analyse. Finally, debates on 'normal hearing' (Sterne, 2012:8) and concepts such as 'auraldiversity' (Drever, 2017) would offer a further critique of what is accepted as usual in the status quo of the contemporary soundscape.

Sonorous oikos

If the above theories on sound and hearing articulated the ontological significance of listening and sound environment, qualitative studies which take sound and listening at the centre of their inquiry revealed how they construct social worlds through meaning-making processes. As such, they highlighted how social experiences are shaped by sound. These works can be viewed under the umbrella of the cultural

studies of sound and are relevant for the present study as they help re-stating the essential role of the auditory and the sensory in making sense of the self and the world. They would also inspire future qualitative research on noise and sound. Divergences and convergences between this body of research and the present study will be highlighted later in the section.

Anthropological studies on sound tend to focus on interpretations, meanings, ways of knowing triggered by sounds, and how life-worlds are constructed around these meanings. Earlier examples include the works of Turnbull (1961) and Chatwin (1987). Turnbull used an ethnographic approach in studying the musical performances of the Mybuti people in the Ituri rainforest and concluded that the concept of molimo, which encompasses instruments, songs and the festival at once, is a kind of a passage whereby the sounds of animals within the rainforest and the songs produced by people merge and interact with each other. Chatwin, on the other hand, attended to environmental and societal sounds narrated by the songs of the Aboriginals of Australia. He explored the Songlines, routes for crucial ceremonies to be followed while singing and dancing while re-telling the story of Creation. Steven Feld's (1990) study of Kaluli people in Papua New Guinea has influenced anthropologies on sound. Using almost all conventional ethnographic methods such as interviews, participant observation, and group discussions, he shed light on how Kaluli people use sound to execute essential tasks such as finding their way around the forest and hunting due to the restrictedness of vision in the dense rainforest. Sounds of this forest, especially bird songs, were also firmly linked to the belief system, songs and poetry. Inspired by his findings, he coined the term 'acoustemology' in an attempt to indicate 'what is knowable and how it becomes known through sounding and listening' (Feld, 2015:12). Following Feld's approach, Rice (2003) conducted a sound ethnography in Edinburgh Royal Infirmary Hospital whereby he looked into patients' listening practices. He found that they often listened to the hospital radio, mainly because surrounding sounds within wards disturbed them, keeping them awake. The patients used the radio, therefore, to distract themselves from noises. They also listened for particular sounds, which signalled certain activities such as visits of nurses and meal times. In a different context, Vokes (2007), in his research conducted in Uganda, notably explored how radio

broadcasting by charismatic leaders became increasingly popular and how the act of listening to the radio contributed to the production of a cosmopolitan subjectivity. He used various methods, from radio elicitation to radio walks which can further inspire the scope of sonic methodologies.

More recently, Gallagher (2011) looked into the use of sounds (and silence) within primary schools and revealed the social control through sounds. In the school context, discipline and power were exercised via certain sounds or their *lack*. Silence would indicate discipline, whereas bells would mean a warning to be silent. The teacher's listening was to monitor the students' noise levels. Chandola (2013) conducted an ethnography in the slums of Govindpuri in India, which revealed the differences not only in terms of noise exposure but also in listening: being a member of the lower class, for example, plays a vital role in being attentive to certain sounds, such as that of water due to its scarcity as a resource. Destree (2013), on the other hand, illustrated how deviance and the subsequent othering is unfolded and intensified in the example of noisy tenants in a London estate. Finally, in a pioneering aural criminological work in the prison context, Herrity (2019) explored the soundscape of prison and how it shaped the experience of prisoners through social control mechanisms and the exercise of power.

One of the lessons that these ethnographies on sound teach us is that in the social context, listening ceases to be simply a function of the neurons. They point out the conditions that enable certain kinds of listening or how listening makes particular meanings and life-worlds possible. As in the example of Feld's (1990) work, listening was essential in producing knowledge. On the other hand, the relationship between the social environment and listening is reciprocal. Anthropological studies also highlight the social world's role in configuring the senses (Howes, 2006). Massim society, as described by Malinowski (1922), for example, would address aircraft noise differently than the Western-European culture, for instance. It is partly because the distinct meanings and values that surround sound are enormously different from that of the latter culture. It implies that today's mainstream understandings also affect contemporary representations of noise. As mentioned in the previous chapter, noise and its exposure has been increasingly encoded within

the quantitative register through sound metrics which may facilitate managerial and corporate approaches to the environment. The salience of the qualitative look at the victims' experiences of noise to offer an alternative picture of the mainstream understandings thus becomes clearer.

In summary, the main problematisation in existing anthropologies is oriented toward *how sounds construct life-worlds* in which the social reality is organised, and the social relationships are facilitated, controlled and negotiated. However, research that equally considers noise as systematic social harm and how it appears on the surface of everyday experiences and social worlds is absent from qualitative research on sound experience. The present study acknowledges past research in collecting qualitative data on the auditory experience and its social-anthropological implications. It also proposes a more critical perspective in which noise is not only a significant phenomenon through which social worlds could be studied but also is a result of the broader mechanisms which systematically produce ecological threats. It focuses on the narratives of the destructions on the personal and interpersonal levels. However, it does so first and foremost by acknowledging the inextricable link to the institutional or corporate mechanisms which already dismiss or obscure the very emergence of noise as harm.

Going beyond the *meanings* of sounds, then, the present study aims at articulating the harms of noise as a destructive force which are directly linked to their conditions of *production* in the analysis of the ordinary experiences of noise. In that sense, the present study proposes to go beyond (while building on) also the pioneering work of Natali's (2016) visual-criminological investigation of pollution because (1) noise (as virtuality) itself is primarily seen as sonic violence, a material force which victimises through direct affective power beyond meaning (Cox, 2011; Walters, 2014); and (2) attending to the contextual injustices revealed by state-corporate analyses of law and policy of noise. Noise becomes an *actuality* through which these injustices and wrongdoings become manifest in addition to the direct harms. Only through attending to the experiences of those impacted by the noise would the underlying destructive processes at work be made visible. As Lynch (2020:55) argued, 'some green crimes cannot be counted and must be described qualitatively to make those

harms apparent and meaningful.' Hence foregrounding noise as virtuality, as a phenomenon which is manifested in the infinitesimal details of everyday life, that which can be felt but may not yet be expressed or articulated unless a critical lens of qualitative research is directed towards it. Given that the institutional ignorance of these already 'small' details of manifestations of noise through sound metrics, the necessity of qualitative research becomes urgent and a critical perspective based on the social harm approach to it, as mentioned earlier, becomes further reinforced. Bearing in mind the attunements to the constructions of sound, then, this study attends to noise through qualitative tools for a victim-focused approach. In the next chapter, I will outline the interview method I used in practice, and how, despite the limitations imposed by the global pandemic of Covid-19 against using a variety of methods outlined above, yielded rich and productive results for the current analysis of victimisation.

Chapter 4: Research Design and Process

This chapter aims to clarify the actual method utilised in the present study: relatively unstructured interviewing with a sample of 26 individuals who experience aircraft noise in London. Due to lockdowns, the interviews took place online. In the following sections, I will first describe how critical ethnography inspired the present methodological foregrounding of the noise victims' experience as central to this study. Then, I will discuss the impact of Covid on the project in limiting the choices on methodological tools such as in-situ interviews and other sonic methods in the previous chapter and emphasise the collective experience of the widespread aircraft noise in London to mitigate this. Relatedly, I will elaborate on my posionality as a researcher who also experience noise. After outlining the online interviewing method, I will present the sample, describe the research process and explain the method (thematic analysis) for analysis.

Developing a critical qualitative sensibility to noise as harm

If paying attention to the sound environment takes us on a journey into sound studies and ethnographies of sound in our search for a qualitative approach to noise victimisation, focusing on the power relations and the injustices ingrained in noise pollution prompts us to engage with critical ethnography. The specific concern in this study is to develop an alternative representation of how noise is experienced and made to make sense in contrast to the dominant representation of annoyance that resonates within the agenda of critical ethnography. At least, critical ethnography, by definition, puts critical theory in action to reveal various forms of oppression that are otherwise considered normal or acceptable (Madison, 2005). Noise (as well as other toxic pollutants) emanating from industrial activities are normalised within mainstream narratives (Walters, 2013), as has been explored before. Another virtue of such a critical perspective is that it explicitly recognises its ideological dispositions (Lahter, 1986), which no academic research is immune to (Weber, 1945). The critical vein in this study, therefore, originates in framing noise exposure explicitly as an outcome of ecological destruction immanent to capitalist forms of production (Moore, 2017) and frames noise pollution as a threat that is

technologically and socially produced (Adam and Loon, 2005; Wyck, 2005). Research that reveals injustice and oppression is needed more than ever within today's neoliberal 'audit culture' (Denzin, 2017:8). If a critical qualitative methodology prioritises the sound of the victim, '*the overflown*', this means that the current study puts the personal narratives of the experience of noise at the heart of the inquiry in order to challenge their distorted, muted and obscured mainstream image.

The significance of such a critical methodological approach is also manifested (1) in the proposition to challenge the injustices and existing power relations, (2) in the acknowledgement of researchers as also part of the unjust system of capitalism, and (3) in countering the mainstream image of the research participant as a passive or exotic agent (Leslie, 2005:282). These points are also pertinent to the qualitative study of aircraft noise. The study addresses the injustices created most notably by lack of legislation and media attention which also determine the invisibility of noise and its victims. Second, the study of this very invisibility, the ever-presence of noise and its adverse effects on health reveal the vulnerable position of a city dweller, including the researcher. In other words, being a researcher does not preclude the possibility of being victimised by noise. Noise pollution, like other contemporary pollutants, is virtual: if it is *over there*, it is also probably *here* simultaneously (see Wyck, 2005). Keeping this in mind, as Natali (2016:80) also stated, we need a high level of sensitivity which 'capable of putting us into other people's shoes, making us sensitive to their pain so that it becomes ours, too.' The recognition of this positionality of the researcher pointing out the imagination of being a victim as such constitutes the reflexive aspect of the current critical approach.

Finally, approaching those *over there* who are victimised by noise does not mean constituting the research subject in the conventional manner in which they are rendered passive receivers of noise. On the contrary, this research is a means through which their already sharpened views due to prolonged exposure to noise become manifest, contextualised, amplified, theorised, and hopefully become influential to policy, law and further research. Besides, the othering of the participant assumes a contradiction between a distant researcher [the 'professional stranger' (Agar, 1996)]

and the othered subject whose differentiated experiences are simply key to a particular 'truth'. This ‘truth’ can be said to be ‘outside’ our reality: extraordinary experiences that the professional stranger should grasp. However, recognising that the reality is not 'out there' outside the researcher, as stated in the second point, but also embedded within their reality, means the answers need to be sought within the ordinary (Natali, 2016; Highmore, 2011). Indeed, it is one of the fundamental tenets of critical victimology to describe the actual experiences of the victims but doing so in a manner in which we make the appearances of things - here, noise as a pollutant-problematic or questionable (Mawby and Walklate, 2002:19; Keat and Urry, 1975).

One important caveat in terms of the agency of the research participant within a critical approach would be identifying them as victims. Those who are exposed to environmental harms may be reluctant to be identified as victims, as the word may imply for them a weaker positionality (Natali and Budo, 2018), or they may not be aware of the noise exposure, which might be minimal but cumulative, leading to harmful effects insidiously (Stansfeld, 1992; McEwen, 2006). It is also known that self-identifying as an environmental victim could be denied based on religious or cultural determinants that normalise pollution or the harm in question (Williams, 1996). Nevertheless, objective recognition of the conditions is necessary to point out wrongdoings which violate human rights (Fattah, 1989). The ever-presence of noise and its adverse health effects as objective conditions of noise are already documented. Moreover, the victimological approach is ultimately for the empowerment and resistance of the victimised (Natali, 2015), but it may entail recognising those who are affected politically and legally as victims first (Christie, 1986). The victimology approach, therefore, provides the necessary step in making visible the existence of the victims, who are impacted by noise exposure but who also reflect, make sense, campaign or resist in an attempt to demystify the victimising conditions. Moreover, the qualitative approach, which takes victims into its centre, serves the same objective by rendering their voices significant, valuable and necessary parts of endeavours against overcoming the injustices.

Online interviewing as a viable method

My focus in this chapter on qualitative explorations of sound experience revealed a variety of methods used under the umbrella term ethnography rather than a single method in such academic research. Fundamentally and more conventionally, the general methodology of ethnography includes 'social exploration, protracted investigation, spending time in the field, the site of study, and the interpretation of local and situated cultures based on paying attention to the singular and concrete' (Atkinson et al. 2001 in Edwards and Holland 2013:32; Atkinson and Hammersley 1994). Exploring victims' experience of aviation noise with a critical-ethnographic sensibility appears as a proper perspective in revealing such a multi-dimensional issue. It highlights noise that has so far remained highly invisible socially, culturally and politically despite being a significant reality embedded in the lived experiences. Ethnography, as such, provides appropriate tools for immersing the researcher in the sensory environment while establishing a good rapport with the victims in understanding their experience in context.

The various stages and dimensions of in-situ ethnographic research as understood in the most conventional sense, which would have been fully realised, however, were not possible to undertake in the fieldwork stage of the thesis due to the Covid-19 pandemic and the subsequent social distancing and lockdown measures. Originally, methodological practices such as sound walk, sonic elicitation, and face-to-face in-situ interviews commonly used in ethnographic inquiries on sound would have been included in the present study's design. Interviewing participants in their exact location where they are subjected to aircraft noise most intensely (usually their homes) would have provided opportunities for participant observations, listening, and the implementation of other sonic methods, echoing the conventional ethnographic approaches (Atkinson et al., 2001). Because of the coinciding pandemic and the fieldwork, the latter was carried out online, whereby I tried to re-constitute ethnographic elements primarily through relatively *unstructured interviews* (see Brinkmann and Kvale, 2018:1002; Atkinson, 2002; Wengraf, 2001). Particular ways of observing and listening also played a role in how I interacted with

the participants, positively affecting rapport and the elicited responses. Living in London also added a shared experiential dimension, which will be discussed soon.

Unstructured interviews are in many ways similar to ethnographic interviews as far as they are based on sufficient contact with research participants. It has been a preferred method whereby an ethnography is not made possible due to financial or time restrictions (Edwards and Holland, 2013:32). On the other hand, Heyl (2001) underlined the difference between ethnographic and unstructured interviewing, stressing that 'the definition of ethnographic interviewing here will include those projects in which researchers have established respectful, ongoing relationships with their interviewees, including enough rapport for there to be a genuine exchange of views and enough time and openness in the interviews for the interviewees to explore purposefully with the researcher the meanings they place on events in their worlds' (ibid:369). Establishing good rapport facilitated by prolonged contact with the participant seems to be central to generating ethnographic data. However, thanks to the increased recognition, there are many other ways of collecting ethnographic data beyond the binaries of the 'field' and 'home' (Gunel et al., 2020; Anjaria and Anjaria, 2020), the actual research practice has become more hybrid and flexible. Blurring the boundaries of the field is further provoked by the new possibilities offered by online research methods in the contemporary context where our everyday reality oscillates between online and offline (Garcia et al., 2009; Hine, 2015). The beginning of the Covid-19 pandemic was, in this respect, a remarkable time to observe the steep rise in remote fieldwork and online methods in ethnographic approaches (e.g. O'Connor and Madge, 2017; Kozinets, 2019; Lupton, 2020).

In the present study, literature recognising the many possibilities of remotely collecting ethnographic data becomes significant. On the other hand, the technique of unstructured interviewing akin to the ethnographic becomes central. In contrast to structured or semi-structured interviews, which are based on asking many questions prepared in advance, unstructured interviews are based on *facilitating* participants' accounts of their experiences (Brinkmann and Kvale, 2018:1002). As the central concern in this study is to explore noise victimisation, the methods also need to be able to be open and attuned to the intricacies, details and connotations of the

accounts of noise as experienced in daily life. It required a relatively long interview whereby the participant is listened to without interruption, asking follow-up questions as needed in order to fill any gap in their story or account (Edwards and Holland, 2013:162). This type of interviewing, therefore, is an important tool through which we can elicit first-hand, rich accounts and narratives of the ecological destructions, as promoted in criminology inter alia by Brisman (2017), Natali (2016) and Natali and Budo (2018).

Covid and the quiet field

While the lockdowns imposed remote-working methods, the change in the soundscape of London and the relative reduction in noise pollution added an interesting layer to the noise experience for all of us, but especially for those most affected by aircraft noise. In the UK, between March 2020 and March 2021, national lockdowns were introduced three times (see Institute for Government, 2021). The lockdowns would entail staying-at-home measures and reduced transportation means, most notably the cancellation of commercial flights and the closures of some international borders. Therefore, noise-polluted areas had an extraordinary period of quietude due to the absence of planes in the skies (Addley, 2020)[22]. The online interviews for the present study were carried out between January and March 2021 during the third national lockdown when flights were occasional. The break in the noise at that time can be interpreted as an interesting natural experiment where the participants were allowed to experience a near-ideal environment in which they could enjoy the place they inhabit.

They indeed confirmed this observation: being able to sit in the garden and relax or to leave the windows open for a prolonged time was, for some of them, not possible before the lockdown. Eliciting noise experiences during the *absence* of noise could have been said to have impacted the responses, however, in a way in which the richness or abundance are more or less dampened. This aspect is, after all, what the sensory elicitation methods (e.g. Feld, 1990, Vokes, 2007) ultimately suggest: if any

[22] The total reduction in air pollution in general due to halting production and services is well documented (see Venter et al., 2020).

sensory clue triggers a more detailed and rich response, the lack of them would mean the opposite. It could also be argued that the chance to experience the context as essential to participant observation simultaneously, the critical aspect of ethnography, is also made tricky by this absence. While the realisation of the methods through in-situ and simultaneous interaction with participants in context would be valuable, some factors compensate for this relative absence of noise *during* the interview. These factors are in addition to the significance of online methods mentioned above.

Most importantly, the present research participants have been based in their residences for a long time (sometimes a lifetime), where they are exposed to increasing aircraft noise daily for years, sometimes decades.[23] In that respect, the brief respite does not cancel out memory of the years of noise pollution, which has become chronic and ingrained in their lived experience. Moreover, the actual environment was characterised by relative quietude rather than complete silence. As Kate, a resident from Southeast London, said, the cargo planes would still be flying over, for example, like a reminder of the past and indeed a warning for the future. Nevertheless, the participant is expected to *recall* noise memories, even though the noise is not present, not least because they have a unique – and relatively long – personal[24] history of their own noise has been shaped through years of persistent exposure. Sound (or any other sensory phenomenon) permeates into memories full of sensations, affects, thoughts, feelings and emotions (Seremetakis, 1996; Hamilton, 2010; Campen, 2014), and an open-ended, in-depth interview can be helpful in capturing these deeply embedded impressions. In short, the memory of the informants through which they construct meanings within their narrative is already essential (Madison, 2005:25) in eliciting noise experiences, spanning from the past into the possible future. Besides, in addition to the *past* of pollution, there is also the *prospect* of it as the planes are expected to return to what it used to be the 'normal'.

[23] Here, I refer to the increase in noise as contingent upon the increased capacity of flights. How the participants are affected by the relative increase in their particular location and how they perceive this will be described in more detail in Chapter 5.

[24] The study aims to highlight the political and the collective through personal accounts (e.g. Madison, 2005). Although the thesis incorporates elements of the narrative, a narrative analysis in a stricter sense is case-centred, and the focus is more on the structure and language (Bazeley, 2013:203).

The victims were positioned, therefore, in this in-between situation in which the in-advance worries of upcoming noise violated the present relaxation and peacefulness.

As the lockdown lifted and borders re-opened after the series of lockdowns, the flights indeed resumed, and the capacity of the airports increased gradually. As some participants hoped, the 'sensitising' impact of the pause in noise exposure would mean more people would notice the pollution; therefore, the anger and frustration with noise creators would spread. After the pandemic reached a more manageable stage in mid-2022, the aircraft noise returned in all its Sturm und Drang with even more momentum with all the aviation recovery plans and efficiency projects to increase flight capacity (see CAA, 2018). Participants' expectations were realised; virtual noise has once more become actual. However, the question of whether the *awareness* of the noise of the planes is increased is still to be explored.

The socially-distant 'participant-experiencer'

At a time of lockdown, the effort to adjust the methods was mainly prompted by travel restrictions and social distancing measures. Online methods were one solution to elicit data while establishing a good relationship with the participant, as mentioned before. As O'Connor and Madge (2017:420) argued, the fact that online interviewing directly speaks to the researcher's need as it 'mitigates the distance of space'. The critical aspect of participant observation was also fulfilled as much as possible. In doing so, the unstructured interviews entailed online meetings with the participants in which they were required to tune in from their homes where they have been so far exposed to noise. The in-situ aspect of the method was therefore partly fulfilled concerning the participant as such. As mentioned above, the occasional planes were still present to complement the 'noise memories'. Albeit minimal, to a certain extent, the situation was still suitable for sound elicitation[25] (e.g. Vokes, 2007) or participant listening methods (see Forsey, 2010) because it was still possible to

[25] Similar to photo-elicitation, which entails showing photos to the participants in order to evoke interpretations which would be limited in the conventional interview (Harper, 2002; also see Natali, 2016), I refer to sound (or sonic) elicitation as a method in which certain sounds are played back to participants in triggering more insights (for radio elicitation see Vokes, 2007).

hear aircraft noise occurring in the background when the interview was taking place, however dependent on the efficiency of the microphones or the position of the computers. In short, the real-time sounds of the overflying planes have reinforced the sense of rapport.

Secondly, at that time, I had been living in Brockley, London, for a couple of years, and I could still hear planes arriving at 4.30 am. Moreover, I lived for a short term in an area with higher exposure to aircraft noise, meaning sound memory can also be incorporated into the encounter with the participants and make sense of their accounts. Ultimately, we were tuning into aircraft noise together, including the online meetings where the participant and I were at our homes. This commonality also made the sonic elicitation aspect more significant. In this sense, my role as a researcher would be that of the 'participant-experiencer' (Walstrom, 2004), who is not a passive observer but someone who shares the experience personally. Although my experience can by no means be equated with that of the participants in terms of noise actualisation and the severity of the victimisation, it is still a significant aspect to have in my role as a researcher in order to heighten the sense of trust and sympathy which are vital in establishing rapport (Atkinson et al., 2001).

My past and present personal experiences of noise as a researcher outside of the meetings could also be meaningful, particularly in an auto-ethnographic sense (e.g., Ellis, 1999; Sparkes, 1996; 2000). Indeed, ethnography is the writing of the other (*ethno* and *graphy*), which means that the experience of the researcher can also be the subject of the research so long as it is alienated, made vulnerable, and ultimately, made *strange* within ourselves, as Kristeva (1991) would put it (Loon, 2001:282). In this case, it is made strange by noise. This strangeness was also reflected *by* the participants' accounts, articulating the simultaneity, the overlapping 'here and there' of the noise experiences, although we were in different parts of London. Ethnographic or auto-ethnographic elements in the strict sense because including field notes of 'in-situ observations' are not directly included in the data. However, as mentioned above, the interviews can be considered partly in-situ, making some sonic elicitation possible. Moreover, the interviews elicited and evoked important stories, which included observations of events, places or people, such as the consultation

meetings with airport officials that happened in the past. The data includes insights and reasonings on the harms of noise, information regarding campaign groups, opinions, news stories, their interpretations, and conversations with neighbours about noise and related issues. This richness is thanks to the fieldwork conditions mimicked by sharing some of the noise experiences and the richness of accounts in pertinent observations and insightful interpretations of the participants regarding the noise of the planes under the same sky.

Another advantage of the 'socially-distanced' method was that it allowed me to talk to the participants in real-time without having to deal with logistical issues (Deakin and Wakefield, 2014). Safety and access issues were also more easily mitigated, for internet connection would delimit them. Moreover, I could read non-verbal communication, which provides further clues about the meanings of their account (Sullivan, 2013). Others argued that the partial image of the participant might not be enough to observe body language (Cater, 2011). The sensory mediation and reduction of computers (Pallasmaa, 2009) preclude important sensory data that would have provided nuanced interpretations of their response. Even though the auditory and visual cues may be limited, they were still helpful in interpreting the accounts and establishing rapport, as mentioned before. Moreover, because I did not need to enter the private space of the participants, the interviews would be regarded as safer (Hanna, 2012:241; O'Connor and Magde, 2017:6). As such, Hine (2005:4) also suggested, despite the dominant 'gold standard' of in-situ research, online methods have their values.

Eliciting memories of destructive noise exposure, ethics and the function of the interview

A psyche that is estranged and exhausted by noise will presumably have different sensitivities, and the affectability of the bodies will not be the same in each case. As Harris (2015:28-29) highlighted in the context of ethnographic research on sound, reflecting on the noise experience, 'like other sensory memories, may evoke flashbacks or traumatic experiences, although there is little or no consideration of this in this body of research. They could unleash emotions for which the participant

is unprepared…'. Moreover, the researcher, as the participant experiencer of noise, however relatively minimal, would still be negatively affected first through the direct exposure and second by the constant reflection prompted by fieldwork, writing, and even *thinking* on noise. However, as Denzin (2017) puts forward, ethnographic research is a 'moral, allegorical and therapeutic project' which does more than merely keep a record of the experience. The interview can be seen as a vehicle through which a common ground can be explored and shared between the researcher and participants. It is 'a window to individual subjectivity and collective belonging: *I am because we are and we are because I am*' (Madison, 2005:26). Ultimately, therefore, witnessing the unveiling of the very 'truth of the matter' (ibid.) that can provoke change in the existing conditions can contribute to a sense of empowerment within both the researcher and the participants.

The above considerations are relevant when participants talk about noise and its destructive effects per se. However, in this study, participants were also encouraged to talk about the 'institutional experience' of noise, in addition to bodily, which included their sometimes opposite views about aviation in general and anti-noise campaign groups. Therefore, my research process included the – emotional and intellectual – job of making sure there is an unintimidating atmosphere: not only for the strong affects and emotions to emerge but also for various, sometimes opposite opinions and perspectives on the politics of noise surrounding the relevant institutional procedures and organisations to be expressed as freely as possible. Although this emotive and cerebral task seemed daunting to undertake at times, it was overall straightforward thanks to the participants' attentiveness and thoughtful attitude during the interviews. Also, offering anonymity to the participants as well as those who lead a campaign group further helped navigate this process more smoothly. Combining anonymity with the unstructured style to allow for more detailed responses in a victim-focused fashion helped achieving what Denzin (2017) described as a 'therapeutic' process, creating a safe space for the participant.

Sample and locations

Each participant lives under or near the flight paths or airports in London, mainly Heathrow and London City Airports. They were recruited through a Twitter advert and with the help of a few leading anti-noise campaigners of HACAN and a few others in circulating the research outline to their members and social media followers, although not all participants are involved in a campaign group. This study is based on 26 in-depth interviews conducted via online Zoom or Teams meetings, depending on the participant's availability, between January-March 2021. A certain flexibility in choosing software was needed in order to adjust to the needs of the participants. Each interview would last an hour on average. The sound recording of the interviews was taken using a separate sound recorder, and the audio files were then transferred to the researcher's password-protected laptop and backed up privately in the University data storage account (Microsoft OneDrive). Research information sheets were sent electronically, and written consent was obtained through e-mail. The interview data consists of approximately 30 hours of sound recording, which was then transcribed into more than 200 pages of data. In addition, there have been other materials such as images, some official documents, sound recordings, and internet links that were shared with me by the participants.

Participants live across London, including the boroughs of Hounslow, Ealing, Hillingdon, Richmond upon Thames, Hammersmith and Fulham, Kensington, Waltham Forest, Hackney, Southwark, Haringey, Lewisham, Bromley and Greenwich. A HACAN (2017) report states that Hounslow, Richmond and Waltham Forest are the top three most overflown boroughs in London. Together with Hillingdon and Ealing, these boroughs represent the western part of the city which are affected by mostly Heathrow (located in the west) planes. Other areas may be overflown by both City (located in the southeast) and Heathrow aircraft. In this sample location, Kensington, Hammersmith and Fulham and Richmond are the most affluent areas, with Kensington being the most central borough. Southwark, Lewisham, Haringey, Bromley and Greenwich predominantly represent the city's southeast, whereas Waltham Forest, the most overflown borough, is located in the northeast. One participant lives closer to Heathrow and on the far west end of the

city, whereas all others are affected by overflying aircraft rather than the proximity to the airport. On the other hand, the sample is overwhelmingly white, middle class, and British; the average age is approximately 50. The implications of these demographics will be discussed in the concluding chapter. Overall, within the scope of this study, this bias did not prevent rich data from being elicited about existing noise which seems to affect, as can be understood from the diversity of the locations, the privileged as much as the marginalised (see Brainard, 2004).

The research process

As mentioned, unstructured interviews (Brinkmann and Kvale, 2018:1002) are based on facilitating the participants' narratives rather than asking many specific questions to explore the issue. Accordingly, and in relation to the research questions, I devised open-ended questions, in addition to the prompts and follow-up questions, in order to shed light on the lived experiences of noise. Although the phrasing or the combination of them may have changed depending on the participant and the nature of the rapport we established, three major open-ended questions roughly structured the interview. I would start the interview with an introduction to my research and highlight the conversational aspect of the interview, focusing on their experience rather than posing many questions by myself. I would also inform them about data handling, the eventual erasure of their data, anonymisation of their personal information in the thesis, the timeline of the study, as well as their right to quit the study whenever they like. I would make clear that they are welcome to ask me questions about the project during the meeting. This opening was hoped to prepare them for what to expect during the interview and after completing the thesis. As an icebreaker, this opening stage would also include a conversation about Covid or daily politics or my experience of noise during the lockdowns. Otherwise, this type of conversation would occur at a later stage, reinforcing the sense of shared experience.

The central part of the interview started with the question '*When did you first start noticing the planes?*' aimed at eliciting the ways in which noise is experienced in the everyday rhythms concerning my first research question. This broad question, as

well as the follow-ups such as '*How does this kind of exposure feel?*' or '*Why do you think is that*?' generated an extraordinary amount of response, full of details on the topics such as wellbeing, family, the particular aspects of their area, the type of sounds they are getting and how flights are conducted. In other words, noise as an actual event was articulated in rich detail. I would then ask, '*Have you ever tried to make a formal complaint?*' to understand the institutional constraints, mainly triggered by the lack of legislation and its consequences concerning my second research question. This question elicited concrete details about the complaints procedure, revealing consultation meetings as important events. It has also been significant in revealing the severe distrust in the airports, the CAA and the sound metrics on which the noise policies are based. Finally, I would ask: '*Do you share your noise experience with others?*' to understand the wider responses to noise, how it is made sense by others and the main pre-conceptions that may underlie the lack of recognition of noise in the public discourse. The responses included conversations with neighbours, family and friends as well as comments about news stories and others' responses which are usually dismissive of noise and the participants. Overall, not interrupting the participants yielded fruitful responses; the direction was led by the participant as well as their narrative and the aspects which they would like to highlight in relation to the interview questions. On the other hand, the urgency of the issue, the severe extent of noise exposure and the relative lack of platforms where the victims' voices can be heard played a significant role in the motivation and willingness of the participants to provide rich and detailed responses.

Method of analysis

Interview data was analysed thematically because of its very convenience in providing the richness and details of the data while preserving complexity (Braun and Clarke, 2006:78). A theme indicates a statement emerging from the data which is relational that which 'identifies both content and meaning' (Bazeley, 2013: 191). The data-driven coding was first conducted for data familiarisation and theme development purposes. After the themes were identified, the explanatory theories were introduced. Overall, the three major themes of the data correspond to the three research questions: Expectation, denial and sensitivity/subjectivity, respectively,

which also represent the order of the empirical chapters in the organisation of the thesis. Theme development in the first and second empirical chapters was carried out predominantly through a theoretical thematic analytical approach in which the researcher pays attention to the existing conceptual tools in focusing on some aspects of the data (Braun and Clarke, 2006:12). The theoretical frameworks of ecological thought and green-critical criminology respectively provided the perspectives in analysing the first two research themes.

On the other hand, the third theme was developed more through a latent thematic analytic lens in which the aim of uncovering the underlying meanings and discourses came to the fore (ibid.), motivated by the aim to understand broader discursive dynamics embedded within the noise experience. Overall, the critical frameworks of green criminology and victimology were the main drive in identifying the themes, which are also echoed by the critical ethnographic approach as delineated above. Throughout the following chapters, then, I will explore the broader themes of Expectation (as the actualisation of noise), Denial (in the context of the institution/corporation) and Sensitivity/Subjectivity (the discursive dismissal of noise) in addressing the research questions situated in everyday, institutional/corporate and sociological/discursive levels respectively.

Chapter 5: The actualisation of noise as harm in everyday rhythms

Introduction

This chapter lends an ear to the everyday rhythms[26] under the flight paths in order to articulate the disruptions prompted by noise pollution. In other words, it is an introduction to the lived experience of noise and an exploration of the ways in which noise emerges within daily life through examining how aircraft noise was perceived and experienced by respondents. Here, the themes of habituation, everyday life, frequency of exposure, loudness, irregularity and, most importantly, expectation will be made sense in relation to the virtuality/actuality of noise. I will argue that noise disruption is characterised by what I call spatio-temporal subsumption. The concept is an essential step toward the conceptualisation of noise experience without recourse to purely cultural-relativist or psychologist approaches that have been dominant in the disciplines, including lived experience of noise as a subject matter. It will pave the way for understanding noise as social harm more nuancedly through introducing a novel ontological frame of pollution.

My analysis of participant accounts is closely linked to my earlier critique of the definition of noise as unwanted sound. As I suggested in Chapter 2, this definition renders noise inherently a subjective matter and so obscures the reality of noise production and its harms. This approach has so far been echoed in cultural approaches to noise in criminology (Ruiz and South, 2018) and sound studies (e.g. Pickering and Rice, 2017), as well as in soundscape approach, which highlights the psychological dimension of hearing (e.g. Davies et al., 2007). As presented in Chapter 5, cultural studies are interested in the symbolic in the experiences of sound/noise phenomena, whereas soundscape studies target the hearing of the

[26] By everyday rhythms, I broadly refer to different habits of everyday life – which noise leaks into - like sleep, communication, working, and childcare; interwoven with the perception of space and time at once (Lefebvre, 2013). This chapter will analyse how noise is actualised as disruption within these rhythms. See also Herrity (2019) for a more comprehensive application of rhythmanalysis as part of an aural ethnography to reveal how social order is enacted in the prison setting.

psychological subject in order to alter the perception of the sound environment. However, the present chapter highlights noise as an affective matter (Cox, 2011). Moreover, noise, as experienced today, operates beyond the ordinary thresholds of perception[27]: similar to other pollutants, it is ubiquitous and persistent (Wyck, 2005; Adam and Loon, 2005). Confining the conceptual backyard of noise within the vocabulary of the subjective has disadvantages. It either takes us into relativity, as Malaspina would suggest (2018) or psychologism, both of which distract us from grasping the actuality of noise pollution with its radically victimising and production aspects. This chapter indeed focuses on personal accounts of noise as part of the essential function of the open-ended, in-depth interview as a research method. However, my critique of subjectivity rather targets the *uses* of subjectivity instead of subjectivity *per se*: (1) the *assumption* that noise is subjective (the consequence in cultural studies is the focus on the symbolic realm) or (2) the *exploitation* of subjectivity (the consequence in noise policy. Subjectivity, the personal experience of noise victimisation, is here mobilised to articulate noise as social harm and to make victims *visible,* rather than render noise overly relative or psychological, which will eventually dismiss the victimisation caused by systematic pollution. This chapter is based on personal accounts, therefore, but it is to highlight noise as actual harm instead of concealing it.

As suggested, there is a strong link between the critical criminological project and documenting and articulating harms through empirically studying lived experiences. However, if noise as an ecological threat is beyond ordinary perception, we need to search for the ways in which it is experienced, *felt* and *seen* (Massumi, 2002). Rather than noise as unwanted sound, the sensory effects of noise as it emerges on the surface of social reality are the primary concern of the present chapter. The aim here, then, searching for the actuality and materiality of noise within the personal accounts which will clarify the lived experiences. This chapter will unpack the themes, namely habituation, loudness, and frequency (of flights), that pave the way for the articulation and further conceptualisation of noise as a socio-ecological issue. The

[27] The wide range of health effects of harmful exposure to sound (from minimal to fatal; from cumulative to acute) as Chapter 2 has explored.

themes serve as a first step into the conceptualisation of noise interruption and how it unfolds within the rhythms of everyday life.

The present analyses show the heard and felt effects of noise as told by the participants. The levels at which noise emerges; the ways in which noise is most disruptive of the everyday rhythms are the main topics that this chapter will address through several steps. I analyse noise exposure in its multi-dimensional occurrence in the conjunction of body, space and time. The chapter draws on participants' accounts more or less chronologically, starting from the first time they were exposed to aircraft noise and then how it gradually changed their life. The structure thus reflects the developing severity of the experience as noise persists and the increasing awareness of the problem. The first section of the chapter argues that the first encounter with noise reveals habituation to urban/industrial noise where the participants compare their experience to their past and others. The remaining sections will focus on the frequency of exposure, loudness and irregularity, showing how these experiences differ from the mainstream narratives. Finally, I explore the central theme of expectation through the ways in which noise fragments time, spatial and bodily functions and sensory perceptions. The umbrella theme of expectation leads to the notion of spatio-temporal subsumption, which I will describe as the primary mode of noise as a pollutant to grasp its penetration into the everyday rhythms of the individual.

Beginnings: The question of habituation

This section presents accounts elicited in the interviews about the onset of noise exposure. The focus is on how they noticed something changed and the ways in which they made sense of it. How noise became a full-blown problem ingrained within the everyday rhythms will become more evident in understanding the characteristics of the lived experience of noise.

Firstly, the beginning of noise made sense concerning the assumption of the ability to get used to the sounds, which has been referred to as habituation in psychology (Stansfeld, 1992; Smith, 2003). Habituation simply refers to getting used to the

sounds around us; however, it may not necessarily occur. The fact that urban life is becoming noisier, the belief that most people can or should adapt to it has become a primary coping mechanism, as will also be shown. The reasons for being cautious about habituation aside, I will try to illustrate how it has been used (or denied) in order to make a plausible explanation for noise (or the reaction to it) at the beginning of the experience.

As I tuned into the meetings from my room in lockdown London, I would usually start with a simple question to prompt their story: 'When did you first start noticing the planes?' The first encounter with aircraft noise is not the same in each case, even though annoyance and irritation remain similar, as will be shown later. Noise is that which transgresses (Eisenberg, 2015) in an arbitrary way (Bryan) and from which there is no escape. It is experienced at home, around which the everyday rhythms revolve.

Andrew has lived in Leytonstone, a suburban area in the eastern part of London, for 17 years. The permanent transition of his sonic environment was remarkable:

> I sometimes apologise for this when I'm talking to people, but you can hear birds [here]. I mean, I'm very fortunate I live in a place which is for a city is quite a quiet area. So therefore, when the aeroplanes began to overfly us, perhaps around 1998 it really was a kind of a revolutionary auditory experience. Because it went from silence. You'd be talking in the street to a friend. And suddenly you'd be looking up thinking ‘What's going on? Did an aeroplane lose its way?’ So that was the experience which was quite shocking. I mean, I suppose the thing is, if you were born and grew up on a pig farm, you wouldn't notice the smell. But if a pig farm moved in next door, certainly you would notice the smell.

In Andrew's case, the sudden introduction of aircraft noise is shocking in contrast to his peaceful and quiet suburban dwelling, for which he gets apologetic. He is not used to the aircraft; it was not part of his life before, and he did not experience its noise. He exemplifies it with a change in the smellscape: What he refers to with the

pig farm example is related to habituation (Smith, 2003) because growing up near a pig farm means habituating to the smells emanating from it. Similarly, those who claim to be not bothered by noise are habituated. However, the body would still react to the sounds regardless of it (Basner et al., 2014) as to show symptoms of being stressed (McEwen, 1998).

Nevertheless, the new experience of noise does seem to prompt comparisons between his past (quietude) and the present (noise) to evaluate, give meaning and, later, cope with aircraft noise. Noise is apparent because one is not used to it from the subject's point of view. However, as will become more apparent, the feelings of objectivity and the sense of commonality in noise experiences will dominate, especially among those much more severely affected. For now, those who consider habituation, including Andrew, use the memory of their past auditory experiences to make sense of their *new* experience of aircraft noise. Andrew also finds enjoyment of quietude at home a privilege, implying its rarity in London. It is a privilege that only some people can access, although it is considered a human right. Indeed, it has been known that human rights 'can be invoked to ensure the enjoyment of an environment in which basic human rights, such as the right to life, the right to health and the right to a family and private life can be ensured' (Shelton, 2006 in Van den Eede, 2012: 27).

Theresa lived in ten different cities (including London, Berlin, Frankfurt, Paris, Strasbourg, Vienna and Istanbul during the past ten years) before moving back to Windsor, a prosperous town in west London famous for its royal connections, in July 2020. She passionately describes herself as a 'city girl' who is used to noise, so habituation is not an issue for her. However, there was a drastic change. She compares the aircraft noise in Windsor to the railway noise they experienced in southeast London, which she found more tolerable because of the intervals between the trains. As she describes:

> […] especially over the summer, when there seem to be a lot of planes flying, or continually coming over. So they come down to this backing thing. You can see them coming. And it made me think it's a bit like a

> toothache, whereas it hasn't, you know, it starts to ebb away. You can feel the next coming in… I've never experienced that before. Yeah. And I feel quite strongly about it. I was just so shocked by Windsor that I took to Twitter because I was thinking, 'am I the only one who feels this way?

Theresa here understands intolerance as an inability to shut out the 'waves' of noise compared to the trains, which were easier to ignore. Noise emerges as if it is a toothache, an intense bodily experience, as opposed to a mere nuisance that she had previously ignored. It is important to note that Theresa implies a normal state when she refers to 'ignorance'. She failed to be usual in this part of London because she could not dismiss noise. Because *she* was failing, *it* must be too much. In her case, the unacceptability of the situation was attributed to her characteristics. She thinks she failed to adapt because the noise was too much, and the reference point for 'how much' is the busy cities in which she lived. Quiet, here, is not conceived of as a necessity; noise is viewed as the status quo of urban life.

In addition, for Theresa, a certain quality of aircraft noise - '*waves*' - prompted Theresa to consider it hard to habituate. It was this unusual trait that made the present aircraft noise stand out. Likewise, Andrew described a 'spike' in noise. He recalled when he was talking to someone who did not get bothered by aircraft noise: 'I must admit, I did feel an annoyance with her. Because she didn't agree with me, basically, I suppose. But then, thinking about that, I thought, 'Oh, yeah, she lives on the high road where there is a lot of traffic. So, therefore, the spike for her is much less.'

The 'spikes' Andrew mentioned here are like the 'waves', which Theresa refers to as toothache. They seem to agree that the more continuous sound of railway or road traffic is much more tolerable than that of air traffic. Indeed, studies confirm this difference (e.g. Brink et al., 2019). Another striking similarity is that Andrew and Theresa sought out those similarly disturbed by aircraft noise. Theresa opened a Twitter account to reach out to other residents to see if they were being bothered, and Andrew wished that the person he had talked about noise rather be in the same

situation as he was. In any case, there is a diversion from the idea of habituation: From '*I'm used to it; therefore others can get used to it*' to '*I am disturbed by it; therefore, others should also be disturbed by it*'. In other words, when noise emerges within bodily perceptions, it ceases to be virtual. We are at the beginning of the *actualisation of noise* as an ecological pollutant where relativity cannot be defended, and the commonality, or the objectivity, of the shared experience, becomes more accurate.

Chloe from Richmond, an affluent west London area by the river Thames, recounts:

> The very first morning we were living here, we were woken up at 4.30 in the morning by the first plane. Because we lived in Hampton Hill[28], we had some aircraft noise, we kind of *thought we knew what aircraft noise was*. It's only when you're actually right under the flight path. And it's completely quiet at 4.30 in the morning, and then the first plane comes roaring in. It almost sounds like they're gonna land in your bedroom, it's so loud.

Chloe also adds that there is an overflying plane every 90 seconds (to/from Heathrow). The disturbance comes in waves or spikes, and these are frequent. The intensity is so high that it even exceeded the severity of her previous experience with aircraft noise. Like Theresa, she, too, thought she could ignore the noise because she had experienced it before. Again, the intensity of the aircraft noise prompted them to see their past experiences in a new light. Despite the participants having different auditory memories, which prepare them for newly introduced sounds, all residents still felt strongly about aircraft noise. It is *felt* despite the previous pre-conceptions about sensitivity and tolerance towards the pollution in the urban sound environment. The closeness of the overflying planes is implied when they sound as if 'they're gonna land in your bedroom'. She describes the loudness of the planes through a bodily experience regarding the proximity of the 'sound object' (Jim). I

[28] A district within the borough of Richmond is located further down towards the west.

will further unpack loudness as an embodied sound experience in the coming sections.

Chloe thought she and her husband *knew* about noise, and Theresa thought she could *handle* noise. Here, important questions arise as to articulate noise in the context of objective emergence and persistence: How much is too much and how loud is too loud? What should be the reference point in the intensity of everyday exposure to pollutants? Initially, the participants often considered conforming to noise the way others do it. Nevertheless, the unique experience made noise stand out: the noise was intense, it had a different character (described as 'waves' or 'spikes'), and it was emerging in the early hours of the day, disrupting everyday rhythms. In any case, habituation constructs noise exposure from the subject's perspective, but this is to legitimise the persistence of *noise* instead of the subject who is the recipient of noise. Clark (2021) further states that habituation is an urban myth and highlights the significant health effects of noise. Nevertheless, habituation was a recurrent trope when it came to making sense of the introduction to aircraft noise by the participants. The subsequent sections and chapters will present how habituation became irrelevant in justifying their noise exposure.

Beyond noticeable

As the persistent noise is 'detected' as a different, new experience, it starts interfering with the everyday rhythms. Specific characteristics of the sounds described by the participants give the pollutant can be described as their extreme leakiness. This section explores the areas of daily life where noise pollution's impacts become most noticeable. The descriptive accounts will provide the concrete building blocks that pave the way for conceptualising noise as actualised interference.

Mary from East Dulwich (southeast London) noticed a gradual change over 20 years in the area. Describing the neighbourhood as very quiet, she complained about the flights becoming more and more frequent over time due to the concentration of the flight paths. The constant noise is, in her case, due to the frequency of flights, and she describes how it feels like 'drowning':

> You can't catch your breath between planes. Because as the noise comes over, it just about dies out for a second. And then you can hear the next one coming in. So there is no time in between… It's just sort of rolling over you.

The frequency of the flights was an issue about which the participants often spoke. Most participants agreed that their houses became more overflown over time due to the increased number of flights, concentration of the flight paths, or related issues. The next chapter's task is to discuss the operations of flights and the claims about them made by the residents to challenge the airports. For now, it is important to note that the idea of habituation already becomes less prevalently implicated within the narratives as the participants are exposed to more intense noise precipitated by the frequency of the flights and low flying aircraft. Leigh describes the frequency of flights in terms of the bodily experience of being unable to relax, to 'catch one's breath'. The noise exposure becomes a relentless pressure that 'rolls over' the individual.

Participants often mentioned morning flights. Kate, who had been living in a central area in southeast London for more than 30 years, asked her neighbours in the summer of 2016: 'What's going on? Why have we got planes coming over at six o'clock in the morning?' She went on to say that from then on, they were regularly being overflown from six o'clock. Here, noise appears as a disruption to the circadian rhythms through sleep interference. Bryan, who lives further down the southeast, did not notice air traffic from Heathrow or London City Airport (LCA) when they first moved into their house 17 years ago, apart from the occasional Biggin Hills Airport plane. Now, they are overflown by planes from all three airports, especially in the mornings:

> If the wind is blowing from the east, then City Airport, I would say you would get traffic from about twenty to seven in the morning. Probably once every couple of minutes you'd have a flight coming over. And that would last until probably around about ten o'clock. It would quiet down.

> And then I'd say again, from around about four or five o'clock, you'd find that it's pretty frequent, like every couple of minutes, you'd have flight coming down that path for City Airport. [It's] quite disruptive, actually, when the landing path would bring them over south London. Heathrow tends to be noticeable more in the early mornings. Quite frequently. I'd be woken up sometimes as early as twenty to six.

Landing and take-off directions are determined by the wind direction for safety reasons, as explained on Heathrow's (2022a) website. In London, the wind blows towards the west most of the time; thus, the arrivals approach from the east (called 'easterly operations'), and the planes take off towards the west (called 'westerly operations'). Predominantly westerly winds mean that Heathrow planes usually fly over residential areas as the airport is located on the western edge of the city. This way of operating is well-known by residents, and they often try to find out whether the airports are on easterly or westerly operations to organise their day. For example, Sally, who had been a Hanwell (a western suburb close to Heathrow) resident for 70 years, recalls when she taught at Royal Holloway how she structured her daily life according to aircraft noise:

> In the summer, sometimes it seemed a good idea to stay at home and do marking because you wouldn't have students knocking on the door or interrupting. But if it was Easterly, then especially when the louder planes make it impossible to concentrate, I'd end up going down the road to College after all. I mean, as far as night noise is concerned, years ago, I got used to never going to bed before 11.30 [pm] because there are likely to be considerable number of flights up to that time.

Sally developed strategies to find a way around noise, such as going to bed after she makes sure the flights stop or going to a quieter place to focus on her work. She was forced to find resolutions to avoid noise to fulfil her daily activities. However, Leigh from Isleworth (western town in the most overflown borough in London, Hounslow) feels that organising life around noise is not so easy: '[…] They alternate. So, you

know, on a good day, it won't be too bad. But I still haven't got the hang of the schedule. Sometimes it changes, I think. You can't really *plan* much.'

Changing flight operations according to the wind direction then fragments the rhythms of everyday life; or prevents its ordinary rhythms. Some people may adapt to the timing of the noise exposure where they can, as Sally did, or they may become more reluctant to organise their day as they would typically do. It is so uncertain that the alternation ceases to be relevant: noise is accepted as a regular, everyday, ongoing fact that cannot be overcome. Jane from Mottingham, another district in the southeast, illustrates how noise prevents socialisation, another essential activity, in her house:

> I belong to craft clubs. And we'd go to each other's houses and do this. But I didn't want to invite them here. Because I didn't want them to know the noise that I was going through. And I was embarrassed to bring them here and find that they couldn't hear what we were talking about.

As such, noise also interferes with communication by drowning out conversations. If noise violates the supportive environment required for communication, persistent noise also prevents the individual from relaxing and winding down. It was a wreck when Georgia bought their home in Walthamstow (east London) 10 years ago. It took her significant money and time to repair it, but they made it into a nice place with a big garden. However, the overflying planes make it difficult to enjoy their house and surroundings. The halting of flights during lockdown offered a brief reprise, revealing the everyday significance of aircraft noise in their domestic life. As she tells me, 'It was so irritating being in the garden. I have to say, during lockdown last March [2020]… It was lovely. My husband has never done this before: sitting in the garden in a deck chair and falling asleep. I was amazed! [Laughs].' In the absence of significant noise, the normal flow of everyday life, especially the enjoyment of the surroundings, returns, presenting an alternative picture to the status quo, which does not violate the rights of the individual but supports them.

Changes in flight operations such as flight paths and lower flights made gradual or sudden changes in participants' auditory environment. The overall experience is affected by the tentative schedule of the flights brought about by the wind direction change and the flights' frequency. Lower, more frequent flights and those with a more or less uncertain timing brought noise into an actuality, leading participants to experience noise disruption more acutely. In other words, noise ceases to become virtual, starting from the moment it is felt intensely in their space and time. Aircraft noise is an actual happening that can be felt at the intersection of bodily, temporal and spatial levels as people navigate their daily lives according to it. Some residents strongly articulated that aircraft noise was more disturbing than other industrial noise. The constant hum of road traffic or the occasional passing of trains was tolerable for some, as in the initial thoughts of Andrew and Theresa. However, the fact that some forms of noise can be tolerable should not be understood as to undermine the actuality of noise. The reflections on the actuality of aircraft noise bring to the surface the existence of the other forms of noise as pollutant emanating from myriad industrial activities.

The feature of noise as an affective and material phenomenon which occurs independently from its representation in the broader culture (Cox, 2011), in this case, is signalled in the frequent passing of aeroplanes and their loudness due to low flying. Even though there is potential respite due to changes in wind direction, it is not possible to adapt because of the uncertainty around when the noise returns. This aspect concerning timing gives us a glimpse of irregularity and expectation themes: the anticipation of noise and its anxiety take over even when there is a gap between the flights. The invasiveness of noise leads to feelings of frustration, suffocating, shock and stress by impinging upon the daily activities or prohibiting some of them altogether. The individual gets trapped as it is experienced at home, where there is nowhere to escape.

Beyond loudness

The accounts of participants indicated severe loudness of aircraft noise (in relation to their low flying). Georgia, for example, thought the planes were 'So loud!' and

laughed: 'I mean, City Airport, when the jets go by, they're really loud! And then you've got Heathrow almost constant, thundering... Well, I suppose it's become constant now, I don't know.' What is more interesting here, as it will become more nuanced soon, are the ways in which this aspect called loudness is experienced and described.

When it comes to describing or communicating a disturbance or annoyance from noise, loudness is, for the most part, the primary aspect that comes to mind. The obvious question is to ask how loud the noise is. However, as the participants describe, noise must be understood beyond the assumption behind this question: that only loudness and loud sounds can disturb.

Loudness is dominant in policy (DEFRA, 2013; also Environmental Protection Act, 1990). The correlation between loudness and annoyance is the focus of noise surveys (e.g. Brooker et al., 1985; CAA, 2017). The definitive health recommendations, such as that of WHO, are also provided through decibel thresholds (e.g., Berglund et al., 1999; WHO, 2018). The noise contour maps that airports are obliged to produce for monitoring annually are a certain kind of loudness maps (e.g. Lee et al., 2015a). Perception of loudness is a crucial element of soundscape studies (e.g. Aletta and Kang, 2015). Finally, the official loudness metric (Laeq) for measuring aircraft noise in the UK averages out the sound levels (Critchley and Ollerhead, 1990), ignoring single events of aircraft noise where the sound level peak beyond the highest thresholds accepted by Environmental Noise (England) Regulations 2006 (55 dB(A) for the daytime). Strategic noise maps are prepared based on the levels obtained through these metrics, which determine the noise action plans (DEFRA, 2019b). In short, noise experience is generally represented through an averaged sound level which ignores the actual interference caused by aircraft, reduces sound into a single dimension[29]. However, metrics for the sound levels are contested (cf. Nold, 2017), as will be explored further in the next chapter.

[29] In addition to loudness, other psychoacoustic parameters as an aspect of sounds include frequency, roughness and sharpness (Genuit and Fiebig, 2005).

In short, loudness is the concept through which the actuality of sound and noise is primarily articulated. It is a formative element that constitutes the concept of noise in the collective imagination due to its recurrent use in the discourses in science, policy, research and health when it comes to experiencing sound. However, I would like to present a critique of loudness through the accounts of the lived experience, paving the way for the conceptualisation of the *felt effects* of sounds on the body.

Meredith, who had been living in the same area for a decade, complains: 'You're in the garden; maybe you've got people around. And planes will be coming over again and again and again. And you have to stop talking.' In this case, the loudness of sounds once more prevents social interaction. Miles away, Doris (Putney, an affluent area in the southwest but closer to the centre than Richmond) also describes the loudness:

> My house is 8.9 miles from the airport. So that's the distance. When the planes go they go with about 2500 feet, and they go over every 90 seconds. So if you're outside, if you're in the garden, if you're walking around Putney, you've just got this constant noise. And it is very loud. You can't really hear what people stand next to you on the pavement are saying, it's *that* bad. It really is very bad indeed. And though my house has windows that are double glazed, you can sometimes hear it.

Doris, affected by Heathrow planes, refers to noise as a constant which interrupts conversations. Even the insulation does not correctly work in escaping the loudness. Further west in Windsor, Theresa's daughter, who cares less about aircraft noise than she, thought their roof would go off. Theresa goes on to say, 'It was like so loud. Wow. I mean, to look up and see the undercarriage and be able to sort of like, see… It's just amazing.' The loudness here is compounded with the visually clear image of the low overflying aircraft, provoking anxiety.

The loudness for the participants was not a question as such, the sound of the planes was defined as loud, and it was intrusive regardless of the proximity to the airport and double-glazed windows. Perhaps the point is not the loudness of sound per se -

which concerns metrics other than the lived experience - but the ways in which sounds transgress some boundaries within the rhythms of everyday life, such as communication, sleep, and life indoors. One consequence of loud aircraft noise due to the proximity of the overflying plane, for example, can be anxiety, as in the example of Theresa. The question is not 'how loud is too loud', or whether one can habituate or tolerate noise, but rather the extent to which a given sensory experience is interrupting and violating the necessary boundaries that one needs to be able to maintain and control the function of their bodies as well as social interactions. The actuality of noise in everyday rhythms prompts us to articulate all aspects of noise, not just the presupposed one-dimensional/quantitative understandings of sound levels as *the* determining factor of a particular noise experience/annoyance.

There are also other ways of sensing what is conceived as loudness. The experience of Valerie, who lives in Leytonstone, is particularly illustrating as she refers to a different kind of feeling other than what can conventionally be defined as auditory perception:

> I do notice if they're [the planes] particularly low and really loud. I do actually feel my head almost vibrating. Yeah, it's almost like I can tell whether it's coming from which side.

What makes her experience even more significant is that she has complete hearing loss in one ear:

> I remember that they were testing my hearing and I had to be in an acoustic room with these big pads on and they put noises into ears to judge, you know how bad your hearing loss is. And I can remember they put on a very loud noise in the ear that I had lost all hearing. And I couldn't hear anything but I could feel my head vibrate. It was the *noise* that they put in this ear was so *loud*. I remember saying to the woman, I felt that I didn't hear it, but I felt my head vibrate. I feel it especially when the planes go over and if I'm in the loft with the door and the windows open. It sounds corny, but I think it is the vibrations that are

> doing something to my skull or something. And I'm not a headachey person, but I do feel a headache all across my head starting.

Valerie is talking about auditory perception with all the affectivity and materiality of the sounds, which is beyond the mainstream descriptions of human perception of sounds occurring in the ear canals. Aspects of sound such as frequency (which Valerie refers to as vibrations), roughness, sharpness (Genuit and Fiebig, 2005) and the multitude of ways they contribute to the adverse health effects are lesser-known. Low frequency research, for example, revealed that infrasounds could be particularly harmful irrespective of whether the hearing occurs or the loudness of the sounds (Alves-Pereira et al., 2005; Moorhouse et al., 2009). Valerie's experience indeed points out in a different direction where the auditory is defined via the whole embodied experience instead of the presupposed correlations between abstract and isolated elements of sound (i.e., loudness) and so-called subjective reactions. As mentioned above, sound levels are the only aspect being considered in policy-making in aviation for the sake of *objectivity*, enclosing other aspects as *subjective* and therefore ignorable. To express in Foucault's (1972) terms, the role of the sound levels in this conceptual formation is to constitute sound as an objective phenomenon and to exclude what is defined as subjective. *Loudness linked to bodily-felt vibration is entirely outside of this construction; for instance, it is a vital constitutive factor in the lived experience of the noise as harm.*

Because of the health consequences of the contaminated environment, Valerie makes decisions which determine her daily life: 'There are times when I just… I don't want to go to the garden in the summer, because it's stressful. It's not a nice place to be. *I'd rather hear it inside*. But when you're outside, it's just… it's louder. And I don't want to be out.' She makes evident that there is no way to escape from the pollutant and that noise is a reality with which to live. Her experience of loudness in the form of vibration, an overwhelming direct bodily sensation that captures her, both literally and metaphorically, prompts her to remain indoors and deal with her suffering. Leigh also has a hearing condition (unspecified) which determines her life:

> I've got to be careful around loud noise now. And it's very difficult to avoid in London, it's everywhere you go. But here, you've got the double whammy of the planes, you know… In other areas in London, yes, you've got the traffic, the sirens, the police, ambulances… But here you have the planes on top of everything else. So at times I wear earplugs, at times I don't, because obviously they're not always practical. […] I mean, we're talking about 80 decibels plus here.

The sound level she mentioned seems to be well above the safety threshold set by WHO (2018), which is 45 dB Lden[30]. Here, the participant also has the numerical translation of what 'too loud' means. Her specific condition makes her aware of the levels of sounds and the ways to measure them. Indeed, as mentioned above, Leigh became more conscious of the noise after her auditory perception problem.

In the first instance, a hearing condition may sound like an idiosyncrasy, indicating deviance from normal hearing. However, suppose we consider what Drever (2015) called 'auraldiversity' in order to problematise the so-called 'normal hearing' (Sterne, 2012), whereby it is presupposed that each individual hears the same way. In that case, Leigh's awareness of and attendance to the environmental sounds ceases to be peculiar. Her consciousness of herself as an aural non-conformist prompts her to question the safety of the environment in terms of hearing health. This awareness forces her to find temporary solutions, such as using earplugs which she acknowledges are not the healthiest resolution.

Experiences and understandings of loudness so far have shown to be directly articulated in the individual's daily life through the interference with the auditory health along with the non-auditory. In addition, the intensity of experience may prompt material -temporary- solutions such as insulation (Doris) and the use of earplugs (Leigh). Finally, Andrew's experience further illustrates noise experience defined with different terms other than loudness. As he acknowledges, loudness is only one component of the multi-dimensional noise experience. According to him,

[30] Again, I shall note that the WHO threshold is a weighted sound level (Lden), although the level (decibels) Leigh measured through her phone is not.

the loud 'spikes' (as stated before, the fluctuating character of aircraft noise) are indeed 'a very distracting/upsetting /frightening force'. He becomes rather frenetic and stutters when it comes to describing the effect of these loud spikes:

> The feeling of proximity is… much increased. And it is an annoyance because it distracts your attention from whatever you're doing. […] There's a feeling there, this small feeling of anxiety – 'Oh God, bloody aeroplane' And then there's the realisation that, 'Oh, here we go… Here we go…' There's going to be another flight and you start…

His eyes were wide open when he was describing the way in which the low flying aircraft prevented what he was doing at that time. He often looked up as if he was having a flashback of the planes flying overhead. The spikes forcefully took over, and time got suspended in a moment of anxiety. He described the anxiety as small; on the other hand, his body language indicated intense alertness. The low overflying aircraft's loud sound causes an intense *fixation* on the event, which increases nervousness and interrupts work. Disruption to everyday life depends not only on the *loudness* of the sound, however. As he continues:

> We had one of my oldest friends took for a visit with his wife. They were staying in our guest room which is now my youngest son's room. And his wife said… [Laughs] 'I had to put that clock outside, God, I couldn't sleep with the noise. It was terrible!' I said, 'What clock? What you talking about?' It was a little alarm clock you'd have to strain to hear it. But because she was going to sleep… I mean, I don't know what a millionth of a decibel is. It was not even a squeak yet she couldn't sleep because of it. So that got nothing to do with decibel because it was a noise that she wasn't used to. It was very, very quiet and completely imperceptible during the day [...] To an extent, noise levels are only a part of the equation. It's how much it *impinges* on the other thing you're trying to do, whether it's remember what a figure was, remember what a name was… Remember which piece of paper goes with the other piece

of paper. That piece of information that you just heard on the radio. It's not its *volume*.

Just as Valerie's sound experience predominantly highlights its vibration/frequency component, the disturbance of Andrew's guest, as he construes, *cannot be reduced to the sound level*. As Andrew explained, sound is a force which can disrupt regardless of how loud it *is*. Again, it is the extent to which it interferes with one's daily rhythms rather than a certain level of sound presented. If the ticking of the clock has the potential to prevent the rhythm of sleep, the destruction of aircraft noise leading to the inertia of the rhythms becomes more evident.

It emerges from the accounts that there are other ways in which sound can *leak* into bodies beyond loudness. When a sound phenomenon is taken as a whole and not reduced to its one physical dimension, or when the hearing is not reduced to its mainstream physiological definition, the gap between the extent of the leakiness of noise as a pollutant and its persistent circulation becomes very striking. Sounds, loud or not, have auditory-sensory effects, as I have illustrated through Valerie and Leigh, as well as those which are non-auditory, as in the example of Andrew and his guest.

Overall, the lived experience of the loudness of aircraft noise differs from the techno-scientific oriented noise policy. The relevance of the concept of loudness comes from its representative function within noise policies and management strategies. *Sound generally indicates loudness* in the governance of noise, which means a numerical unit with its convenience in measurement and objectivity and, therefore, credibility. On the other hand, materialist definitions of sound take the phenomenon as a whole and acknowledge the affectability of the bodies (Cox, 2011). The sound levels at once denote annoyance and sound (in contour maps). They constitute a reference point for sound insulation and all other noise monitoring procedures for which the airports are responsible.

The next chapter will deal with how aircraft noise is denied and how the sound metrics are appropriated in detail. For now, I have shown that while high sound levels (as perceived) are a significant aspect of aircraft noise which is experienced on

the ground, it constitutes only one component of the whole experience of noise exposure. Besides, loud sounds are articulated in the intense experiences of bodily vibrations, anxiety, and other disruptions to everyday rhythms such as sleep, work and communication. Material interventions to block out noise remain futile because the intensity of noise denies spatial (and bodily) limits. This type of solution is also one of the aspects that makes noise distinct from other forms of pollution: it is highly leaky in a way which does not recognise boundaries. Therefore, the most prominent aspect of loudness in this context becomes a transgression that designates a force beyond contained spaces and bodies. In other words, the virtuality of sounds (Cox, 2011; Grimshaw and Garner, 2015) expresses itself as actuality through the denial of space and body.

Regularity/irregularity

So far, the intensity of the noise experience contests the notion of sound and directs our attention to the lived reality of loudness. In the next step, respondents tell how noise exists beyond loudness or measurement in decibels. The way the loudness of the overflying planes is experienced revealed the transgressive characteristic of noise as a pollutant. In this section, the frequency of noise exposure, and the temporal repetition of the event, because of frequent flights will be presented as another prominent characteristic of the lived experiences.

How regular is noise exposure, then? As Chloe or Doris recounted, the fact that they are overflown every 90 seconds (by Heathrow planes) makes the disturbance almost *constant*. Here, we are already in a different temporality, whereby we divide the day into meaningful sections to organise our rhythms; therefore, our perception of time is no longer relevant. The temporality aspect will be made more explicit through the significant aspect that participants explored: what happens in-between the bouts of noise exposure, i.e., whenever they are not overflown.

For Valerie, the disruption to sleep is the most prominent effect of aircraft noise because of early morning flights. She connects her inability to fall asleep due to the uncertainty of *when* the noise event starts:

> […] and then you're woken again, at six o'clock in the morning, and you don't know if you're able to get back to sleep again. Because is it going to be one minute? You know… Is it going to be less than a minute? Three minutes? Five minutes, 10 minutes, 15 minutes? That irregular noise is something that is very… Very stressful. For example, if you had a continuous noise in your home, you could block it out. If you have a noise that happens *irregularly*…

Through her example, her anticipation of sounds when she tries to sleep, the unique character which has to do with the temporality and duration of the noise events becomes evident. As mentioned earlier, the continuity of noise is more tolerable as opposed to irregular ones: There can be differences in responses triggered by continuous and intermittent sounds (e.g., Dornic and Laaksonen, 1989; Brink et al., 2019) [nevertheless, the harmful health effects of constant sounds such as traffic noise (Ouis, 2001; Muzet, 2007) or even the disturbance from the hum of domestic electrical appliances (Mirowska, 1998) have been documented]. However, the irregularity of flight operations seems to make the exposure even more challenging to cope with, especially concerning sleep disturbance. In short, the *break* in between the overflying aircraft noise events is *filled with stress and expectation*.

Valerie moves on to elaborate on her bodily responses to the subjection to this *(ir)regular* early morning noise, which is highly relevant in the initial steps of a conceptualisation of this peculiar temporal experience:

> Five or six o'clock in the morning, and not having a good night's sleep, I am tired. And I feel myself becoming physically tense inside… And if your body is tense, then you cannot get to sleep and you have to sort of do relaxing exercises to get off, but I can't do that. Because just when you start to, you think, 'Right, I'll do some relaxing exercises', the noise comes again. Imagine if you were lab rats, you know, you periodically gave them a loud noise. They would become very neurotic. Their

behaviour would change. And I think it's the *irregular unpredictability* of the noise.

The excerpt further exemplifies what happens in the periods between acute noise exposure and the fixation and inertia that characterises these moments. In fact, the irregularity that Valerie spoke about actually indicates the frequent occurrence of flights in a short period in early mornings. Her sleeping is seriously disrupted, and returning to sleep becomes impossible. In an alert and stressed state, her body anticipates the next noise event to begin. The flights are *expected* even in intervals. She does not know when the noise will start, but she *knows* it will. This awareness is triggered by being exposed to aircraft noise on a daily basis, and because there are only too many flights a day, it creates a sense of continuity, despite the intermittent character of the sound. As noise is ingrained in the memory through persistent occurrence, it becomes a permanent part of daily life, displacing the normal rhythms of the everyday (such as those which regulate sleep) with the uncertain expectation of its disruption. The temporal sense of regularity, which organises the daily activities, ceases to be meaningful when noise becomes embedded as such.

Kate also talked about this irregularity/regularity dilemma in a similar way, but she expanded on the variation of the flights over a more extended period of time by referring to the changing wind directions which shape Heathrow's operations. As mentioned earlier in this chapter, because London usually gets westerly winds, the planes come from the east and go towards the west. Kate states that *not* getting the noise 30% of the time (during the westerly operations) does not alleviate the disruption. Moreover, it is uncertain which days the wind blows from the east. 'It might be for a day, or it might be for a long morning or a bit of the evening' (Kate). Stress also fills parts of the days despite respite from being overflown. Again, in addition to disruption at the precise moment in which the noise is present, irregularity prompts stress and uneasiness regardless of whether there are overflying planes. The persistence of these psychological states exists so much so that the persistence of sounds does.

Andrew exemplifies this constant feeling of being on edge with the 'noisy neighbour syndrome':

> […] When they [the neighbours] go to the shops, you realise it's quiet. Then you begin to think, 'When is it going to start again?' Therefore, the *absence* of noise can too be impinging on how you're thinking, feeling… The absence can have as much impact as the existence because it becomes part of your conscious thinking rather than subconscious thinking. I mean, if a neighbour next door has a party, you suddenly think, 'Crikey, they've been a bit noisy.' But then you think, 'Well, it hasn't happened before.' So you realise that it's probably going to be *finite*. And you can just think it'll be overdue. But if they have a party *every night*, you know when six o'clock comes around, you think, 'Any, any minute now… It's going to be [sings] 'YMCA…'

The regularity and persistence of noise then determine the expectation in later stages. Pointing out the anxious state when there is noise *when it is not present*, Andrew indicates through the example of neighbour noise that if the person knows that the noise start*s* at night, they become alert *before* the onset of noise. They simply *know* that there *will* be noise. As he makes clear:

> I remember being at a meeting some years ago, and one of the speakers said, the people who first experienced the noise later in life, it will always be something that impinges on their consciousness. You know, it's something that you *expect*, with a reason to be something that you can experience throughout the whole of your life.

Past experiences indeed shape the present ones, and a similar is valid for the perceptual/ sensory phenomena (Harris, 2015). The speaker's view in Andrew's account points out the determining effect of the past noise experience in shaping the present by inflicting the feeling of expectation. First exposure *accumulates into* the constant state of expectation through persistence. However, it is not mere disturbance which is provoked by expectation.

Andrew and others' accounts tell us about the distinctive way in which aircraft noise operates: consistent subjection to noise threatens the health and wellbeing of the individual not only by disrupting their vital rhythms in its *presence* but by inducing stress through expectation in its *absence* (although these two processes are interrelated). As a result, everyday temporality is disrupted through fixation on expectation. To be exposed to noise for long enough to develop expectation as such means that the difference between regularity and irregularity ceases to exist. One develops expectation even though it is known that the noise will be present at a *later* time. As Kate also recalls:

> I remember very much at the end of a working day, thinking, 'Oh, God, I've got to go home. And I'm going to have this noise, and it's going to last until 11.30 at night, and it's going to get noisier in the early evening, and it'll carry on till about nine o'clock, and then there'll be some really noisy ones at around 11.' I honestly I dreaded going home and I dreaded going to bed. I *knew* that if I went to bed at 10 o'clock, feeling really tired, the planes will be coming over and I just *wouldn't be able to not hear that*. Then I knew, well, I'm probably going to be woken at 4.30 in the morning as a sort of dead resignation.

Kate's account elucidates the schedule of the flights and suggests that aircraft noise cannot be blocked out spatially *and* temporally ('I will not be able to not hear it'). After regular exposure to noise of one kind or another, be it daily, twice daily, or every two days, Kate knows th*ere will be noise* at some point. The extreme consciousness and alertness regarding her sound environment led to inertia that manifests itself as a reluctance at best, or withdrawal at the extreme, from daily activities such as going back home from work, going to sleep, or *going on living*. As such, noise engraves and haunts the bodies (Destree, 2013:17). It is the domination of the uncertainty of an anxiously cyclical perception of time as opposed to the

comforting predictability of the linear clock in synch with our circadian rhythm[31]. If noise expressed as loudness transgresses through its violent force, the regularity of the presence of noise designates a forceful distortion in the sense of temporality, accompanied by stress, anxiety and even suicidal thoughts.

Spatio-temporal subsumption

Based on the above accounts, I suggest the term *spatio-temporal subsumption* describes and articulates the two distinct ways in which noise interferes with everyday rhythms. Firstly, noise forcefully interrupts daily activities through its potential to leak in-between spaces. It is a direct interference with bodily functions in which one can no longer discern spatial differences of inner/outer: It is no longer possible to *shelter* from pollution because of the characteristic transgression of sound (cf. Eisenberg, 2015). There is no way to escape from aircraft noise as the sounds can be felt regardless of whether one is located inside or outdoors (Rhys-Taylor, 2014:8). While this may be explained through loudness, the affectability of sound is beyond loudness, not least because people with hearing conditions, as in the examples of Valerie and Leigh, can also be impacted. As I stated earlier, sound leaks into space, whether in the sense of bodily perception/vibration or permeation into contained space. I shall remind Pallasmaa's (1996, 2009) conception of embodiment: our existence forms a unity with the space we inhabit, both in the sense of our bodily existence and the intimate relationship between our built environment and the senses. Noise violates space through its aspects which go beyond loudness[32] means it imposes on our bodily existence.

When the intrusion occurs repeatedly, the second phase is the state of expectation which is the suspension of the present time in which the individual tunes into an uncertain future in which noise will be present. Here, as Malaspina (2018) would put

[31] Disruption to the bodily rhythms is more directly manifested in sleep interference. However, the stress or anxiety-inducing aspect of the expectation also leads to interruptions on the physical level. See Chapter 2 for a detailed overview of the non-auditory health effects of noise.

[32] This is by no means to claim that loudness does not exist in the acoustical sense of the word, nor it is also an essential factor in the penetration into the space in that sense. The theme is interwoven with a critique of the specific *use* of loudness (especially in the policy) and offers a glimpse into noise as experienced beyond loudness.

it, we arrive at a point where the metaphorical and literal language we employ to describe the sounds and how they are experienced become intertwined. First, as mentioned above, sounds literally leak into space in a single event of emission, whether it is a one-off occurrence or not. I argue that noise also penetrates the *time* of its absence because the anxiety of noise is generalised as future expectation through the cancellation of what is present. This peculiar temporal subsumption occurs when noise is absent. In other words, after the persistent presence of noise which captures the spatial differentiation, the absence of it takes over the present time and incapacitates the individual being in the world. As Destree also argued, although in a cultural sense, 'one could say that noise is most powerful when it ceases to be *sonic*' (2013:17). The expectation of the noise makes the individual both inert and alert, attuned to nothing but to the yet-to-be-actualised noise event. Presence of noise leaks into bodies, regularity leaks into irregularity, and presence leaks into absence. This is the state where the listening will, as Voegelin (2010) would put it, 'come to its knees' as the spatio-temporal subsumption of noise unfolds.

Showing the disruption to everyday rhythms, therefore, signals the actualisation of noise pollution. It attempts to challenge the conventional understandings and uses of habituation and loudness concepts which ultimately obscure the existence of victims and the harms of noise as actualised reality. As such, I will argue, as opposed to the abstraction of noise experience through the uses of such ideas, which are closely linked to the representation of sound experience through metrics[33] (habituation can be viewed as a psychological metric whereby loudness is acoustical). Again, this is not to say such concepts do not make sense in their relevant fields. What is at stake here is their appropriation or overuse as concepts in order to reduce or underrate noise experience as subjective, therefore irrational or speculative.

The subsumption of noise is along similar lines to the concept of virtuality: the scale of the effects of the pollutants is so uncertain for identifying because of the extent of their circulation beyond precise measurement, beyond the binary opposition of the local and global, due to massivity of their production (Wyck, 2005; Adam and Loon,

[33] In the next chapter, I will problematise the overuse of sound metrics in more detail.

2005). This massive scale of pollutants is the reason why virtuality is a valuable concept: Noise actualises when it leaks and keeps awake and alert while constantly circulating beyond perception and time-space. It can be argued that the participants' accounts, therefore, revealed the reality of the noise with reference to an actuality which cannot become well-known, mainstream, or visible (yet). I suggest that articulating this actuality and endowing it an ontological status in order to analyse and explain the circulation of the pollutants should be one of the primary aims of the contemporary social theorists of ecological harms.

Summary and conclusion

This chapter sheds light on the presence of harm from aircraft noise through the individual accounts in order then to bring them into an ontologically grounded perspective through which the victimisation of the pollutant is made apparent. This task entailed radically foregrounding the effects of the pollutant rather than the symbolic exchange of noise between the individual actors or the reduction of the whole experience into the psychological units of perception. The chapter first followed the lived experiences of noise events back to their emergence. Then, it investigated how the pollutant becomes a permanent part of daily life. I showed that despite the initial experience was made sense with reference to habituation or through comparing this to others' experiences; these frames are not used in the later stages of exposure as the noise persists. In general, the leading cause for the presence of noise was the change in flight operations to introduce lower-flying planes and frequent flights that result in loud, intermittent sounds. These sounds would be regarded as constant, unpredictable, and unavoidable, disrupting the vital daily rhythms such as sleep, work and socialising.

On the other hand, the intensity of the lived experience is highly underestimated by the mainstream assumption of equating sound to loudness (and linking *only* loudness to annoyance) which is prevalent in policy and regulations. The chapter showed the ways in which the loudness of the planes as it actualises on the surface of daily life is manifested: vibration and spatial transgression. Descriptions of loudness revealed the

awareness towards other aspects of sound -as well as direct experiences of it such as vibration- which are usually ignored institutionally.

Although the spatial transgression of sound is already known[34] (Eisenberg, 2015), the chapter further revealed and conceptualised the temporal leakiness of noise: *spatio-temporal subsumption* was proposed in order to convey the characteristic actualisation of noise as *harm* in interfering on both spatial and temporal dimensions. Expectation appears as a critical theme that occurs later in the experience due to the persistence of noise. I argued that the persistence of noise as such actualises in the body not only through presence but also its *absence*. The intervals in the noise exposure and gaps can re-constitute the states of anxiety felt when noise is present. This stressful state permeates into one's every day and becomes generalised: Noise leaks into the daily rhythms and activities as such, articulated as disruption and constant anxiety. The chapter fulfilled, therefore, the necessity of articulating noise as harm in the everyday rhythms, highlighting their description outside the mainstream and policy frameworks, further making harms and victims visible. The subsequent two empirical chapters will change the focus and investigate noise victimisation against the institutional/corporate and sociological/discursive backgrounds, respectively, in completing the picture of this 'invisible' harm.

[34] See Chapter 4 for a review of work on sound and space.

Chapter 6: Muffling the 'noise': Experiences of dismissal in aviation noise complaints procedures and public consultations

Introduction

This chapter shifts the focus from noise (as harm) *per se* to noise victims' experiences of noise complaints procedures. More broadly, it aims to show how the institutions silence the invidivual, therefore the noise pollution, prompted by the lack of proper legislation, particularly in aviation, through the lens of victims' experience of seeking justice to the extent it is made possible (or not possible) in the context of the current noise regulations. Here, complaints and consultation meetings appear as critical events in which such efforts to challenge the *institutional/corporate* are realised. Their accounts of such procedures reveal insights into the strategies by which the invisibility of noise victims is justified and maintained. I will argue that corporate denial strategies are vital to understanding such processes. As Ahmed (2021) also recently demonstrated, through a closer look into complaints procedures, the mechanisms of power become much more apparent and feasible for further analysis.

In centring victims' accounts, this chapter draws on theoretical frames of green criminologists and state-corporate criminology. As outlined before, it was already highlighted by this literature that lack of legislation could be a primary feature which makes noise an 'invisible harm' (Jupp et al., 1999; Davies et al., 2014). Many environmental harms are not legally addressed, nor are the state adequately protected by the victims (Ozymy and Jarrell 2012). In fact, green crimes and harms may be facilitated by the state (inter alia Pearce and Tombs, 2019[1998]; Lynch and Stretesky, 2003). In maintaining the wrongdoings, denial techniques may be utilised (Brisman and South, 2015:31). The 'normality' and 'inevitability' of the events which cause harm can be highlighted (inter alia Walters, 2013;2014). Hence the primary motivation is to focus on the institutional/corporate aspect of the problem. This chapter offers a closer look into state-corporate denial in the example of aviation

noise: persistent denial appears as a key concept through which the corporate responses to noise should be made sense. Officials' responses to victims in complaints and consultation procedures are the moments when denial types emerge and prompt secondary harms.

In order to understand complaints procedures, I employ the framework of corporate denial as conceived by Whyte (2016), which is a development of the neutralisation theory (Sykes and Matza, 1957). Sykes and Matza's (1957) techniques of neutralisation include five types of denial that offenders employ to justify and remove the guilt from their wrongdoings: denial of responsibility, denial of injury, denial of victims, condemnation of condemners, and appeal to higher loyalties. Sykes and Matza's influential theory was then adapted also to underpin *organisational* responses to the harms by Cohen (2001) (Whyte, 2016:168) and eventually, to corporate wrongdoings by inter alia Whyte (2016; also see Coleman, 1987). In addition to the original techniques of neutralisation, Whyte (2016) has developed other strategies which are employed by corporations, including denial of deviance and denial of cause. Therefore, the specific types of denials that Whyte identified are useful in theorising the systematic denial of aviation noise by corporations.

This chapter presents accounts of four of these strategies: denial of deviance, denial of responsibility, denial of cause and appeal to higher loyalties, respectively. *Denial of deviance*, one of Whyte's (2016:175) contribution to corporate techniques, occurs when the wrongdoing is presented as normal, a benign activity resulting from everyday business. *Denial of responsibility* does the work of evading the liability as if little or no role is performed by the corporation in the series of events which lead to harm (Sykes and Matza, 1957; Matza, 1964). Whyte's other concept, *denial of cause*, on the other hand, is characterised by a capability to describe what happened 'as not abnormal or deviance in *technical industry terms'* (2016:175) (italics are mine). Finally, *appeal to higher loyalties* (Sykes and Matza, 1975; Whyte, 2016; also Coleman, 1987) indicates denial through references to economic profit; underrating the wrongdoing through highlighting financial gain and collective

benefit of the business: the 'higher', 'better' causes compared to the production of harm.

The regulatory echo chamber

Before presenting the respondents' accounts, I shall provide a summary of how aircraft noise is regulated in the UK to provide the background to the complaints procedures. As mentioned before, the key law regarding noise as a statutory nuisance is that of the Environmental Protection Act 1990, which includes 'noise emanating from premises' such as neighbour noise or entertainment noise. Complaints regarding such noise sources are made to local councils responsible for investigating such issues and serving an abatement notice where necessary. Not complying with the notice is illegal and can be fined and prosecuted (DEFRA, 2015). On the other hand, traffic and aviation noise is excluded from the definition of noise as a statutory nuisance, as stated in sections 79(6) and 79(6A) of the Act.

In the European Union, environmental noise is regulated under the Environmental Noise Directive (END) 2002/49/EC, which is adapted to the UK law under the Environmental Noise (England) Regulations 2006[35] (Ummels and Verkerk, 2019:7). The END requires all EU member states to identify areas exposed to the road, rail *and aircraft noise* above 55 dB(A) during the day and 50 dB(A) at night, create noise maps illustrating them and take appropriate action to reduce or mitigate the noise emissions thereof every five years. These limits were based on the WHO publication in 1999 to indicate the onset of the adverse health effects of noise (Berglund et al., 1999: xvi). However, until today, the guidelines have been updated twice (see WHO, 2009; 2018). The latest guideline (WHO, 2018) clearly shows that noise *below* these levels is harmful.

One key difference between the EU directive and the UK counterpart is that the UK law excludes aircraft noise mapping from among the tasks of the government. In the UK, DEFRA is responsible for fulfilling this obligation except for aircraft noise

[35] The UK law is still compliant with the END as of 2022.

(DEFRA, 2019b). The responsibility to produce noise maps and prepare action plans for noise mitigation belongs to the designated airports (Heathrow, Gatwick and Stansted) (ibid.), though Civil Aviation Authority also undertakes monitoring tasks around the UK airports (CAA, 2022c). The designated airports submit their action plans to DEFRA for review; however, the comments for these are often very brief and general (see, e.g. DEFRA, 2014b:22-23; 2019a:23-24). Indeed, there is exclusivity endowed these airports, as they are viewed as: '[…] strategically important to the UK economy and we therefore consider that it is appropriate for the Government to take decisions on the right balance between noise controls and economic benefits, reconciling the local and national strategic interests' (Department for Transport, 2013:57).

Moreover, the abovementioned noise levels emitted within the noise contour areas are averaged numbers due to the metrics (Laeq, or Leq, for aircraft noise) utilised to capture noise exposure. They indicate sound levels averaged for a certain period, such as day or night, excluding single sound exposure events which may well exceed these levels (see Lee et al., 2017a:39; 2017b:40; 2017c:38). The national policy regarding aviation noise can be summarised as, according to Aviation Policy Framework (Department for Transport, 2013), limiting and *where possible reducing* '*the number of people* in the UK significantly affected by aircraft noise' (specifically, they focus on '*perceived* aviation noise') (ibid:11). It aims to strike a *balance between noise impacts and the economic benefits* of aviation (ibid:55-57) (italics are mine). As CAA (2014b) also stated in the website description of their guidelines for noise management, 'aviation noise has been a blocker to expand airport capacity in the southeast of England over the past fifty years'. In short, the institutional dispositions on aircraft noise is more or less abundant in recommendations on *managing noise* impacts, but these do not lead to any sanctions or concrete steps to *prevent noise* in general.

It is also important to bring in the role of the Civil Aviation Authority (CAA), the UK's aviation regulator (public corporation), whose responsibilities include ensuring that airports conduct their operations safely and efficiently, considering environmental concerns (2022c). They also have regulatory, commercial and

advisory functions when it comes to noise; including monitoring aircraft noise in the relevant airports, publishing recommendations on noise issues whereby they advise under the umbrella of the term 'best practice', echoing the balanced approach of the national policy (CAA, 2014b:65). They release guidance on noise metrics and noise monitoring (e.g. Critchley and Ollerhead, 1990). These most often include clarifications on the sound metrics and aircraft specifications. What is defined as 'community annoyance', for example, is represented in 57 dB(A) Laeq, as a result of averaging the overall noise emission of overflying aircraft over 16 hours during the day (CAA, 2017). As mentioned in the literature review, the averaging metric Laeq is the current 'UK civil aircraft noise exposure index', which was 'adopted in 1990, based on an aircraft noise attitude survey undertaken in 1982 and reported as the UK Aircraft Noise Index Study (ANIS) in 1985' (ibid:4). Finally, CAA (2022d) clarifies that complaints about aircraft noise should be directed to the relevant airports and they do not 'have the legal power to prevent aircraft flying over a particular location or at a particular time for environmental reasons.' Local authorities may also clarify on their websites that they do not deal with transportation noise complaints, including aviation noise (e.g., Lewisham Council, 2022; Hillingdon Council, 2022). Another platform in which the public can communicate with the airports about noise is through consultation meetings which should be held before an important decision is made about aviation, such as the expansion of an airport (Civil Aviation Act 1982).

Overall, the design of the regulatory mechanism for environmental noise seems to prevent the ways in which the victims can be acknowledged. It does so through (1) excluding aircraft noise from the definition of statutory nuisance (Environmental Protection Act, 1990), (2) representing noise exposure through out-of-date safety limits of noise emission as well as sound metrics which average and smooth out real exposure, (3) emphasising the importance of the business compared to noise, and finally, (4) preventing the victims' voice to be heard adequately across the criminal justice system mechanisms through removing the councils' power to involve in aircraft noise issues, making the airports, the corporation, responsible authority for noise complaints instead. All these features of the regulatory machine prompt us to look closely at the complaints and consultation procedures. With regards to the

theoretical frameworks of denial as explained above, the following accounts of the participants present a closer look into the lived experience of these processes and officials' responses to noise pollution complaints.

No complaint

Participants often spoke about making noise complaints, particularly attending consultation meetings and making official complaints. Most were aware that aviation noise was not a statutory nuisance. The majority, however, resisted the lack of legislation by formally complaining. The efforts to make their voice heard would also entail participation in anti-aviation noise campaign groups (including HACAN, HACAN East, Plane Hell Action, and Stop Heathrow Expansion) and attempts to engage their community to make aviation noise a widely known public issue. The most prominent form of these efforts, official complaints, would often involve contacting the relevant airports via e-mail or phone or, in some instances, contacting the CAA, although they announce they have no power to restrict flight movements.

Most participants have strong feelings and thoughts about the complaints procedures or the legal mechanism, regardless of whether they made a complaint. This is an interesting point to start for unveiling the complaints procedures. For example, Leigh, speaking with me from her sound-proof conservatory in Isleworth, was unlike most participants: she did not know about the lack of proper legislation on aviation noise nor the complaints procedures before I told her about them. Her response indicated an entirely hopeless situation:

> You feel completely powerless, don't you? I mean, it's [*complaining*] something that I haven't really even looked into, because you just know that you're going to be fighting, you know, a losing battle. It's just… [*pauses*] It's just too big. It's too big. You know, where do you even start?

Leigh stops and thinks as she tries to find the right word for that which she finds out of reach, i.e., the powerful corporations that cause the noise emission. She simply

defines them as 'too big'. The scale of the colossal organisation (the airport) provokes feelings surrounding the inability to act and the difficulties in searching for justice. The difficulty of challenging companies has been well-documented within the criminological literature: issues relating to access and transparency make it difficult, if not impossible, to address the wrongdoings of the corporation (Kuusi and Whyte, 2018).

As I mentioned in the previous chapter, Leigh is a participant who is deeply aware of the auditory effects of noise through her own hearing condition exacerbated by the noise of the planes and thanks to her charity work focusing on people with auditory illnesses/complications. She is also highly aware of the lack of care on the societal level regarding the deteriorating urban sonic environment and its health consequences. This ignorance may also be considered in relation to the dominant sensory order within our modern society that privileges vision over other senses (e.g. Jay, 1993; Pallasmaa, 1996). In addition to the threatening image of the corporation-government collaboration (marked by lack of legislation), she also knows about the general lack of an ‘auditory’ awareness. In this context, she becomes reluctant to complain.

The account of Leigh's visit to a school in Hounslow, the district which includes Heathrow village, which is the most affected area by the airport's planes in terms of noise (HACAN, 2017), is significant. She remembers how she was shocked by the intensity of noise that the schoolchildren were exposed to, pointing out the fact that it is not questioned despite the insidious effects of noise that are detrimental but not yet tangible. As she states, ' as a society, there's a feeling around here that if it wasn't safe, it wouldn't be happening.' In other words, if noise is *officially* allowed to happen, it must be harmless. She also thinks that people would act if the consequences were clearly known and the adverse health effects of noise were easy to spot. Because the effects are so invisible and cumulative, as she argues, people do not question the noise and therefore do not take it as seriously as they do regarding other forms of potential harms such as sunburn or air pollution, for instance. On the other hand, the powerful image of the state-corporate collaboration in this issue is the deterring factor for Leigh to act and complain. Her awareness and bitter

experience of noise do not lead to making her complain officially or seek ways to do so because of the perceived power of corporations responsible for noise pollution.

Other respondents were reluctant to make a formal complaint. Sally had been actively involved in community organisations and campaigns against aviation noise in Hanwell for many years and knows about the lack of legislation and noise monitoring procedures carried out by the airports and the CAA. However, she finds making a complaint 'pointless' and thinks she would become 'vexatious'. "I would go on doing it to the extent they could say, 'Oh, this is one of these people who complains all the time'". This singling-out of the person who complains a lot as such is a theme frequently pointed out by the participants. The repetition of the complaint is immediately associated with a negative image or impression - as created by the airports - whereby the blame is shifted towards the victim (because of the complaining *per se*) instead of the corporation. The guilt creates a self-consciousness; the expectation of this quasi-stigma prompted by the impression the airports makes it difficult to complain.

Joseph (Teddington), an active member of a campaign against noise, confirms that the frequent complainers are seen as 'moaning Minnies'. It is a feminising stereotype which adds to the denigration of the victim[36]. He says that the airports make ‘a great play about *10,000* noise complaints [which] were made by *six* individuals' in the report they produce about the complaints they record, as he tells me. 'So you'll have six moaning Minnies who will be dissatisfied with anything.' According to some participants, complaining more does not yield better results, and it is not desirable to be singled out or be seen as a 'moaning Minnie', on top of the direct victimisation by noise.

In this case, the reason for the reluctance to complain lies in the strong impression created by the airport that complaining risks becoming labelled as problematic: a 'moaner'. Joseph adds that most people find it useless to complain because they do not think it will change anything. While he agrees, he also admits that complaining is

[36] Stereotypes like this will be analysed as part of the common sense about noise and its victims in the following chapter.

good because it increases the number of records that appear on the statistics. Despite these negative feelings, it is notable that Heathrow, for example, recorded 84 thousand complaints (one in every five minutes) between January and October 2016 (Wainwright, 2016).

An important point arises from Joseph's observations about the lived reality of the complaints: first, discrediting the frequent complainer precludes the efforts to understand their experience; it denies the complainer who is worth listening to, concealing their suffering. In other words, it distracts from the experience, as well as from the responsibility for noise production. Second, it undermines the victim at the personal level, deterring people from complaining. The individual avoids being singled out and denigrated. Moreover, likely, nothing would change other than exacerbating their victimisation. Other than increasing the numbers in the statistics, complaining once or multiple times is refrained from because, as Joseph tells us, 'You end up just winding yourself up. Because you do more harm than good.' From this respect, the complaints procedures evoke secondary victimisation (see Campbell and Raja, 1999; 2005; Campbell et al., 2001), which is not caused by the direct harm of noise but by the 'justice' processes designed to undermine the victim instead of addressing their claims.

Overall, therefore, the accounts I presented show there is a general reluctance to complain or complain more than once, regardless of the severity of the suffering from the noise. The reasons for this are (1) the strong impression that they will not be taken seriously and complaining will have no effect (corporations are perceived as impenetrable) and (2) the impression of labelling the frequent complainer in a discrediting manner. As such, these are the principal attitudes preventing the victim from engaging in complaints processes in the first place beyond the responses to complaints.

No response, 'no problem'

The above accounts show more participants' hesitations towards complaining about aviation noise, including the denigration and the lack of hope or belief that

complaining would improve their situation. However, most participants made a complaint at least once to either an airport or the CAA at some point since the onset of their exposure to aircraft noise. The following sections show that the distrust remains the same and is even intensified by how corporations respond to complaints.

Theresa sent two e-mails to Heathrow shortly after she and her daughter moved to Windsor after noticing the loud planes flying over their flat. She did not hear back from them, however. She then got onto her Twitter to find people from the local area because she was confident that people would raise this issue on social media, that she 'can't be the only one that is kind of shocked by it.' Because her complaint was ignored, she sought support from other people who would have had a similar experience. She did not find any, however. The following year, through a tweet full of frustration, I discovered that she had moved out from Windsor. Noise exposure, lack of justice, and inability to find any support resulted in her displacement.

On the other hand, Chloe (in Richmond) used the free noise complaint line offered by Heathrow. It was machine-operated, so one could not talk to a real person, which she considered futile because it did not make any difference to her situation. However, she complains because the *number of calls* is recorded, in addition to the number of people who made a complaint. However, as exemplified through the 'moaning Minnie' stereotype, one person does not 'count' because they made hundreds of complaints. The impression is that the numbers are judged based on the number of times an individual submits a complaint instead of the total number of records. Besides, apart from the records, the complaints were seldom responded. This is partly why Sally said she would also become 'vexatious' and 'would do it all the time'. Georgia also confirmed, 'on the one hand; they make me feel as if it's *pointless*. On the other hand, they're actually logging complaints. So I made a few more complaints, but then I forgot all about it.' The lack of response eventually deterred Georgia. As Valerie commented, the no-response attitude of the airports while keeping the records of complaints is 'like a policeman counting the crimes and doing nothing about them.'

No difference, no responsibility

For Mary (East Dulwich), calling the complaints phone line is like 'ringing a black hole' because of its futility. If the telephone line resembles a black hole, e-mails 'go into the ether', as she describes. She finds herself as 'one of those quite obsessed people', even though she *did* get a response from Heathrow. However:

> '*Nothing has changed*' [they would reply]. It's very standard. 'There's *no difference*.' It's just, you know, sort of, 'Thank you for your complaint, we've registered it'. I always say, 'Could you tell us when we will be getting respite', or I ask about their plans. And then if you get any more, it's kind of like, 'Well, it's not our fault. Someone else controls the flight paths.

The response Mary describes as standard is the rejection of the fact that an individual's claim has nothing to do with a new situation or a change in flight paths. The elusive answer might leave one in doubt about their experience. The standard response is a denial, indicating a proclaimed normality in the sky that should not create any doubt about what is happening in the flight operations.

The first kind of denial I identified is the *denial of deviance* (Whyte, 2016:175), which occurs when the corporation refuses to accept the claim of wrongdoing, or any other event related to their business: they have done nothing wrong, everything happened as they *should*. This type of denial is outright dismissal without any further discussion or investigation, highlighting the normativity of noise pollution.

Moreover, the response Mary received when she asked for more details about the flights to estimate possible break periods, and the airport said '*it is not our fault*'. This is a different kind of denial because it contains a certain degree of acceptance that something unacceptable *has* happened. Together with the second part, as she reported ('*someone else controls the flight paths*'), there is a quasi-acceptance of what is happening. But, whatever is happening, it has something to do with the flight

paths, which are not under the control of the airport[37]. This can be described as *denial of responsibility* (Sykes and Matza 1957:667), whereby a third party is claimed to be in control of the events, and this case, flight paths. The attempt to divert attention from responsibility is one of the well-known strategies for denial used by corporations (Whyte, 2016:168). If the blame is shifted towards the victim in the case of frequent complainants (no-response cases), the responsibility is transferred to others when it comes to the flight operations (responded cases).

Likewise, Bryan's experienced this denial multiple times in a feedback loop of replies to his complaint. He complained to the CAA and LCA. The latter replied with "some nonsense about Civil Aviation [Authority]. And then, when I've spoken to Civil Aviation. They said, 'that's a matter for the Airport.' It was just circular." It prompted Bryan to think that everyone was indifferent to his complaint. However, he also received some explanations about flight movements, sound levels and the height of the aeroplanes at which they fly at a particular moment. To him, it sounded like 'copy and paste' answers. He went on to say that these replies were disturbing, and it was overall a very 'unsatisfactory' experience. Here, another type of response, the 'copy-paste', occurs, which includes information about flights. By providing such

[37] It may not be relevant here to thoroughly investigate who *actually* controls the flight paths as it is a highly technical issue that is not directly within the scope of the thesis and should be addressed elsewhere. There is a specific design imposed on the airspace, which is worth noting, however, in order to clarify the attempts to deny the responsibility. As the CAA (2022f) clarifies: 'For air traffic control purposes, airspace can be divided into two main categories, controlled and uncontrolled. *Controlled airspace* is where air traffic control needs to have positive control over aircraft flying in that airspace to maintain safe separation between them. *Uncontrolled airspace* is airspace where aircraft can fly freely without being constrained by instructions in route or by air traffic control, although they may request information or a service. Controlled airspace contains a network of corridors or airways. They link the busy areas of airspace above major airports. At a lower level, control zones are established around each airport. These portions are, therefore, nearer the ground and closer to population centres' (italics are mine). The use of airspace seems to be further complicated by the notions of controlled and uncontrolled airspace. If the controlled airspace is designed and in constant use, uncontrolled airspace is also in use, often independent of the air traffic controller's instructions. The leading service provider company for air traffic control in the UK, NATS (2022), summarises their work's aims as to 'maximise efficiency through seamless management of all component parts of airside operations. Increasing operational performance and the highest levels of safety; giving your customers a better experience and driving your business forward.' As a result, it appears that the uncontrolled zone could be used as far as it is efficient, 'safe' and complies with the business growth approach of the airports. There could be a 'network of responsibility', therefore, between the components of that which profit from the airspace. However, more importantly, the chapter should be understood based on the design of the very legal mechanisms which allow the flight operators to design the airspace with regard to economic growth and not that of the ecological; disabling and precluding the justice-seeking attempts of those who have the airspace as part of their *home*.

information, the company does not offer any resolution for noise, nor do they acknowledge the actuality of noise pollution.

Experts explain noise to participants

Participants also receive relatively long responses from the airports with regard to their noise complaints. These replies primarily include elaborate explanations about flight operations. Like Bryan's experience, they also resemble the 'copy-paste' responses about where and when a specific flight took place. For example, when Doris (Putney) was passing her front door one morning, the intensity of the noise prompted her to quickly go inside her house to call Heathrow airport. This time, she was surprised to be able to actually talk to someone who gave her an answer which initially seemed explanatory:

> There was a woman there because normally you have to leave a message [*to the answer machine*] and they get back to you. But she didn't get back to me. The next day she said 'Yes, it was a Lufthansa A320 flying over your house.' So they know *exactly* when things are going over. And the A320 is known to be a very noisy plane. (…) But these planes flying over, they *know* they're noisy. (…) There are some which are very, very noisy and they're still flying and a plane that's going to be noisy can't not be noisy.

For Doris, the fact that aviation officials *know* when and where planes go over signals their responsibility, regardless of whether airport officials accept that. Interestingly, the attempt to deny or deflect from the liability of noise by holding information about the flights, from her point of view, only reinforces the industry's responsibility. The undeniability of noise is unveiled, from her point of view, when they reveal their awareness of the movements of every single plane as well as its *noisiness*. Because the presence of flights indicates the presence of noise, if one is to accept the reality of the planes going over, then one must also accept that noise is present. The very fact of the latter, however, is not very easy to accept by the airports, as it will be further illustrated in the following examples throughout the

chapter. In Doris' case, however, this type of response is brief and standard, similar to what Bryan described as a 'copy-paste' reply.

I would like to highlight here Andrew's (Leytonstone) and Kate's (Camberwell) accounts about the complaints procedure to expand my analysis. Both of their accounts provide detailed insights about these 'explanatory' responses through what they think these would indicate about the airports' attitude to them. They also highlighted the consequences of this specific type of denial on the individual's experience.

Andrew tells me about one occasion he made a complaint to LCA:

> There was a particular day where it just seemed to be incredibly noisy (…) and I wrote a complaint. I got this quite reasonable reply, telling me about the heights the aeroplanes fly at, and how they have to fly those heights because of the Heathrow aircraft above them. And while they do appreciate that noise is a factor for some people and it's regrettable, get on with it! Because there's nothing you can do. It's almost like, you know, when someone punches you in the face and then explains to you quite reasonably, 'Well, the reason I punched you in the face is because I don't like the way you've grown your beard and your hair colour doesn't really appeal.' And you can think, 'Okay, so that's why I've got a bloody nose: because you don't like my beard and my hairstyle.'

Andrew's comments about the 'reasonable explanations about the flights' take the issue beyond culpability and further illustrate the asymmetry between the industry and the individual due to the lack of legislation. The 'meaningless' explanation about the flights that ignores the experience constitutes a discourse of arbitrariness due to the airports' relative power. Explaining why the flight operation takes place legitimises the actions and dismisses the individual claims thanks to the proclaimed authority of the technical knowledge.

The knowledge politics (Stehr, 2017) pertaining to aviation noise is such that the techniques of measurement and the industrial knowledge of the aircraft dominate the 'evidence-based' policy of noise, as illustrated through the use of Laeq (or Leq) (see Critchley and Ollerhead, 1990). Using, or more precisely, overusing or appropriating a scientific discourse is one of the corporate strategies which may assist with sidelining responsibility and justifying business as usual. Whyte (2016:175) termed this strategy *denial of cause* to indicate the abuse of the technical knowledge to conceal liability, to 'reconstruct' the event in which harm emerged from a technical point of view. This kind of denial occurs of aviation noise draws attention to how flight operations happen and by technically narrating it in order to increase credibility due to the power of such knowledge. Perhaps it can be described as *obfuscation through the technical* rather than technical *explanation* because these responses result in concealing rather than addressing the noise caused by the flights.

Kate comments on the various responses she received from the CAA:

> [*The reply*] that you get back from them saying this is standard procedure or taken on averages, or they'd even deny that they came over you, full stop. And that's it. And they've got a set of responses […], but they never actually address the particular point that's made. And they have enough complaints coming in that they've got their replies down to a fine art. And it's impossible to put them on the spot. They just slide out. […] 'Miss Wright may not know. But winds are predominantly westerly in her part of London, and therefore the planes are flying in over her.' This is the level of patronising responses that all of us are getting.

Whereas Andrew found the response from the airport relatively meaningless and dismissive, Kate describes the explanations as having a patronising tone reflecting the power conferred to technical information. In fact, her extract indicates various types of denials, including outright denial of the planes that flew over her house. as well as that of the technical descriptions. She also referred to the use of sound metrics which smooth out the overall noise

exposure ('taken on averages') as a further obfuscation by referring to technical expertise.[38]

Kate elaborates on the consequences of persistent denial of cause using technical information:

> I'm the person who's affected. And I'm not going to spend time trying to understand why two and two makes four. There are other people who are fascinated by that… All of these sound metrics… […] you've got averages over 16 hours, averages over eight hours, you've got summer schedules, and you've got winter schedules, you've got a schedule C (night flights), you've got shoulder schedules… […] Give me a sentence in French, give me a sentence in Russian, give me a sentence in English, give me a sentence in Italian, I can understand it, or I can cobble my way through it and give you a pretty good interpretation of what he's saying. Give me all those graphs, I haven't the faintest idea what they're saying, and neither am I able to do an understanding of the information we've been given and whether it's been angled in such a way… It's not clear to everybody. And I'm one of those everybody, I want to respond and put in my comment as an effective person. But I don't understand half the technicality that they're talking about, and I *shouldn't* have to, is what I feel.

Kate's account further illuminates the specific function of this technical obfuscation: The exploitation of the public's *lack* of technical knowledge. The injustice and the responsibilities disappear, whereas the technical is highlighted.

Besides, these responses tell us about the assumption of the normativity of air traffic. The technical causes present flights not as a contingent issue but as a necessity. This denial type also echoes the inevitability of business growth in maintaining state-corporate wrong-doings (Walters, 2013;2014). The inevitability, in this case, is

[38] Indeed, from this perspective, the overall policy on aviation noise can be described as wholesale obscuring as far as these metrics are overused or appropriated.

provided through the resort to the technical. As Andrew says, responses imply that victims should 'get on with' this *necessity* of the events pre-determined by the technical reasons, regardless of whether these reasons are irrelevant or make sense to the public. It is part of corporate-manufactured versions of reality (Whyte, 2013) to necessitate the operations of flights and create the impression that the victims fail because they do not understand the technical reasons. Therefore, what is temporary, speculative or contingent is presented as natural and necessary through the denial of cause.

In short, obfuscation through the technical, or the denial of cause, further confuses the lived reality of noise, dismissing and denigrating the noise victim. These processes are emotionally draining, as Kate describes. Here, secondary victimisation is once more visible in these practices which affect the victim. Finally, according to Andrew, the ways that technicalities are abused take us to a radical awareness:

> What I think what they sometimes are trying to say is it's under this decibel, therefore *it [noise] does not exist*. Yeah. That's what they're trying to say: it doesn't actually exist. If it doesn't meet the threshold for annoyance, there is no annoyance there. […] I live in a democracy, I feel I have a voice and I'm able to, to say, I don't agree, the noise does exist, and it does impact on me. And it may have an impact on me even I don't realise.

For Andrew, the denial of cause, which is also implicated in the representation of annoyance through sound metrics (Laeq), not only conceals the reality of noise but also indicates its *absence*. As such, denial of cause and its extension in noise monitoring procedures further dismiss the noise experience through total denial of the *existence* of noise, preventing the visibility of its victims and their suffering. However, as Andrew adds, despite the decoy of institutional/corporate feedback loops of denial, noise should be articulated and revealed as reality, echoing the previous chapter whereby I presented the alternative picture to the quantitative narratives of noise experience through

articulating its *actuality*. The current accounts add a different layer to that picture, that of the various denial techniques which sustain the invisibility of noise victims as well as noise *per se*.

Public consultations

Under section 35(c) of the Civil Aviation Act 1982, airports must ensure that public consultation meetings take place to inform the members of the public 'with respect to any matter concerning the management or administration of the aerodrome which affects their interests'. In addition, the CAA and the Department of Transport (DfT) also hold public consultations regarding aviation management decisions, but these may not include in-person meetings (e.g. Department for Transport, 2021b). Most participants spoke about their experiences in consultation meetings, whereby the officials presented relevant proposals and data and answered participants' questions about the noise impacts of aviation. Just as most informants make an official complaint at least once, despite overall reluctance, they are also keen to attend public consultation meetings and encourage their local community to join them in expressing how they are affected by aviation noise. They reflected on the airports' attitude to noise and those affected by airport noise in these meetings. They point to how their experience of harm was denied in these meetings.

No adverts

The lack of adequate publicity about public meetings meant they were hard to attend. Mary (East Dulwich) would not have known about a recent consultation organised by the DfT[39]. if she had not been following HACAN on Twitter.

> I've had to actively search things out. A couple of things I've shared with neighbours, and they're like, 'Oh, we didn't know about it.' That really annoys us as well. No one knows [*that the consultation takes place*]. You

[39] She refers to the Night Flights consultation held from December 2020 to March 2021 to discuss whether to resume night flights for two more years. This one did not entail an in-person meeting but constitutes an example of the general lack of publicity on consultations.

know, we're not told or asked about it. So I find that very frustrating as well.

On this occasion, Mary was not able to influence the decision which would ultimately affect her exposure to noise caused by night flights[40]. The relevant consultation decision document included information about when the consultation was launched and when it ended (Department for Transport, 2021a). It also stated that the 'respondents were able to reply via online SmartSurvey, e-mail and by post' (ibid:4). However, it is unclear how the respondents were contacted or how the event had been publicised. The decision document also states that the night flights will resume for three more years (instead of what was initially proposed as two years). This decision echoes what Kate was once told by an official from DfT: 'They're too important, these night flights'. It also reminds us of the 'balanced approach' of the official Aviation Policy Framework (Department for Transport, 2013), in which the profit of aviation is emphasised.

The lack of publicity for consultations also characterises consultations organised by airports. Bryan campaigned for his local councillors to advertise consultations in the weekly newsletters sent out to the residents. He e-mailed three ward councillors three times, but they did not respond. He thinks the matter is politicised because of, as he argues, his council's sympathy with the expansion plans of the London City Airport as they hope to benefit from the airport's support in a railway extension project included the proposed area.

Bryan's insights highlight the relationship between political interest and reluctance to advertise the consultations. Despite the lack of publicity, nevertheless, there is no legal breach as far as the consultations do *take place*. After all, the law (Civil Aviation Act, 1982) does not specify how the government or the airports should go about organising them. In any case, updates about public consultation do not seem to properly reach out to the audience who will actually be affected by the outcome of

[40] Mary is mainly affected by Heathrow planes. Heathrow flights are scheduled to start at 04:40 and continue until 23.30 daily (Heathrow, 2022b). The consultation resulted in favour of the night flights for all designated airports, resuming these for three more years, in contrast to two years that had been initially offered in the proposal (AirportWatch, 2021; Department for Transport, 2021a).

these meetings. The lack of publicity ensures that responses against the proposed developments remain invisible.

'I don't know what to ask'

Some types of denial may be sustained in public consultation meetings. Mary complained about sound over e-mail, but the response was, ' Nothing has changed'. When she attended public consultation meetings and raised concerns, she received a different answer more akin to the obfuscation through technical. As Mary recounts:

> We've felt more and more overflown. And I've been to a few of the consultations around the third runway. Apparently the reason for this is the new GPS system which allows planes to be more accurately guided down a single path. So whereas flights were dispersed over a wider area, as the technology has got more precise, and *more flights* have come into Heathrow, they put them nose to tail over a very sort of single, concentrated flight path. For a long time they've said 'No, no, nothing has changed in this area.

Again, the response Mary received does not address noise per se but presents the issue through the technical, 'quite reasonably', as Andrew would put it. This way of operating- on concentrated flight paths - is indeed in use due to a procedure called Performance Based Navigation (PBN) (CAA, 2022e). PBN as a technical procedure explains the concentration of the flight paths, but the concentrated flight paths do not account for noise. Again, the *use* of them as a response obfuscates noise[41]. As Rick (Mottingham) also confirmed, "When I raised [concentration of the flight paths] at various meetings, they said 'It's performance-based navigation.'"[42]

[41] The cause-effect relationship of contemporary ecological pollution, as analysed in Chapter 2 (which prompts the use of the virtuality frame for describing the ontology of the pollutants), has indeed become more and more obscure (Wyck, 2005; Adam and Loon, 2005). The corporate denial of cause can perhaps explain this endless receding of the reasons for pollution.

[42] Rick thinks PBN must be a recent procedure as they had not been overflown until a few years ago, so he questions why it cannot be reversed. Assuming that the problem is really due to the PBN, that it is the PBN which has to be scrapped in order to deal with noise, is a result of the misleading denial of cause. Besides, using PBN ultimately increases the efficient use of the airspace, which has long been

Matt, a chair of a campaign group against aviation noise, further explains the link between the PBN system and noise. When the same number of planes use narrower corridors, it means more noise for the people who live underneath that particular flight path. Again, it also means more flights as the airspace is utilised more efficiently (CAA, 2022e).

Chloe highlighted the political implications of PBN because it subjects fewer people to extreme noise pollution. She speculates that it is easier for airports to deal with a few who are very disturbed than more people who are 'moderately annoyed'. This disparity will deepen if Heathrow expands, as Chloe states. As part of the obfuscation through the technical, the politics of PBN, therefore, also amplifies the disproportionate exposure to noise. The capacity increase in airports will inevitably result in more noise (and other) emissions, but the pollutant will target specific areas under the narrower and busier flight paths. Again, this is along the same line with the Aviation Policy Framework (Department for Transport, 2013), as it *targets a reduction in the number of people* affected, not the emissions. In this context, the PBN does not serve to *explain* noise but to increase the precision of the targets of noise. This airspace management echoes that the targets of such harms 'are always known in advance' (Walters, 2014:151; also see Stanko 2013:484).

As Rick tells me, the consultations explain (or obfuscate) *how* their sky will get *noisier*, not quieter. Again, the detailed technical explanations seem to be for the sake of merely fulfilling the requirement of law which delimits the responsibility of holding the meeting (Civil Aviation Act, 1982). As Doris recounts:

> Our MP had organised [a meeting] in Putney, and some guy came along from Heathrow, Director of Sustainability or something, whatever that might mean. And he was saying ‘Planes are getting quieter’, and the planes were going over. We had to say, ‘Speak up, please, because the

commercialised to profit in the aviation industry. In other words, in the eyes of the industry, scrapping PBN would mean giving up on the increase in capacity, which is linked to increased profit.

> planes are droning out what you're saying.' So there's this determination to ignore the effect of noise.

The argument that planes have become quieter was directly refuted by the real-time planes making considerable noise. The metaphorical evocations of the situation aside, the event indicates another aspect of denial of cause, foregrounding a technical aspect and dismissing the lived experience. On this occasion, the actuality of noise *spoke* for itself. However, even the real-time fact of noise cannot overcome corporate denial. The ways that officials' claims that planes are 'quieter' claims would be hard to challenge appropriately. This is partly because, as Kate succinctly puts, the impression that the only thing that counts is so-called technical expertise:

> They're telling you that yellow is yellow, a lot of the time, but not all of the time. Noise happens some of the time, but not all of the time. I would say, 'Well, if that's what that data is asking me to believe I can say it's rubbish. It's noise *all of the time*.' (…) It's the experience you've got in other areas that helps you ask the questions [in the meetings]. And if you haven't got that experience, you just don't know what to ask.

By 'experience', Kate refers to having technical knowledge which can help make sense of the technical explanations provided by the airports. As she suggests, the fact that noise is represented quantitatively and technically *and* the necessity to understand the technicalities in order to respond to the officials' claims cancels out any possibility of contesting official accounts of noise. As such, the use of the denial of cause in the consultation meetings further mutes the voice of the participants.

As such, various denial types, most notably the denial of deviance and cause, are furthered in public consultation meetings. Facing these denial strategies in the complaints procedures often made participants feel hopeless, frustrated and denigrated. Rather than listening to residents' experiences, these meetings left respondents confused and often increased distrust of the corporation and the authorities.

Representation and profit

Another type of denial occurs during consultation meetings which have to do with presentation. Similar to greenwashing (e.g. Brisman, 2009), which indicates the production of an environmentally-friendly image of the corporation, consultation meetings drew on appealing images of the airports. The use of the power of the visual (see Harper, 2012) is what characterises the consultation meetings in which denials emerge[43]. Many participants stressed the effort that airports put into looking appealing and reliable in persuading the public of the harmlessness of aircraft pollution.

Jane (Mottingham) and her husband travelled far to attend an LCA meeting. She told me it was a welcoming atmosphere: 'Goodies that they offered were wonderful, beautiful drinks and biscuits and sweets… And very charming young people who really didn't know what they were talking about.' Charles, who lived in Fulham for many years but currently lives in Dalston, describes consultations as: 'lots of young graduates talking honeyed words.' He said they replied to his 'misgivings' about noise by saying, 'Oh, well, *it's not that bad*.' He considers this treatment as the 'make-up of the corporation' whereby they apply colourful paints to the harms of noise. In the consultation, then, there was an -albeit unsuccessful- attempt to present the airport in positive ways. The offerings such as a food and drinks buffet and the presence of young professionals who kindly answered the residents' questions were considered futile by the participants. According to them, this presentation indeed helps the airports deflect from the actuality of the noise problem of aviation.

Furthermore, airports repeatedly refer to the acts they do specifically for the *public good*. However, this 'greater good' is immediately refuted by the participants. Jane mentioned they went to Heathrow's consultation to hear "about their 'wonderful' extension." As she recalls the event, the representative of the airport:

[43] All denial types in the consultations emerge against the backdrop of this image (as opposed to more 'sterile', disembodied communication through complaints via phone or e-mail), but the specific denial, appeal to higher loyalties, becomes even more resonant in this context.

> said ‘We've built shelters so that children can dive into them when the planes come over.’ And I thought that's an absolutely awful thing to say. […] I remember now that struck me and I thought that typifies how they believe that they're doing wonderful things, and *they're not*. Why should a child have to dive into something to get away from the noise? You know, that’s sort of being brainwashed then to feel that that's the right way to go.

As Doris mentioned, Heathrow indeed built sound-proof structures called moon huts for schools around the airport's neighbourhood for children to avoid aircraft noise (Edwards, 2013). Jane finds f building such shelters part of the airport's deception, an effort to convince the community that the corporation compensates for the noise through what is presented as a 'cute' and socially-beneficial innovation. This deception adds to Jane and Doris' anger and frustration. Doris thinks 'it's unacceptable to shove them [the children] in some sort of thing.' Here, noise management becomes a social compensation project instead of noise prevention. It echoes greenwashing to the extent that the corporation's efforts are directed toward temporary solutions to noise in order to persuade the public that they are environmentally conscious. Solutions to 'insulate' noise, instead of addressing it in its source, mask the actual extent and suffering caused by overflying planes.

Finally, in addition to creating a socially conscious image, participants report that airports frequently refer to financial benefits generated by the aviation business. Moreover, according to participants, this profit is represented as a benefit for 'all' by the airports. In this narrative, aviation will eventually increase the overall wealth of the citizens by creating more jobs and income. More specifically, Doris refers to Heathrow's claim that £60 billion will be created for the country's income if a third runway is built within the airport. She is in disbelief, however, because the amount excludes, for example, costs such as taxes[44]. Beyond the debate about whether such claims about the finances are accurate, Jane thinks the benefit of aviation is posited against noise impacts: ‘I don’t care about *UK PLC*. I'm not happy.' Indeed, when the

[44] The argument that especially the airport expansions will generate more money for the UK economy has been contested (e.g. Chapman, 2020).

participants talk about the profit claims by the airports, it is immediately contrasted with health and wellbeing. Noise becomes a secondary issue compared to profit in the eyes of the corporation. According to most participants, it is just another effort by the airports to justify noise instead of acknowledging the *harm* of noise.

This kind of denial can be understood as *appeal to higher loyalties*. This is another technique of neutralisation (Sykes and Matza, 1957:669) transposed to understand corporate responses to their wrongdoings (Whyte, 2016:177). Appeal to higher loyalties entails 'sacrificing the demands of the larger society for the demands of the smaller social groups' (Sykes and Matza, 1957:669). To re-iterate, in the context of aviation, those who suffer from noise are sacrificed for the proclaimed economic profit generated by the airport. However, as the accounts of the consultation meetings illustrated, there is also the aspect of representation which presents airports as socially and environmentally responsible corporations. The victims become sacrificed vis-à-vis the appealing image of the corporation.

Participants were acutely aware of the tension between flights which generate economic profit (for the *corporation*) and the production of noise pollution. Jim (Camberwell), for example, primarily considered noise as revealing how capitalist production works. He argued that we ought to engage with the 'sonic object' [sic]. i.e., the overflying plane, because of what it might unveil about the 'the flows of capital'. He eloquently observes: 'It's kind of like birdsong reveals flows of migration and so forth. It's something which we actually do need to attune a lot along with the other things.' In other words, Jim argues that we need to attend to the noise, which will increase our awareness of the sonic environment. Only then we are able to clarify the broader structures that create the noise. In short, if the technique of appeal to higher loyalties is sacrificing noise victims, we need to be able to *highlight* the noise pollution through attuning to the environment and emerging as listening actors who resist the sacrificing. This is contrary to corporate solutions, which eventually mask and make *invisible* the harms of their activities.

Summary and conclusion

Aviation noise is not recognised as a statutory nuisance in the UK. Strategic noise mapping procedures required by law [The Environmental Noise (England) Regulations 2006] employ sound metrics which average out the total noise exposure level over a period of time (Critchley and Ollerhead, 1990; CAA, 2017). Moreover, airports (Heathrow, Gatwick and Stansted) are responsible for their own noise monitoring (DEFRA, 2019b), while CAA, the public corporation for aviation, conducts monitoring for other airports. All airports are the main points of contact when it comes to making an official noise complaint about aircraft noise.

This chapter focused on participants' accounts of the complaints procedures and consultation meetings with the airports. Analysed through the lens of the notion of corporate denial (Whyte, 2016; Coleman, 1987), these accounts revealed four critical strategies of denial that characterises responses to noise complaints. Following Sykes and Matza (1957), they include (1) *denial of deviance*, whereby the airport officials refuse the participants' claims by arguing nothing was changed, (2) *denial of responsibility*, whereby the liability is shifted towards a third party or another mechanism, (3) *denial of cause* whereby the flight event is constructed with reference to the overly technical explanations which does not aim at noise mitigation. In addition, their experiences in public consultation meetings at the airports can be understood as a form of corporate greenwashing whereby a socially responsible and appealing image of the corporation was presented. Further, the economic benefit of aviation for the nation is presented as a greater good. This manoeuvre is (4) *appeal to higher loyalties*, the denial type that characterises these meetings. Taken together, these denial mechanisms maintain the noise victimisation and further contribute to its invisibility.

Giving voice to experiences of the complaints procedures also revealed their reluctance to complain in the first place. Participants were highly aware that the responses did not deal with their complaints or resolve noise issues. All the sidelining and obscuring responses trigger the participants' distrust, disbelief and frustration. Moreover, they feel undermined and denigrated because of the quasi-

stigma of being a frequent complainant, the type of 'moaning Minnie' (Joseph). One result of the corporatised justice mechanism designed not to acknowledge but to conceal noise and its victims is a toxic self-consciousness inflicted on the victims due to experiences in the complaints procedures. This denigration, as well as subjection to systematic denial thereof, creates secondary victimisation (Campbell and Raja, 1999).

Overall, the chapter has unfolded another layer in the invisibility of noise victimisation through exploring the corporate processes that preclude the victim's voice from emerging on the level of institutional/official realms. The denial mechanisms, therefore, are the characterising feature of this poorly designed complaints process which would otherwise protect the noise victim and help them seek justice outside the corporation. In other words, as described above, the current regulatory echo chamber is not suited to pick up victims' voices. Unveiling the paradoxical double function of the airports as both authorities (to the extent they both monitor noise and are responsible for dealing with the complaints) and responsible polluters (to the extent the noise is caused by the flights) through victims' experiences is significant within the contexts of corporate crime, critical victimology and green criminology literature which will be returned to in the conclusion chapter.

Chapter 7: '*All my friends think I'm hypersensitive*': Analysing discourse and common sense of noise as sociological background to victimisation

Introduction

The two previous empirical chapters revealed (1) the distinct actualisation of noise at the everyday level and (2) the denial of noise and its harms at the corporate/institutional level. The present chapter continues to explore the invisibility of noise victimisation in common sense ideas and discursive formations surrounding aviation noise. It draws on participants' reflections regarding their own noise experiences and how friends, family and the broader public receive their experiences. The analysis of the former will help us clarify how particular discourses mediates victims' understanding of noise experience, whereas the latter will reveal the dominant common sense ideas around noise victims. As a result, the chapter argues that the discourses and common sense ideas around noise contribute to the invisibility of the victims and may also underpin denial on the corporate/institutional level.

In doing so, the chapter uses participant interviews and descriptions of interactions to reveal how common sense and discourses about noise operate at the everyday level, making noise (and its victims) invisible. The analytical stance here is both latent and theoretical, as it entails identifying the particular uses of discourse and common sense ideas within everyday language, excavating meanings and intentions (Braun and Clarke, 2006:12). I focused on participants' accounts where they reflect on their own experience through the discursive trope of sensitivity[45]. I also included data on their interaction with others, where the participants shared their noise experiences and heard about others' opinions about noise and the complainants. Reflections and

[45] A more detailed critical analysis of the construal of noise as subjective ('unwanted sound') is provided in Chapter 2 and challenged throughout the subsequent chapters. Noise sensitivity was a motif that some participants spoke about without my prompts or questions. I further explored it as it emerged, but, as it was put forward before, I deliberately prompted to think about it due to its relationship to subjectivity as proposed here.

comments on participants' noise experiences revealed discourse and common sense ideas. Hence the latent analytical technique helps make sense of these accounts.

I employ Foucault's definition of discourse here to refer to *groups of statements and rules that enable or disable us to speak about specific issues or topics* (see Foucault, 1980; Hall, 2001). His archaeological approach in which he delineates the formation of discourse (Foucault, 1972) and his genealogy in linking the discourse into broader structures of power is useful (1976). Notably, his analysis of how concepts are formed and then solidified into discourse is significant. According to his archaeology, there is a specific inclusion/exclusion criteria at work in the formation of the concepts whereby certain pieces of information (or specific scientific methods or paradigms) would become more pronounced than others (Foucault, 1972). Constructed as such, the concepts would then become so powerful that they may determine the subject position of individuals so as to make sense of their personal experiences in particular topics (Foucault, 1976). As in his notable examples of sexuality and psychiatry, the influence of scientific expertise is especially significant in shaping what is considered private and personal.

Following this, noise sensitivity, a repetitive motif weaving through this chapter, will be understood as discourse as far as the statements regarding this are solidified through noise policy and regulations. This is mainly because the institutional definition of noise as subjective in order to constitute sound phenomena as *objective, measurable and controllable*. Here, the primary strategy is to exclude the subjective from the conceptual territory of noise to achieve these qualities. Noise is constructed as personal and private. Indeed, psychological studies on the subjectivity of noise confirm it as a personal issue which occurs in noise-sensitive personality types (see Smith, 2003; Marks and Griefhan, 2007; Shepherd et al., 2010; 2015). In short, noise sensitivity becomes discourse as far as it is solidified into policy statements and key laws and regulations; supported by scientific expertise.

Common sense, in an intimate relationship with discourse, is defined by Gramsci as '*narratives we tell ourselves and each other about how things should happen, and what happens when they do not'* as they are an '*important part of how we co-*

construct our views and beliefs about our communities, society, and the world' (Chun, 2017:243). Common sense supports the circulation of particular discourses, just like discourses highlight certain statements or ideas and conceal others. The Gramscian hegemony, which determines the common sense, is so powerful: it influences the people, as Raymond Williams (1980:37) would put it, through determining the limits as well as the substance of common sense, which diffuses deeply throughout the social worlds. Therefore, common sense and discourse are essential aspects of our everyday language that define the contours of the gap between what we know about reality and what we *believe* (Zizek, 2002). As such, common sense ideas regarding noise will imply certain *narratives, beliefs and views* about noise and its victims, whereby the discourse on noise, 'noise sensitivity', will indicate *rules* and *statements* which influence victims' understanding of their own experience. However, as will be shown, there are significant commonalities between the discourse and common sense ideas on noise as they generally revolve around the construction of noise as personal. It is the ways in which they operate and how they are mobilised, perhaps, which is the primary concern in understanding the broader justification for denials and the noise victim's invisibility.

Through the first two sections, I will present reflections on noise sensitivity as a discursive trope and reveal how it shapes the participants' views on aircraft noise exposure. I will show how some participants partly drew on discourses of sensitivity while others rejected them. The last two sections then will focus on common sense, revealing the stigma attached to the noise victim. The broader sociological mechanisms, which justify denials and maintain the invisibility of noise - despite the articulated reality of the harm - will, as such, come to the fore throughout the chapter.

Rejecting the discourse of sensitivity

From the perspective of psychology, noise sensitivity is understood as an inherent quality of the individual. It is a personality trait whereby some are more easily disturbed by noise than others (Shepherd et al., 2010). The participants, however,

viewed sensitivity differently. Some partly embraced discourses of sensitivity, while others rejected them.

Andrew was reluctant to describe himself as sensitive: ‘I’m old, I’m 62, you know […] So maybe I am… Okay… Let's say maybe I'm more sensitive than others. [Pause] *Although I'm not alone in my sensitivity*.' At first, Andrew's relationship with sensitivity seems ambivalent as he attempts to accept that he is sensitive. However, then, he became defensive, referring to others who are also bothered by noise. Recalling Chapter 5, participants wanted to confirm or legitimise their disturbance of noise outside their own experience or the instances in which they were exposed to noise before. Again in Chapter 5, Andrew expressed his frustration when he came across someone who told him they were not affected by noise. Here, the discourse of sensitivity enables him to point out to others like him.

In describing his experiences, Andrew has to dialogue with the discourse of noise sensitivity which includes the notion of habituation. The discourse tends to suggest that 'normal' individuals can become accustomed to noise, but he has *failed* to do so. He is an outlier - a ‘sensitive’ person. This is the very quality which is not readily accepted. In order to prove he is not sensitive, he states that he is *not* an outlier or the 'odd' one. He recalls one occasion when he handed out leaflets for an anti-aviation noise campaign in the neighbourhood. He was delighted to observe that his neighbours were also complaining about aircraft noise. He concluded: 'It was quite clear that I wasn't alone. I might be in a minority, but *I wasn't a minority of one*.’

The idea of sensitivity, for Andrew, is a difficult one. Despite the lack of legislation and being unable to quantitatively prove their disturbance, discourses about noise sensitivity may evoke feelings of exclusion and separation because those who are sensitive are defined as outside the norm. Pointing out the existence of a community to connect with similarly-affected others is a concrete strategy for challenging the dominant discourse about noise. Trying to fit into the normativity of habituation would mean denying the actual existence of noise. However, in Andrew's case, we observe a positive acknowledgement of one's disturbance by referring to the existence of the 'community of the affected'. If 'sensitivity' is more commonly

experienced, it can no longer be a quality of an 'abnormal'. They are not a minority or a weaker sub-group. So much so that 'nobody's *insensitive*' to noise, as Charles has stated.

Jane's critique of habituation signals a direct refusal to accept discourses of sensitivity. According to her, the normative, expected ability to get used to sounds does not mean that noise is acceptable. She recalled visiting her friend who lives in Windsor, also a severely overflown area (HACAN, 2017), describing the noise there as unbearable. She also recounted visiting another friend who lives between a motorway and railway: 'We thought, my Goodness! But of course, he's used to it. But I've never got used to the noise. And I don't want to because I don't want it. I don't see why we *should* have to have it.' The persistence of noises emanating from aircraft, road traffic or railway has become a fixed reality in daily life. However, just because they occur daily does not mean getting used to them is acceptable. As such, there is no inherent link between the normativity of noise occurrence and the discourse which suggests habituation to these as the norm. This link is *constructed* to suggest that if the noises are necessary, so is adaptation. But Jane rejects both the necessity of noise emissions and habituation.

In summary, sensitivity discourse was radically challenged by some participants. While discourse of sensitivity constructs those who are sensitive as a minority, participants argued that being troubled by noise was, in fact, normal. Andrew referred to the community of the affected as opposed to those who fail to habituate as a norm. Similarly, Jane rejected the very normativity of habituation, in contrast to the status quo of noise-polluted conditions. In other words, participants contested discourses that normalised socio-ecological harms and injustices. We can observe the first signs of resistance which also echoes the critical victimological project (Natali, 2015). However, some participants accepted sensitivity discourses, which will be discussed next.

Accepting the discourse of sensitivity

Some participants seemed to embrace the sensitivity discourse. For example, Bryan framed some people as 'hypersensitive to noise' because they may have an underlying condition such as damage to nerves or hearing. While he did not describe himself as such, he told me:

> I would say that I do focus on noise a lot. Yeah. I can be quite easily woken up by noise for something in the street. No, *I'm not hypersensitive to it. But I do tune into noise*, I think, probably, you know, pretty well as well. Yeah... That's why I don't know how that compares to other people. To be honest, we will never really know that…

Bryan notes those with special conditions who are hypersensitive to noise[46] but does not include himself in the category. Instead, he emphasises that he attends to and is affected by the sounds surrounding him, so much so that he easily gets awakened by them. However, according to him, being easily woken up by sounds does not mean he is really sensitive. Although the threshold of sensitivity, i.e., the extent to which one counts as hypersensitive or sensitive, is unclear, in any case, he did not want to be included in the description.

Within the dominant discourse, noise sensitivity is associated with pathological conditions (this will take on more pejorative connotations in the common sense use). While Andrew refused to be defined as sensitive because it alluded to a category of a minority (less powerful and credible), and Jane rejected it based on a critique of habituation, Bryan did not describe himself as sensitive; however, he accepted *others* as hypersensitive. The negative connotations of noise sensitivity were often present in interviews. However, despite ambivalence, it was partially accepted in Bryan's case.

[46] Sensitive hearing is an actual otological category which may be prompted by conditions such as hyperacusis (Katzenell and Segal, 2001). My investigation focuses on the uses of sensitivity as discourse and the current consequences of its pathologising effect instead of questioning its validity as a medical concept because it deserves special treatment. Drever (2015;2017), for example, initiated this discussion in relation to auraldiversity in humanities.

Underneath the partial acceptance lies the belief that aviation is indispensable. As Bryan argued, in a 'world city, you *have* to have aviation to connect economies in the world'. As he accepts the necessity of the aviation industry, he also acknowledges the emissions: 'You've got to take your part in [aviation], but not when it's disproportionately affecting the group of people. That's wrong, you know, that's just totally wrong. That just doesn't feel just or equitable.' While emissions might be inevitable, the inequitable distribution of noise pollution (and other emissions which might affect the residents) is objectionable. Bryan's account reflects the idea that noise is a side-effect of the aviation industry, and as long as the pollution is shared equally, it should be tolerated. This cost-benefit framing of the issue focuses on the amount of noise pollution one *gets* instead of the reality of environmental pollution. A fair share of flight paths can emerge above questions of responsibility or harm.

Charles also referred to a similar idea when describing Fulham residents' deliberate ignorance of aviation noise. He argued that this denial protects what he calls 'the rights of capitalism', echoing Bryan's view, which presupposes the necessity for a 'world city'. Because aviation noise is partially accepted as a default feature of the city, there is even a self-expectation to conform to it (but it has to be shared proportionately). Sensitivity here is understood as a state that acknowledges aircraft noise as harmful. To a certain degree, denying aircraft noise would imply denying aviation's benefits. The view in which aviation is seen as necessary makes it impossible to imagine or advocate for quiet as valuable. Sensitivity, therefore, only refers to *other people's* sensitivity to not contradict the view regarding the benefit of aviation.

Another participant's account also exemplifies this contradiction well. Albert is a retiree who worked for Heathrow Airport for years and has lived next to one of the runways since the 1980s. Despite living near an airport and volunteering to take part in the present study, he argued that 'the noise is subjective'. He often referred to technical specifications of aircraft, descriptions of airport flight operations, the techniques that airline pilots use in take-off and landing, and how these affect the aeroplane's noise. He also described the cost-effective strategies that airlines devised,

such as avoiding steep take-offs to spend less fuel. However, in the interview, he mostly referred to noise as a source of annoyance, not so much to himself (as he said he got used to it), but to other people. Because he argued, '[The airport] paid my salary, it pays my pension. So I can't really complain about aviation. But I think anybody else would find it probably quite obtrusive.' While the common sense of the airport as a source of employment ruled out speaking directly about *his* noise disturbance, he accepted that aircraft noise could be a nuisance. So, like Bryan, he understands the production of industrial noise as unavoidable. In Albert's case, the economic benefit of aviation is personal and direct in the form of employment; therefore, the noise emitted by aviation activities is described through external references: noise is a problem of others, except for the self.

Albert did not explicitly talk about the noise disturbance in his own lived experience, but the scale of actions he took to avoid aircraft noise indicates the intensity of his exposure:

> I've always known that the noise was going to be here and insulated the house […]. It's not on the flight path per se, because the aircraft takes-off to one side. I also decided that the house had to have various criteria, so it has *triple glazing*, except for this roof which has double glazing, blind which has noise attenuating facilities, single glazing curtains which have heat facilities which also act as a noise retention… And you still hear the aeroplanes on occasion.

Albert deliberately chose to live on the side of the northern runway because of the aircraft's take off direction towards the opposite side. 'The noise contour,' he describes, 'is very shallow' there. Like Bryan, Albert understood noise sensitivity as something that other people experienced. This framing of noise does not hide the impact on them: Albert soundproofed his house, and Bryan was woken up by aircraft noise. In short, the contradiction of accepting the necessity of aviation and quietude at once was manifest in Albert's situation: He framed noise as subjective and others' problem as a retiree of Heathrow, whereby he applied high-level insulation into his

house to avoid the noise of the aircraft. The effect of the discourse once more serves to frame noise as the problem of the sensitive, despite the presence of noise.

Bill, who works for a campaign against airport expansion, took a different view, saying 'aircraft noise *desensitisation* very much exists.' Desensitisation here indicates habituation. He recounted the time he lived in Surrey (a county to the southeast of London) and 'to an extent became *sensitised*' by aircraft, especially in the early morning when planes queue above Canary Wharf for the final approach to the runway. He apologetically said:

> To be absolutely truthful… I don't want to exaggerate as interesting as it would probably make. I don't want to tell you anything, you know, untruth: It didn't bother me a great deal. But there's no right or wrong answers.

He told me that the planes would come over at 5 am and continue for two hours. However, he stressed that only the morning flights disturbed him and that he would be fine at the other times of the day. In his terms, he found himself *sensitised* for the morning and *desensitised* for the rest of the day. Nothing had changed, as he argued, because the aircrafts had been using the same path since around 1995. When he moved to Surrey in 2015, he had somehow become 'sensitised' to the planes; he was noticing the noise and tuning into it. It is also an interesting topic for him as a campaigner to investigate how communities *become sensitised* to aircraft noise when there is no change in the airspace and flight paths.

Bill constructs the noise from the point of the discursive trope of sensitivity through highlighting habituation *as* desensitisation. He finds this an important point to contribute to developing aircraft noise policy to find the conditions in which residents are *made more sensitive to aircraft noise*. According to this view, it is the individual, not the noise itself, who is at stake in resolving the noise problem. To recall my previous critique, this view is remarkably along the same line as the mainstream soundscape approach (as well as policy definitions of noise), where the focus is primarily on the perception of the residents rather than the noise production.

Noise is more of a problem of *sensitisation* to sounds which would mean disturbance, instead of whether noise exists and how harmful it is. Sensitivity discourse reinforces this position, implying that the individual's sensitivity should be reversed, changed or manipulated.

To summarise, the participants drew on discourses framing aircraft noise as inevitable and a matter of sensitivity. Aviation noise, to some extent, is rejected, despite the fact that the individual making the distinction is also affected. This conflict is overcome by indirectly accepting noise through discursively framing *others* as sensitive. However, overall, the need for or the value of quiet is taken much less seriously. The power of sensitivity discourse revealed itself in shaping the victims' imaginations in making sense of their and others' experiences.

As such, sensitivity was an essential idea through which participants could engage with their own as well as others' subject positions and experiences (see Foucault, 1976). Participants like Andrew and Jane did not want to be described as sensitive because of the term's implication of affirming habituation and its suggestion of a less powerful position already denigrated by lack of appropriate law and the aviation industry. Here, sensitivity is rejected because its connotation to subjectivity is rejected: noise is a collective problem. On the other hand, those who first and foremost acknowledged the benefits of aviation engaged with sensitivity discourse differently, echo common sense understandings of noise as a problem of individual sensitivity.

The 'weird' victim

I have so far focused on participants' reflections on aviation noise exposure to reveal the influence of sensitivity discourse on how they understand themselves and others in terms of noise disturbance. Here I examine the common sense ideas broadly available in the language constructed around noise and its victims. In doing so, I will explore wider views on noise through participant interaction with those with limited understanding or lived experience of aircraft noise exposure.

I will start by showing the personality traits or characteristics attributed by others to participants who express their disturbance by aircraft noise. This characterisation contains stigma as far as they are socially constructed attributes which are 'deeply discrediting' (Goffman, 1986[1963]:3). However, participants resist these labels and create their coherent narrative. Therefore, these descriptions will be understood as the characteristic of common sense regarding noise and its victims instead.

Valerie recalled a demonstration by schoolchildren mothers against the exhaust emissions created by the busy road traffic in front of the school. However, the event, as Valerie reported, was 'seen as a quirky story on the news.' She pointed out that the harms of air pollutants are now well-known; however, there is so much 'resistance' to noise this time where 'You're seen as a bit *weird if you talk about noise pollution*.' Later in her account, she states:

> They call you NIMBY. That means ‘not in my backyard’. You just want it somewhere else then. But then they're not prepared to listen to the explanation about City Airport, concentrating the flight paths, you know, the explanation for it.

Valerie noted that people who raise their voices about pollution tend to be discounted. Whereas being anti-pollution might be ‘quirky’, an anti-noise perspective is associated with 'weirdness'. The ‘NIMBY’ attribute has connotations of not caring about others when it comes to noise as they only want it somewhere else. Valerie contests these characterisations. She referred to the objective conditions of victimisation: noise is caused by corporate actions such as flight paths and adjustments to their operations which affect thousands. By stating that the people who call them NIMBY are not listening to these explanations of how noise is created, it becomes clear that the attribute is a result of prejudice against those affected by noise. It is along the same line with the formation of common sense, which includes beliefs and narratives, not necessarily knowledge.

Furthermore, the discourse on sensitivity goes hand in hand with the common sense idea of being ‘weird’. As Georgia, too, reported: ‘[Your] option is to live with it

[noise] or actually ask someone else to cooperate. [But] people don't want to compromise their lifestyle because you're a little bit *unusual*! It's just ignored.' In addition to the 'unusualness', she said that all her friends think she was 'just *hypersensitive*.' 'It's not a nice feeling when no one else agrees with you', she reflected.

Valerie thought that stigmas were due to the invisibility of noise pollution. Above all, not all parts of London are subject to aircraft noise as intense as Valerie's neighbourhood in Leytonstone. 'You get ghettoised,' she said, 'if you are in an area where there is a lot of noise pollution, most people don't see that as a problem. Yes. It's like a pollution that's *out of sight, out of mind*.' The term 'noise ghetto' has been made well-known among the communities by John Stewart (AirportWatch, 2014), a prominent anti-noise campaigner in the UK, in reference to concentrated flight paths which intensify noise pollution in particular neighbourhoods. While finding the term to challenge common sense, the invisibility of noise pollution is a persistent challenge. Sally (living in Hanwell) succinctly concluded that noise, for some, 'would be completely outside their *experience* or *knowledge* or *consciousness*.' So there must be a link between awareness regarding aircraft noise and sympathy towards the noise victim.

Jane's children considered her 'neurotic' and thought she was 'really making a fuss'. However, when they visited Jane and her husband and heard the overflying aircraft, some of which, as she described, would 'scream', they changed their attitude towards her. Whereas before, her children were discrediting and pathologising with reference to mental illness. They changed their perspective once they experienced the noise first-hand. As Sally encapsulated above, if there is a relationship between the bias against the noise victim and the lack of 'experience, knowledge and consciousness', in this case, the increased experience has led Jane's children to become more sympathetic towards her about her intense annoyance with aircraft noise.

The absence of knowledge, too, contributes to the use of stigmatising language against the victims. Indeed, Jane compares air pollutants from aircraft which leave an olfactory trace: 'We're told they don't have any emissions from them [aeroplanes],

that it's water vapour, but it isn't, and you can actually smell that it's aviation fuel. And I don't like being told that I'm, you know, telling lies.' According to Jane, then, if the air pollution is somehow tangible, she can prove that she is, in fact, being exposed to it. There is a link between noise and visibility, too. Within the modern hierarchy of the senses, the auditory is below the visual (see, e.g. Howes, 2005; also, Chapter 3 in this thesis for the extended discussion). However, since they cannot transpose their auditory exposure to the realm of the visible (or measurable, the problem of measurement aside), their credibility becomes questionable.

Participants consider knowledge, specifically visual proof of pollution, as a challenge to common sense. For instance, Valerie found a fine layer of black soot in her loft when they left the windows open for a few days after the building work. According to her, it was not dust but fine particles emitted from aircraft. It visually demonstrated air pollution. To put it in Jane's terms, the particles do not, contrary to what the corporations might argue, vapourise like water. When it comes to noise, Valerie argues that people thought it was *subjective*. She adds:

> People think it's just *you*. But if I've got this black stuff on my windowsill, and you have them in your windows too, I'm not just being subjective or a NIMBY? With aircraft [air] pollution, I've never been able to get a firm answer. But they do pollute a lot, aircrafts are really, really polluting, tonnes and tonnes of carbon… Nobody says exactly where… They say, 'Oh, it just gets blown out'. Well, it's got to come down somewhere.

The visibility of the dust here appears as something which challenges the supposed subjectivity of air pollution because it can be *seen*. Therefore, the resolution in terms of noise would, at first glance, be sought within the sound metrics indicating the sound levels in order to present concrete evidence. However, it was stated before (Chapter 5) that whether these levels and thresholds do justice to the actual noise experience can be contested. Moreover, noise may be harmful beyond consciousness or perception due to its material and affective properties (Altmann, 2001; Goodman, 2010; Clark and Stansfeld, 2015). In short, the fact that sound is difficult to 'prove'

and noise is a complex phenomenon can further solidify common sense formations based on false, prejudiced beliefs about noise victims. Firmly established as such, common sense maintains the invisibility of noise as harm as it becomes harder to challenge through knowledge.

The significance of the role of common sense in the invisibility of noise and its victims can thus be articulated through its contrast to knowledge and evidencing issues. It can further be manifested through its relationship with the discourse of sensitivity: As also emerged in the stigmas, the attribute of individual pathologies pertain to the discourse. 'The hypersensitive', as mentioned above, has become a common-sense attribute in describing the noise victim. However, we can instead identify this as a common sense use of sensitivity rather than discourse. More precisely, the discursive use is based on expertise [the psychological construction of the noise-sensitive person (Shepherd, 2010) and its institutional mobilisation through the definition of noise] which solidifies into a concept (Foucault, 1972). The common sense use, on the other hand, is rather based on the widespread circulation of a hegemonic/ideological set of ideas which may not necessarily be linked to scientific research or policy (such as occularcentrism). This is not to say discourse and common sense are strictly separate but to clarify their function in the context of noise victimisation. In fact, they can also work together to make the victims invisible.

For example, Bryan's use of 'hypersensitivity' can signal its discursive use in order to minimise aviation noise, but it is possible that the common sense ideas around the pathology of the noise victim could have supported his utilisation of this term through its social power. This power, as mentioned above, has less to do with knowledge but more with ideology or hegemony: the power of common sense ideas does not directly emanate from knowledge but rather from beliefs and narratives which reflect certain ideological dispositions (Zizek, 2002). As such, common sense ideas can be capable of mobilising sensitivity discourse (even in noise victims) thanks to their strong position in the collective imagination of noise. The invisibility of the noise victim is radically reinforced through the processes of the wide

circulation of such language containing biases and prejudices, which at times overlap with discourse.

The displaced victim

I have so far explored how common sense constructs a pathological version of the noise victim per se and how the hegemonic ideas mischaracterise them through stigmatising language that discredits their experiences. This section confronts another common sense trope: 'why don't you just move away?'. This frame corresponds to the common sense understanding whereby noise is a problem of individual peculiarity and the negative attributes attached to the noise victim as a complainer. This time, the common sense idea is the displacement of the stigmatised victim from where they live. Like stigma, these ideas do not stem from knowledge (about the living conditions or the difficulty of moving out in the city) but from a strong belief in the peculiarity or unusualness of the victim.

I will first present participants' views on moving houses to escape aviation noise before focusing on how this topic has become an essential part of the common sense of noise victimisation. For the informants, it seems at first like a reasonable action to move out. However, the social reality of placemaking, the right to the city, the ecological precarity throughout London and financial reasons make moving a less than a straightforward solution to the problem of noise.

Tim recognises this issue. In our interview, he told of the hardship of staying where there is so much pollution and would move should an opportunity arise. However, he and his family have been living in Cranford for 30 years and have been part of the community for a long time. He advised his grown-up children to move away from the area: 'Get out of here. It's not worth it. The pollution is not worth it.' However, he also reflected that while he could move, many – especially those in council housing - could not. In fact, Tim was somewhat optimistic about being able to move but acknowledged financial barriers.

Some participants, like Kate, felt quite differently about moving. Others told Kate to move to get away from noise pollution. Her account refers to and elaborates on placemaking (Low and Lawrence, 2003), illustrating the vital interconnectedness of space and daily life:

> […] People have said move. But when you've invested 30 years of emotional lifetime in an area and in a property, it's not something that you can just say, 'Okay, I'm going to move'. […] when you own a home, it's not like renting and waiting for your contract to come to an end. There's a whole lot more at stake than that. By the time you've lived somewhere for 30 years, you've got a whole life that revolves around that area, you know how the buses work, who your good neighbours are, your wider good friends are, the shops, how they work, going to the farmers' market and enjoying having a stand and supporting SE5[47] Forum and putting in an appearance to support their work… All of that, all of that just sort of flushed out by probably the next change in the flight paths. I'm prepared to put a bit of a fight in, but, you know, life is too short. And as I said to various people, I don't have to be unhappy. I don't have to spend my life in tears. I don't have to spend my time running away from this noise.

Apart from the potential financial uncertainties, for Kate moving out means completely changing the building blocks of everyday life or everyday rhythms comprised of activities such as going to the shops, using public transport, establishing good relationships with neighbours and friends and supporting the community forums. She is frustrated that these elements indispensable for daily life are changed at once due to a decision on how flights are managed and operated, resulting in more noise exposure to the residents in the area. Because it takes so much effort and time, she is not in favour of moving out. Another participant, Leigh, stated that moving out 'will be starting another life.' Leigh lives with her family and points out some other difficulties of moving: being away from the family

[47] London postcode indicating southeast.

connections and separating her kids from their friends and school. She also thinks that London is a place where you are likely to be affected by 'lots of other noise', if not that of aviation. So moving out may not be the ultimate resolution. This point becomes strikingly articulated in Charles' case.

Kate stated she could not 'spend her time running away from noise.' Charles, on the other hand, did exactly that. He lived in Earl's Court (an expensive central area) for 24 years, where he was frustrated by being woken up by the planes at 4.30 am. He then moved in with his current partner in Fulham. As he described, the noise there in the latter place was 'insufferable', that 'life stopped every minute' when the wind direction required planes to use the flight path above them. Ultimately, they sold the house and moved to Dalston, where they currently live. Their relocation was only due to aviation noise, as he stressed. He also told me that the person who had bought the house in Fulham had sold it. Thus, he pointed out the reality of the 'awful' conditions in the affluent borough of Fulham. Although their residents were in 'denial' of aircraft noise, as mentioned before.

Charles told me they sometimes hear the City airport planes in their current place in Dalston. It does not compare to the noise in Fulham, in any case. He said that 'the killer is the night flights' and the economy cannot be that 'fragile' to be highly dependent on it, re-articulating the corporate denial of noise based on economic benefit. Charles was the only participant able to move out in response to aviation noise, primarily due to being financially independent. Ultimately, though, moving seems to be only mitigation, not an escape, from aviation noise in London.

Leigh pointed out that aircraft noise (and other types of traffic noise) is seldom absent in London. Charles explained that the situation could be misleading when viewing a property as the wind direction affects flight paths. Whereas one does not hear many planes when the winds blow from the east on the day of viewing (in an area affected by Heathrow planes), they may only realise the reality of aircraft noise after they have moved in and westerly winds prevail, and flight paths above them are used. Charles also mentioned Brockley, a leafy conservation area in southeast London where I was based during the study. He bought a flat there when 'peace and

quiet' characterised the area. However, this was destroyed when the overflying planes relocated their arrival point of turn to Brockley. When I lived in Brockley, I too witnessed planes at 4.30 am. Therefore, the mutual experience of being an overflown resident quietly connected all of us. As Valerie has put it, there are noise ghettos of aviation, whereby some communities are much more overflown than others. However, flight paths may not be as settled as the 'visible' roads on the ground: wind directions, technical issues, and above all, the complexities of who decides how to use the airspace (as mentioned in Chapter 7) altogether make London residents at risk of noise exposure wherever they move somewhere else.

'Why don't you just move away?'

Most participants received similar advice to 'move away' in response to their noise complaints during everyday conversations. It was also a widely shared opinion on social media, especially on Twitter. Responses to tweets about aviation noise often said 'Why don't you move', or 'No one told you to live next to an airport', often in a bullying tone. One respondent, Joseph, argued, 'If people advance that argument, the answer is well, actually, most of London's gonna move.' He gave the example of the Bhopal disaster where the chemical plant exploded in 1984, killing thousands of people, referring to the victims who were the poor of the city who had been living next to the plant and commented, 'nobody's suggested that it was *their fault* because they shouldn't be living there.' He argued that it is the responsibility of those who *make* the nuisance to 'minimise that nuisance'. As such, the common sense trope of 'move out' centres on the victim as the problem, not those who cause the pollution.

The common sense trope of moving out argument is presented against the noise victim without considering the conditions that make relocation difficult or impossible. More importantly, the trope is connected to the stigma and pathologisation of the noise victim, as well as blaming them for the nuisance they have been experiencing, rather than addressing the parties responsible for creating the conditions in which the individual suffers. It dismisses the context of busy urban centres like London, whereby evading aviation noise is mostly futile. Again, the argument is a powerful common sense trope, just like the stigma of sensitivity. Jane

also illustrated well through the example of her doctor, who advised her to move out. Interestingly, her doctor was also affected by Biggin Hill airports' planes. Although Jane did not want to leave southeast London because she was born in Blackheath and established her life there with her family and children, she and her husband went to see a property in Petts Wood, further down in southeast London. While they were driving there, they saw an aeroplane above them. This prompted them to go back home without even viewing the property immediately. The aircraft noise was inevitable. Jane told of how exhausted this fact makes her consider moving out: 'Since the aircraft, I felt I can't be bothered. I don't want to be doing things. And that's a horrible feeling.'

Therefore, the common sense trope of moving out does not emerge from the lived experience of noise but from specific typologies, images regarding the noise victim, and ignorance of how commonplace aircraft noise is and how futile it is to avoid it. It also ignores the ways in which one's dwelling plays a crucial role in organising the everyday rhythms, which are intimately related to placemaking and meaning, as confirmed by the participants. Moreover, moving carries a significant financial burden. Moving away from aircraft noise may expose one to other noises, such as road traffic or railway noise (see also EEA, 2020). Ultimately, the difficulty in deciding whether the places are exposed to aviation noise due to alternating wind directions and other complex reasons for changes in the flight paths, which the residents are incapable of pinpointing, moving out makes an insecure and uncertain option. The abuse of the idea of moving out to escape the noise, therefore, intensifies this precarity in noise exposure as far as it suggests the displacement of the noise victim from one uncertainty to another.

Just like the stigmatising language, the trope of moving out assumes to a great extent, the *peculiarity/unusualness* of the noise victim as an individual. In addition, the *normality/usualness* of noise pollution in urban spaces is also implicated in the common sense displacement of noise victims. Common sense, therefore, tends to displace the victim, denying their right to live in a city and enjoy it. Demanding quiet becomes an out-of-place request put forward by those who are constructed as outside the norm, neurotic, nimby, unusual or hypersensitive. As such, moving out as a trope

of exclusion and displacement within the everyday language, as I have illustrated through Joseph's comment, diverts the attention from the responsibility of noise creation. It turns the discursive *unwantedness of noise* into the social reality of the *unwantedness of the victim*.

Summary and conclusion

Understanding how discourse and common sense frame noise and its victims are essential in developing an analysis of power relations about noise. In this chapter, I highlighted the sociological/discursive background to aviation noise victimisation by focusing on discourse and common sense, which constructs and utilises specific ideas in order to maintain the invisibility of noise victims and may further contribute to corporate denial (Whyte, 2016). I first examined how mainstream discourses on noise centred around noise sensitivity and showed that participants have an ambivalent and complex relationship to discourses about sensitivity. No participants readily accepted being defined as sensitive for two main reasons, either because of its implication of a more fragile position in terms of power relations of noise (and in order to resist noise victimisation) or because discourse frames aircraft noise as necessary or unavoidable under capitalist logic. However, participants who thought the noise was unavoidable tended to accept certain groups as hypersensitive and others as habituated (or became desensitised, as Bill would put it). Discourses about noise sensitivity, therefore, minimise the harm of aircraft noise by delimiting the adverse effects to a particular group of people who are inherently more 'bothered' by noise.

The discourse echoes corporate denials discussed above (Whyte, 2016:177-180; Coleman, 1987). Notably, the function of the discourse may legitimise the technique of *appeal to higher loyalties* in which the economic benefit of aviation is highlighted, whereby aircraft noise is represented as ignorable, benign or 'not that bad' (as explored in more detail in Chapter 6). Noise is obscured or minimised on an individual level through sensitivity discourse, and it may also underpin corporate denial in which they present the harm as secondary to the business. The fact that the victim frames noise through discourse signals this social power. If the noise problem

is defined as that of the sensitive, then it becomes easier to manage, deny or re-construct the problem as not affecting the many but few who are marginalised and pathologised.

The chapter then scrutinised the common sense ideas concerning noise and those who complain about it to others and identified the predominant ways of describing noise victims in a denigrating way: 'weird', 'nimby', 'unusual', neurotic', and finally, 'hypersensitive'. Sensitivity (with implications to pathology as well as prejudice) reappeared as a trope in common sense, which serves to discredit further the noise victims' experience based on prejudiced beliefs that posit them as opposed to 'normal'. The *common sense* use of sensitivity can mobilise and underpin the *discourse* of sensitivity. As such, common sense tends to support the corporation in denying noise victims' claims about noise. It echoes the implication of the frequent complainer as 'moaning Minnie', as Joseph reported, in order to dismiss the noise complaints, which results in discouraging the victim from complaining. The corporation may reproduce the already-denigrated in the common sense imagination of the victim by maintaining the incredulous and stigmatising attitude towards the complaints.

Finally, the predominant 'advice' to the noise victim to move away appeared as another recurring trope of common sense. The idea of the displacement of victims from their homes or the city is based on systematic ignorance of the conditions that make moving difficult, if not futile. Participants' accounts showed that aircraft noise or environmental noise, in general, is unavoidable in London, but moving is challenging to execute due to numerous reasons, including finances. The trope reflects common-sense acceptance of noise pollution in urban space; the noise complainant figures as a non-conformist who defends a value not usually attached to urban space: quiet.

The discursive/sociological background to the invisibility of noise and its victims, therefore, included (1) the discursive role that sensitivity plays in the subject positions of the victims and (2) common sense consisting of stigmas and intention to displace. As a result of the power of such dominant views and ideas, victims become

'unwanted' (echoing the way noise is predominantly defined as unwanted sound). Overall, the common sense construction of the 'unusual' socially excludes the victim, whereas the trope of moving out manifests the intention to exclude in the urban space. When it comes to corporate denial, the trope may support corporate *denial of responsibility* (or, in fact, it may make the denial unnecessary in the first place): if it is the victim who is responsible, then there is no need to question the issue outside of them further. If the denial of responsibility obscures the actual liability (Whyte, 2016:176), the trope of displacement foregrounds victims as responsible without recourse to an external party as liable.

Moreover, the definition of noise as subjective and the whole regulatory machine based on this definition becomes more firmly established as the convenient way to 'manage' noise and its victimisation rather than to prevent it. The combined function of the sensitivity discourse, stigmas, and the intention to displace therefore provides the essential sociological background which maintains the invisibility of the noise victim by underpinning corporate denial techniques and actively preventing the victims' acknowledgement on the level of collective consciousness and public discourse. Just as the lived reality of noise pollution should be grasped beyond the mainstream frames such as loudness and habituation (as shown in Chapter 5), noise victimisation should be highlighted by overcoming the discursive and common sense uses of sensitivity and the idea of displacement of the noise victim. We must mobilise a radical criminological imagination (Young, 2011), therefore, beyond the institutional/corporate frames and social constructions and narratives on the construal of noise and its victims as 'unusual' in order to highlight and make sense of their existence and then to address the sufferings. We need to imagine the value of *quiet* in order to challenge the mainstream understandings regarding the victims of noise which operate to make them invisible. As shown in Chapter 3, the constructive function of sound and its intimate relationship with space and body can be instrumental in triggering such imaginations. We can then think about how our sonic environment should allow tranquillity, reverberation, communication and meaning-making instead of causing disruption, disconnection and suffering.

Chapter 8: Discussion and Conclusion

This thesis has shed light on invisible environmental victimisation through the experiences of those affected by aviation noise. It brought noise pollution to the attention of green-critical criminology, with potential implications for sensory sociology and sound studies more broadly. I employed online interviews offering participants space to describe their aviation noise exposure experiences in detail. The empirical data consisted of nearly 30 hours of interviews (transcribed into more than 200 pages of data) with 26 participants from across London who provided rich, detailed, insightful responses. Their responses reflected the inherent complexity of the problem of environmental noise pollution. Analysing and making sense of individual narratives around noise as harm requires a multidisciplinary perspective. Three empirical chapters journeyed through the research questions via diverse theoretical frameworks rooted in theories of ecology, philosophy and sonic materialism on the one hand and critical-criminological and victimological perspectives on the other. Each chapter presented the structural dynamics of noise victimisation and showed how noise victims and harms are made invisible.

The thesis explored the broader concern of victimisation of noise as invisible environmental harm (Davies et al., 2014) on three levels: the everyday, the institutional-corporate, and the sociological-discursive. It reflected these contexts in the specific research questions, which were addressed in their respective chapters:

- How are the everyday lives of victims impacted by noise? in other words, how does noise pollution become actualised and emerge on the level of everyday rhythms? (Answered by Chapter 5)
- How does the institutional management of noise impact the victim and contribute to their invisibility? (Answered by Chapter 6)
- How do discursive framings and common sense make the victims invisible? (Answered Chapter 7)

Concerning these questions, the empirical chapters revealed (respectively):

- The manifestation of aircraft noise as ***spatio-temporal subsumption***. Lived experience cannot be understood through the mainstream tropes of habituation and loudness.
- ***Corporate denial strategies*** which deny the harms of aviation noise. As such, complaint procedures become secondarily victimising processes.
- The combined effect of ***common sense and discourse about noise*** makes noise victimisation invisible. More specifically, common sense understandings create ***stigmas and biases*** which further denigrate the victim.

Overall: *Aircraft noise is an actual harm and its effects can be felt and seen within the daily lives of the overflown, in addition to chronic health effects. Despite this, noise and its victims remain invisible. Denial at the corporate/institutional level is an important social dynamic behind this invisibility. The vast influence of discourse and common sense operating at individual and social levels also hinders noise from emerging as a public issue. Accordingly, quietude cannot emerge as a social value. The personalising effect of noise discourse facilitates corporate denial and shapes the individual imaginaries of the victims. Furthermore, common sense ideas regarding noise denigrate the victim through stigmas and biases. Radical imagination is necessary to mobilise to challenge these mechanisms which invisibilise harms and victims.*

The following sections summarise the main findings of three empirical chapters and offer further discussions based on the relevant literature. First, I argue that the concept of spatio-temporal subsumption, which I introduce in this thesis, challenges cultural/psychological/mainstream approaches to noise experience. Next, I recap the main types of corporate denial identified and discuss my contribution to corporate crime and environmental victimisation literature. Finally, I summarise the discursive and common sense framings of noise as sociological background to the invisibility of aircraft noise victimisation. I will highlight their implications for studying the broader dynamics of environmental victimisation and the value of the critical lens. In the final section of this chapter, I summarise the multidisciplinary contributions of the study to the different kinds of literature, indicate limitations and suggest ideas for

future research which would further explore the issues and ideas presented in this work.

The actuality of noise as spatio-temporal subsumption

Summary of findings: Participants' narratives evidenced how aviation noise permeated daily life, ceasing to be virtual and becoming actual. Noise created by low-flying aircraft and frequent flights interfered with the rhythms of a typical day, most notably by interrupting sleep and disrupting work and social interaction. Being woken up at 4.30 am, unable to concentrate and to feel one's body tense were examples of the moments in which noise as harm manifested itself in the affective and material registers. I argued that these experiences should be understood in terms of challenging the dominant views on how sound is experienced, such as the notion of habituation in psychology (e.g. Smith, 2003) and loudness as an acoustic indicator of harm. Participants' accounts presented an alternative to these concepts through radical awareness, a sensation of vibration and contextual understandings of noise (during sleep, for example, the 'small' volume could be loud). Noise violated spatial and bodily boundaries, interfering with the essential rhythms of the everyday. Furthermore, the expectation of aviation noise was the most characterising aspect of experiencing noise persistently. It became a motif which indicated the moment where aircraft noise radically actualises.

The expectation was the moment whereby the spatial transgression of sound is compounded with the temporal violation, hence the concept of *spatio-temporal subsumption*. Moreover, anticipation occurs in the *absence* of noise and its presence. The concept of spatio-temporal subsumption describes this aspect of noise, where it forcefully captures the individual's space and time. Persistent noise puts the individual in a constant state of expectation and alertness, simultaneously suspending space and time perception and instilling stress and anxiety. As far as it indicates stress, this essentially violent situation is that which is described as the pathway through which noise causes health effects (see inter alia McEwen, 2006; Munzel et al., 2014; Hahad, 2019). *Spatio-temporal subsumption,* therefore, reveals how noise interferes with the inner rhythm of the individual, which goes hand in hand with

stress. More implications of the concept as the main finding of the chapter will be explored with reference to sound studies and criminological studies on social-environmental harms.

Beyond cultural studies and the psychologism

The spatio-temporal subsumption of noise manifests the lived experience of this persistent pollutant outside mainstream categories and definitions usually employed concerning noise. These were, as explored in Chapter 2, the definition of noise as unwanted sound, culturalist perspectives and psychological tendencies, which consider noise more of a subjective and private phenomenon per se. Instead of focusing on how social biases leak into noise and its creators as deviants (Destree, 2013), the concept of spatio-temporal subsumption captures how destructions of noise penetrate bodies affectively beyond social representation and meaning (e.g. Grimshaw and Garner, 2015; Cox, 2011). The concept fundamentally points to noise as a sound phenomenon which cannot be reduced to the component of loudness (see Genuit and Fiebig, 2005). Materialist approaches to sound (Grimshaw and Garner, 2015; Cox, 2011) helped articulate noise as a contemporary virtual ecological pollutant (Wyck, 2005), overcoming the limitation of mainstream understandings of habituation and loudness. Here, loudness becomes vibration, which is heard and felt throughout the body; noise manifests as tension headaches, lack of sleep, disruption to social interaction, and desperation. It is a description which fundamentally originates in the victims' experience. The concept articulates the harms of noise but does so based on the lived experience beyond contemporary conceptions in psychology and cultural studies. Hence the title: sounding the overflown and the critical victimological project to highlight victims' experience of sufferings using empirical methods (Mawby and Walklate, 2002; Natali, 2015;2016). Describing how noise destructs also realised Lynch's (2020) vision for green criminology, in which he argued for qualitative explorations of environmental harms that 'cannot be counted'.

Furthermore, the existential suffering due to the spatio-temporal subsumption of noise is a salient finding against the backdrop of sound studies research which

reveals the ontological significance of sound as part of our 'sensory being' (Pallasmaa, 1996; Merleau-Ponty, 1964). We have a direct and affective relationship to sound (Cox, 2011; Schrimshaw, 2016) through the driving force of auditory perception. Persistent noise exposure can immediately suspend our vital listening function (Voegelin, 2010) (theorised as a more cultural/interpretive act by inter alia Barthes date). Ethnographic research has shown how listening openly without the dirt of the sonic environment is indispensable in creating and communicating meanings and organising social lives (Feld, 1990; 1996). The existential-constructive functions of sound have been often explored through the trope of space and its relationship to sound, however (ibid; Pallasmaa, 1996; Nancy, 2007).

Similarly, noise is often conceptualised as a transgression to the space (Eisenberg, 2015), which echoes bodily violation and sonic violence (Goodman, 2010). Spatio-temporal subsumption adds the temporal dimension to theorising the experience of noise. It suggests that noise also leaks into *time* in addition to space, violating the *temporal* boundaries through fixating the attention on an uncertain future which dissolves into the present due to the expectation of the virtual, future noise based on the past, persistent experience. In short, this novel concept highlights the temporal leakiness of noise in addition to the spatial in describing its destructions.

Towards a new understanding of noise as harm

The relevance of spatio-temporal subsumption for criminology can be articulated in at least two ways. First and foremost, my work introduces noise as a subject matter *per se* in a green-criminological and victimological perspective which has so far predominantly focused on the visual. Similar to the evolution of the social sciences, in criminology, too, the visual has attracted the immediate attention of scholars both in terms of methods and subject of research (Brown and Carrabine, 2017: xx). Noise and other 'invisible' environmental pollutants still need more scholarly attention. In other words, my work challenges the sensory and academic bias to reveal the actualisations of noise. The present study is inevitably a multidisciplinary endeavour whereby sound studies, philosophy and theories on ecology intersect, partly due to

the lack of existing research on noise as environmental harm and the complexity of noise.

Secondly, industrially produced noise directly corresponds to the study of social harms in criminology. The departure point for the critical study of harms was to challenge the concept of crime because it lacked an 'ontological reality' (Hulsman, 1986; Hillyard et al., 2004). Interviews revealed the ontological reality of noise as green-social harm. Moreover, the present study added a novel frame to pollution as social harm: virtuality. The interdisciplinary perspective of virtuality and sonic materialism to noise can guide future approaches to such harms. A radical olfactory frame of actualisation, for instance, could be utilised to study air pollution, taking the harms which are mostly made sense through the olfactory seriously. In short, conceptualised as virtual, pollution - under the radar of critical green criminology – can go beyond the quantitative descriptions of harm and offer a more nuanced understanding of the lived experiences of environmental harms, such as noise.

The Actual Victim

The concept of spatio-temporal subsumption can help articulate that aircraft noise should be acknowledged as state-corporate harm, affecting many. In other words, it implies environmental victims. It radically indicates the victim's existence, as far as the abject experience of the victim is implicated within the concept. Noise production is planned, persistent and systematic; the same applies to noise exposure. As mentioned earlier, these kinds of harms are not produced without an awareness of a target population (Stanko, 2013:484 in Walters, 2014:151). If planes are going over residential areas, the impacts of noise and other emissions on the residents will be inevitable. Here, the critical victimological approach is helpful as it foresees the victims' existence regardless of self-identification and cultural dispositions concerning environmental victimhood (Williams, 1996) due to the awareness of the objective conditions.

Aircraft noise should also be understood under the framework of the Treadmill of Production (Stretesky et al., 2014), echoing the analysis of the Capitalocene (Moore,

2015; Patel and Moore, 2017). Contemporary pollutants are a result of capitalist endeavours which contradict ecosystems by the constant perpetuation of ecological destruction (Foster, 1992) and the production of risks in a way which is beyond the grasp of perception and measurement (Beck, 1992; Adam and Loon, 2005; Wyck, 2005). Understood through the virtual, risks and threats are the inextricable products of such ways of perpetual activity. Accordingly, perhaps victims should be recognised *before* they become actual (perhaps, even 'the *virtual victim*'), just as acknowledging the pollutants before they become actual through various illnesses or bodily sensations. One may not be a victim yet, but the constant production and the ideology of growth guarantee the constant production of noise and other substances and particles which we are yet to define and measure. Novel conceptual frameworks like virtuality should serve as a token to articulate urgent issues of contemporary socio-ecology.

Maintaining noise victimisation through corporate denial

Summary of findings: Chapters 6 and 7 examined the invisibility *and* noise victimisation. Chapter 6 explored the victimisation in the context of the institutional in relation to the silencing/invisibilising impacts of not defining aircraft noise as a statutory nuisance in the Environmental Protection Act (1990). The departure point was to problematise the legal and regulatory mechanisms which do not adequately recognise victims but instead endow corporations with authority to deal with noise monitoring and complaints procedures.

Participants' accounts showed that complaints and consultation procedures lead to further victimisation. The key finding of the chapter is corporate denial, and I argue that the invisibility of noise victims was sustained through techniques of neutralisation on the institutional level. I analysed the experience of complaining primarily through the lens of the strategies of corporate denial as developed by Whyte (2016) based on Stanley Cohen's (2001) application of the 'techniques of neutralisation' of Sykes and Matza (1975) to the denials of organisations. Participants' struggles with complaints procedures can be understood within the framework of secondary victimisation (Campbell and Raja, 1999) as the processes

inflict emotional distress, make the individual feel powerless, frustrated, subordinated, and cause them to lose hope and trust in the government and the airports.

The main types of corporate denials identified in the responses by the airports to the noise complaints can be summarised as below:

(1) *Denial of deviance:* A noise complaint to the airports or the CAA may elicit no response, indicating an outright ignorance of noise and the victims. Further, participants often received 'nothing has changed as a response to their complaints, denying the noise experience. Standardised statements denied the participants' counter-claims, leaving the victim with negative feelings of being unable to do anything in response to noise pollution. Denial of noise goes hand in hand with the denial of wrong-doing.

(2) *Denial of responsibility*: Organisations denied they were responsible, claiming they were not in control of flight paths; therefore, they cannot be held accountable for the overflown areas. The airports presented themselves as a 'cog in the machine'. The deliberate omission of the explanation about how the flight paths are determined helped evade responsibility by emphasising their duty to follow instructions from elsewhere.

(3) *Denial of cause*: In this type of response to complaints, officials turn noise into a complex technicality based on how flights are conducted instead of a pollutant experienced on the ground. I also suggested calling this 'obfuscation through the technical'. Aviation officials manufacture another version of the noise event through a language which makes the aspect of responsibility and victimisation wholly obfuscated. Technical descriptions can include, for example, the kinds of aeroplane used, the height at which planes fly and why or how flight paths change due to

wind direction. Technical explanations did not address the noise problem but served to disconnect aviation from the reality of noise.

(4) *Appeal to higher loyalties*: Noise here was represented by officials as a minor side-effect of the aviation sector which must be endured by the few (of those affected) for the proclaimed more significant benefit of the many. This denial emerged most notably in the consultation meetings whereby the airport officials communicate face-to-face with the residents. Efforts to make the corporation appealing (providing excellent foods and drinks, recruiting kind, smiling personnel for the event) present a different, 'greenwashed' (e.g. Brisman, 2009) image. This strategy is different from the distant voice of the brief e-mail responses to noise complaints which more directly deny noise.

Corporate denial of green harms

Overall, the second empirical chapter presented corporate denial strategies: the denial of deviance, responsibility, cause and appeal to higher authorities. They proved central for understanding the power structure in the invisibility of noise and its victims through the example of the regulatory machine of aviation. There are essential features which make the social harm and its victims invisible, such as lack of knowledge, but the power structures influenced by socio-economic contexts can be unique to the problem at hand, as initially suggested by Jupp et al. (1999) and further explored by Davies et al. (2014). That chapter, therefore, showed how the regulatory 'cage' of aviation noise is designed to exclude environmental noise, aircraft noise in particular, from the definition of statutory nuisance (Environmental Protection Act, 1990). Built on this lack of proper regulatory tools to seek justice, the chapter revealed how corporate denials systematically undermined victims and minimised environmental harms. It confirmed that current legal regulations are ill-suited to offer victims justice (inter alia Alvesalo-Kuusi, 2002; Tombs and Whyte, 2020). It further corresponded to the corporate crime literature by revealing corporate denial strategies (Whyte, 2016) as the specific outcome of such a gap in the law.

The lack of legislation was not merely an obstacle for victims; the denial strategies occurring due to this *facilitated* noise production. The chapter reiterated that state-corporate collaboration usually plays a significant role in creating environmental harm (inter alia Lynch and Stretesky, 2003; Pearce and Tombs, 2019[1998]). It highlighted how aircraft noise is expressly excluded from the law and how this gap facilitated the denial strategies (*denial of deviance* and *denial of responsibility* in particular). The denials echo the design of the legal mechanism: there is nothing wrong with the activities in question; therefore, there is no responsible (even if there is, it is not the airports). Moreover, the fact that the airports were the authority to register and respond to noise complaints (usually carried out by local authorities in the UK) further exemplified the extent to which the state-corporate collaboration can reach out to sustain the unjust conditions for harm production. In summary, these insights are relevant for corporate crime literature, which has so far revealed the state's function to ensure the reproduction of the corporation 'regardless of the deleterious effects on the capacity for human life' (Tombs and Whyte, 2020:18).

The other two types of denials, namely the *denial of cause* and *appeal to higher loyalties*, further shed light on state-corporate facilitation of harms through *normalis*ing business activities (inter alia Vaughan, 1996; Alvesalo, 2002; Friedrichs, 2010). Walter (2013;2014) has exemplified this through the example of air pollution, a very similar case in terms of the invisibility of environmental harms. This chapter showed how noise pollution is wholly sidelined and divorced from harm claims through the technical obfuscations in the denial of cause. When expressed through technical terms, noise ceases to be 'abnormal'. It disappears from the business activities described in detail by utilising the power of technical knowledge regarding flights and aircraft. Moreover, appeal to higher loyalties is a further example of the normalisation of the harmful activity as the aviation officials refer to the inevitability of the harm and the economic growth, a primary corporate strategy known before (Walters, 2013). The chapter confirmed the literatures' findings, showing that noise can also be the subject of these normalisation strategies.

Denial mechanisms and victimology

As mentioned above, Chapter 6 revealed denial as the corporate strategy to maintain the invisibility of noise victims. It directly speaks to the study of the invisible social harms and its victims, as the denials appear to characterise the specific power relations that sustain the invisibility of noise victims (Davies et al., 2014). It is also revealed as a critical-victimological project whereby the backyard of the corporate complaint processes is shown to be victimising instead of acknowledging its 'mere appearance' (Keat and Urry, 1975:5 in Mawby and Walklate, 2002:18). More specifically, the corporate denial strategies embedded in aviation noise complaints procedures mean secondary victimisation. It introduces a different context, perhaps what can be called a hybrid regulatory mechanism in which the corporation acts like an institution and the institutions act as a corporation[48], to the secondary victimisation literature, which has often looked into the experiences within the criminal justice system in sexual abuse cases (see Campbell and Raja, 1999, 2005; Campbell et al., 2001). Just like the experiences within this particular mechanism contribute to a second trauma in women victims due to ignorance, victim-blaming, offensive language or inappropriate treatment, in addition to the initial harm itself, the noise complaints procedures were shown to cause further emotional distress and frustration in noise victims through several techniques of denial. The experiences of victims of sexual abuse and the aviation noise victims are not the same, not least because of the critical role gender plays in victimisation (see, e.g. Davies, 2008). Whether or to what extent the complaints procedures were traumatic was beyond the scope of the thesis. Nevertheless, given that the distress inflicted by the direct harm of noise can be in the form of suicidal thoughts (exemplified by Kate and a few other participants) in the first place, any experience of the institution which could potentially increase these effects should be taken seriously. Indeed, most individuals avoid complaining as a result of the negative experiences of the procedures because they think they 'do more harm than good' (Joseph). Nobody wants to be described as 'moaning Minnie' by complaining often. In addition to the stress of outright denials of deviance, the individual can find themselves in a feedback loop of referrals to

[48]To the extent they facilitate business growth instead of noise prevention, ignoring the legal gap (see Department for Transport, 2013).

avoid corporate responsibility (Bryan), or the corporation may dismiss the individual's wellbeing based on profit (appeal to higher loyalties). These examples reveal how denial could be understood as a victimising process per se. Complaints procedures serve the invisibility of noise as harm, not to help the individuals who attempt to 'come out as a victim.

The constructedness of sensitivity and the dismissal of the victim through discourse and common sense

Summary of findings: Chapter 7 focused on the discursive dynamics and common sense ideas surrounding noise and its victims. It revealed these sociological mechanisms as important supports for the corporate/institutional denial of victimisation and harm. These processes actively contribute to the invisibility of noise victims not through obfuscations and obtrusions as in the examples of corporate denial, but rather via actively constructing noise victims in the discourse and common sense as inherently pathological, 'weird' or untrustworthy. Also, the discourse of sensitivity appeared as an essential factor in shaping noise victims' views. The chapter also showed the power and salience of the characterisation of noise victims on the level of everyday vocabulary (moaning Minnies) in maintaining denials at corporate and institutional levels. Accordingly, it analysed the main findings through the discourse of noise sensitivity and the common sense consisting of stigmas and the idea of displacement, based on the distinction of the Foucauldian understanding of discourse and the Gramscian construal of common sense.

- *Discourse on noise sensitivity*: Mobilised mainly through institutional approaches to noise and expertise in psychology, discourse on sensitivity appeared as a vital trope through which the participants reflected on noise experience. There was a group of participants who strictly rejected discourses on sensitivity, refuting a self-identification as a noise-sensitive person. Another group, while they did not describe themselves as sensitive, defined others as 'hypersensitive'. This understanding would construct aircraft noise as usual if the burden were shared equally. More importantly, the group justified the existence of aircraft noise to some extent because of the belief in

the benefits of air travel. Therefore, sensitivity was acknowledged as a personal (although excluding themselves from this group), a more pathological feature whereby noise was often accepted as subjective. This group's understanding specifically revealed the power of the sensitivity discourse as a support to the appeal to higher loyalties whereby the corporation emphasises the benefit of aviation while minimising noise as harm. On the other hand, the first group revealed how rejecting sensitivity could become an act of resistance in acknowledging the harms of noise and its victimisations: 'Nobody is insensitive' to noise (Charles).

- *Common sense understandings of noise victims*: Participants' accounts of others' reactions to their noise experience revealed common stigmas, prejudices and biases against the noise victims. They included the negative descriptions of them as 'hypersensitive', 'neurotic', 'NIMBY', 'weird' and 'unusual', as well as the desire to displace them from the city as reflected in the seemingly benign but recurrent 'advice' of moving away from the noise. The victim thus becomes an abnormal feature of the city in which noise is accepted as the status quo. I found the idea of sensitivity salient among the common sense understanding of the noise victim. The common sense use of sensitivity further constructs the victim as abnormal, pathologises them and fuels the idea of moving away from noise (disregarding that it is, in fact, futile). Characterising frequent complainers as 'moaning Minnie' pertains to such common sense ideas. Within this common sense, harms are sidelined: victims become a nuisance and 'unwanted' whereby the noise becomes a permanent, benign, acknowledged aspect of the city.

Discourse, common sense and environmental victims

Chapter 7 revealed an aspect of criminology that has been paid scant attention: the discursive background to environmental victimisation. As Whyte (2016) contended, describing the sociological background to corporate denial is an important endeavour that needs to attract more attention. Mainly due to the lack of relevant work in criminology, the present discussion of the findings will be based expecially on

Natali's (2016) methodologically-pioneering work on environmental victimisation, where he utilised visual and ethnographic tools to explore pollution experiences. The similarities and differences between the findings of his and the present environmental victimisation studies are essential to note in their own right. First and foremost, and similar to my chapter in question, Natali has found that those impacted by pollution may reject its reality based on the economic benefits the polluting business may provide to the community (2016:23). This finding echoes the group of participants in the present study who downplayed the impacts of aviation noise based on the economic and lifestyle benefits of the aviation sector. White (2013a) also pointed out the economic reasons as underlying factors in the victims' complacency with environmental issues. Natali used the concept of (individual) denial (Cohen, 2001) to understand the victims' indifference to pollution. Accordingly, it was a strategy to cope with the harms of pollution and deal with its reality.

To some extent, I also acknowledge the role of individual denial of noise as a strategy to highlight their position in which the participant supports their view on economic benefit. Indeed, denial from a cultural/social perspective (ignorance of pollution based on economic reasons) plays an active role in shaping what is considered the individual experience of environmental victimisation (Auyero and Swistun, 2009:159 in Natali, 2016:23). However, I preferred analysing individual denials (rejection, as I instead framed it) as *part* of their personal views, which are predominantly shaped by the dominant discourse of noise sensitivity. In other words, in Chapter 6, denial or rejection was a unit for analysis which is included in the discourse. However, corporate denial types in the second empirical chapter were more of an explanatory mechanism in understanding victims' invisibility.

Again, Natali specifically emphasised the role of individual denial, not that of the specific discourses or ideas (or at least he did not conceptualise denial as part of these), which may *mobilise* denial. As mentioned in the literature review, the reason for going beyond the social-interactionist frames in the present study to link the individual experiences to the broader power structures once again comes to the fore. Indeed, the economic benefit of aviation plays a role in shaping the personal views of aviation noise victims. However, I contend that this influence is partly determined

by discourse, not concepts or strategies in isolation (Foucault, 1976). Accordingly, the chapter stressed the role of discourse in general: sensitivity, in particular, becomes the lens through which the noise experience is understood *before* denial or rejection (because it was present regardless of whether the participant supported sensitivity). It also showed the power of the idea of sensitivity through its discursive and common sense use: the former is shaped through scientific (psychological) expertise and policy, and the latter is the widely available trope in everyday language that pertains to a particular hegemony. Both the discursive and common sense uses of sensitivity can provide power to denial (be it corporate or individual) through reinforcing the definition of noise as subjective and personal experience on the one hand and reproducing the victim stereotypes to denigrate, discredit or ignore on the other. I suggest the discourse and common sense formations as primary frameworks as they are the driving force in mobilising dominant views and narratives on particular issues (Chun, 2017:243), including the individual or corporate denial of noise or environmental noise harms at large. In short, denial as a *strategy* is *part of* the *discourse* (see Foucault, 1972) on noise sensitivity: discourse already encompasses denial as a strategy.

Secondly, and rather strikingly, the chapter also confirmed Natali's finding in which some of his participants (who denied pollution based on economic reasons) thought that pollution exists somewhere else (2016:70). Indeed, my participants who were less concerned with aircraft noise because of the economic benefit of aviation preferred thinking noise as someone else's problem: they constructed it as more of an issue for the 'hypersensitive'. Also, Natali's participants 'highlighted the equal distribution of the damaging effects' (2016:71), just as aircraft noise problem for some participants was that of the concentrated flight paths which create 'noise ghettos'. However, I suggested that these tropes should be considered in the context of the power of sensitivity discourse: Sensitivity implies that the noise is a problem of the sensitive, not of everyone; therefore, it is everyone (the normal, or the *desensitised*, as described) who should accept the noise to some extent, as far as it is equally shared, regardless of the impacts. As explored in the second empirical chapter, the concentrated flight paths due to the use of PBN (an efficient airspace management system currently in use) presented an explanation for polluting as a

strategy used systematically by airport officials (*denial of cause*), which *obscures* the actual creation of noise. I argued that the concentration of the flight paths does not *explain* aircraft noise but rather obfuscates it. Ghettoising is by no means acceptable, but the aim here is to highlight the total production of the pollutants emitted regardless of the area to clarify the problem's origin whereby the responsibility and the extent of the harms could be addressed. Therefore the study revealed additional mechanisms at work in the present findings, which echo the work of Natali (2016): I linked them to the sensitivity discourse ('it is a problem of others') as well as corporate denial ('it is due to concentrated flight paths'). It thus revealed the power structure which affected how the victim understands noise.

Individualisation of noise as a problem

One implication of my discursive excavation is that we arrive at the constructedness of sensitivity: noise ceases to be understood as a problem of sensitivity once the recipients of noise are divorced from the surrounding common senses and discourses. Following Foucault (1972), the discourse in question conceals the actuality of noise by representing noise as an individualised issue. The sensitivity trope in the form of discourse and common sense strongly echoes the employment of the definition of noise as an inherently subjective issue. As such, discourse becomes a vehicle for privatising the ecological issue of noise instead of rendering it as systematic destruction. This idea may be similar to Mark Fisher's (2009) analysis of the privatisation of depression in the context of neoliberal approaches to work and life.

Similarly, the discourse on sensitivity makes it difficult to articulate the actual responsibility of the corporation for the systematic production of harmful noise. When reduced to an individual problem, noise becomes a managerial issue in which the solution is sought within the manipulations of hearing perception (e.g. Hellstrom et al., 2014). Already unprotected legally and indirectly victimised by the consultation processes of the airports, noise victims face stigmas and biases when it comes to ‘sounding’ their experience in their daily life.

Institutional vs individual narratives and the disappearance of 'quiet'

Sensitivity, as a discursive and common sense trope, is rendered a characteristic feature of the victim. It challenges the noise complainant and ultimately defies their right to quiet (also implicated in the displacement of the victim). Overall, the chapter revealed a gap between organisational and individual narratives on noise, which should be considered in conceptualising today's environmental harm and its victims. The gap becomes most evident when we juxtapose the narratives in the first empirical chapter, whereby the participants were able to tell about how noise exposure is experienced as much beyond the mediation of the discourse and common sense tropes as possible. In that chapter, we could discern more clearly the details of the actualisation and everyday harms of noise, thanks to the theoretical framework, which enabled us to work beyond cultural representation (Cox, 2011) and understand the harms beyond existing frames such as loudness and habituation. In short, there is tension between the spatio-temporal subsumption experienced by the victim and the discursive and common sense narratives that denigrate and dismiss the victim instead of noise emissions. Echoing what Zizek (2002:243) defined as the gap between the symbolic (belief) and the actual knowledge (based on lived experience), addressing the gap between the institutional and common sense narratives on pollution appears as an essential function that this study has undertaken.

The unwanted victim

The individualisation effect of the discourse and common sense on the noise victim can also be highlighted and analysed within the identified trope of 'moving out'. A closer look into this part of common sense reveals what is constructed as normal (noise) and pathological (the victim) through the discursive and common sense devices. Mainly conveyed through the common sense trope that victims could/should move, the particular focus on sensitivity is implicated within the assumed normality of the un-healthiness of the soundscape of the city whereby the noise victim has been made to occupy an abnormal position and rendered an unwanted part of the place they inhabit. The noise victim once more becomes a 'moaning Minnie'. To put it in the context of the individualising discourse on noise, the complainer of the

'unwanted sound' becomes the *unwanted person* in the city. The common sense of displacement relies on the pathologisation of noise victims. Understanding noise as unwanted sound ultimately categorises the *victim as unwanted* because of the sonic status quo of the city. Therefore, one of the functions of the sensitivity trope reveals the tendency to displace the victim and deny their right to quiet to the 'city' (Harvey, 2003). This is the point where the study of the ideas surrounding the noise victims can also be relevant for urban studies as far as it is linked to a certain imagination of the sonic environment of the city. The common sense trope denies the ontological reality of noise based on such a construction of the sonic norm, accepting what is polluted typical and the victims/complainer outside of this.

In summary, one can argue that the language and the discursive devices which enable or disable the victim to emerge are indispensable parts of the background processes for victimisation, which are crucial to highlight for critical victimology (Mawby and Walklate, 2002). The language used regarding the noise victim, common sense, and discourse may support the processes of denial, among other issues of making noise subjective and personal. The importance of the analysis of these discourses can be re-stated through what is called the 'emancipatory politics' (Fisher, 2009) of critical victimology, which means, in this context, first unveiling the problematic construal of pollution as the norm and the unwantedness of the hearing bodies, and second, paving the way for a new vocabulary which does not 'other' the victim but acknowledge the harms of noise which impinges upon the bodies beyond sensitivity.

Summary and reflections

Green and critical criminologies broadly intersect and raise urgent questions regarding persistent environmental harms (see Brisman and South, 2015; Lynch, 2020). Within this literature, more qualitative research is needed to understand the victimisation of environmental harms (inter alia White, 2013a; 2015; Davies, 2014; Wilson and Ross, 2015; Hall, 2013; 2017; Natali, 2016;2019). This study addressed this gap through a victim-centred approach to illuminate the backdrop to the systematically produced noise pollution through the example of aviation noise.

Green criminology has been concerned with visible types of pollution (e.g. Natali, 2016;2019, Natali and Budo, 2018), reflecting the traditional path followed by criminology to primarily introduce the visual into methods and subjects of research (Brown and Carrabine, 2017:xx). Problematising environmental noise pollution for the first time, the study explored this uncharted area of auditory harm through a qualitative lens. Following what McClanahan and South (2020) outlined as the emerging area of sensory-green criminology, the thesis made noise pollution apparent by attending to the first-hand experiences of auditory harm. However, distinct from the agenda-setting for aural criminology (Ruiz and South, 2018; McClanahan and South, 2020), the study first and foremost provided grounds for noise which is systematically produced through business activities instead of noise created by individuals or agencies other than corporations. The study carved out a conceptual space whereby this overlooked type of pollution, one which deserves the status of social harm more than that of the individually created, reflecting the difference between social harm and street crime in terms of scale and effect (Box, 1983; Hillyard et al., 2004), can be analysed. In doing so, it offered the framework of virtuality for conceptualising contemporary pollution, a novel approach within green-critical criminology. Additionally, the thesis developed a novel concept, spatio-temporal subsumption. Articulating the ontological reality of noise as social harm contributes to theorising contemporary harms and crimes caused by the powerful.

Problematising the institutional practices in the absence of legislation through the lens of state-corporate crimes and harms (Brisman and South, 2015) contributes to the study of the crimes of the powerful further, revealing several denial mechanisms which partly account for the invisibility of the victims. Denial also has implications for secondary victimisation as it concerns harms that originate within the institution/corporation other than that caused by noise emissions directly. The study, therefore, makes victimisation visible in many aspects, contributing to critical victimology through using first-hand accounts of the systematically produced harm to reveal the asymmetrical power relations which add to the invisibility of the victims. In addition, the sociological processes underlying the denials of green crimes and harms have been revealed. The thesis extrapolated the sensitivity

discourse to corporate denial of aviation noise (see also Whyte, 2016), establishing a link between social power to deny the harms thanks to the predominant ideas and tropes of noise sensitivity and the displacement argument. As such, the thesis also nodded to critical approaches to sensory sociology as it revealed how common sense ideas and biases concerning a sensory faculty affected the dismissal of noise pollution.

Reflections on method

The study adopted a qualitative approach whereby the victims' accounts were at the centre of understanding the experience of auditory harms. However, original plans to conduct an in-situ ethnography were scrapped due to pandemic restrictions during the fieldwork. However, remote interviews elicited rich responses despite rescheduling and re-recruiting the participants online. One advantage of the online interviews concerned the participants' comfort, as they may have felt more at ease with their space and time. The interviews were usually at least an hour-long, and rapport was quickly established mainly because the research was an opportunity to be heard against a backdrop of denial/minimisation of the harms experienced. The fact that I was also still living in London at the time of fieldwork and was experiencing aviation noise was another factor that added to the feeling of a shared experience with the participants to some extent. In this way, I was not an 'outsider' but one of them, a 'participant experiencer' (Walstrom, 2004), still sharing the burden of aeroplane noise, however insignificant it may have been compared to the extreme exposure and abject conditions most of them endure.

Despite the advantages of in-depth online interviews, in-situ methods discussed earlier would have revealed dimensions of noise experience which may be unavailable to the researcher through the screen. Future research can explore these aspects whereby the researcher immerses themselves in the locations where the participants live, and more rapport is possible. As a consequence of the remote study, the present data lacked conventional field notes which could have been generated through such an ethnographic approach (bearing in mind that the primacy of the in-situ research was critiqued by many ethnographers, especially after the

pandemic because of the widely available and advantageous online tools).[49] Still, in-situ fieldwork to report the auditory pollution experiences, with the addition of other sensory details and beyond what can be heard and elicited during online interviews, can reveal alternative insights. For example, sonic methods (e.g. Bull and Corbussen, 2021) would prove more feasible to focus on the contested terms of thresholds of audibility or annoyance when the sounds could be experienced simultaneously during research. A more detailed description of the in-situ experience prompted by the present sounds would be elicited in order to delineate further the actuality of noise within the social fabric of the urban areas. Those methods may provide an exciting picture regarding noise experience, further addressing the gap between the institutional and corporate narratives and the lived experience of noise.

Another limitation of the study is the predominantly white-British-middle-class sample of individuals (it was heterogeneous in terms of gender, however). Although London is a multi-cultural city, the present study still reflects the experiences in the Global North. It is known that pollution and ecological catastrophes often affect marginalised populations, both locally and globally (see Jorgenson, 2006; Carmin and Agyeman, 2010; UNEP, 2021). One participant stated that 'Noise is noise. Your skin colour doesn't matter.' Scholarly studies should consider that pollutants are products resulting from planned activities of extraction and withdrawal, whereby the pollutants are more likely to be deposited in underdeveloped or developing countries (ibid.). Similar environmental injustice was also manifested in London, whereby some areas such as Teddington, Cranford, and Leytonstone were much more noise-ghettoised than others due to concentrated flight paths. A quantitative study examining the overflown areas' social and demographic character to investigate whether marginalised groups are more likely to be overflown could be necessary. This study, however, foregrounded the virtuality, and ubiquity of noise and other pollutants in the broader context, stressing that the pollutants should be treated not as acute but as chronic problems of the Capitalocene (Moore, 2016). The industrial reasons, driven solely by profit and growth, indeed make the pollution threats uncertain and unpredictable for communities living under the skies of London.

[49] See Chapter 4 for more reflection on remote data collection.

Qualitative studies into marginalised groups, on the other hand, could explore what the intersection of being a pollution victim and a member of a marginalised group could tell us about the intricacies of the power structure in the specific victimisation of social groups (see Davies, 2014). Intersectionality can be an essential indicator to articulate the already devalued position of the victim. The image of a 'moaning Minnie', for example, and the construction of sensitivity evokes the opposite of the dominant image of masculinity: emotional and irritable, therefore irrational and not credible (Lloyd, 1984). Already defined as such, focusing on women's experiences in the pollution complaints procedures can provide fruitful insights into the depths of victimisation in the justice mechanisms that disproportionately affect women (Campbell and Raja, 1999). This focus means establishing more disciplinary relations to include gender studies and other social groups to shed light on other aspects of the already complex issue of global ecological destruction. As Lynch stated, because victims of environmental harm 'come in many forms' (2020:51), the research practice invites a diversity of approaches to capture and theorise the experience of pollutants and other environmental harms.

Implications for policy and the future criminology of pollutants

In addition to relevant academic fields, the present study also has implications for policy and the broader capitalist-institutional mechanisms, which enable systematic noise and other types of pollution to circulate and contribute to the disorganisation of our ecological interconnectedness. Specifically, the concept of sensitivity (and the related definition of unwanted sound) should be used with significant caution in policy-making on noise because of its discursive function to (1) conceal noise harms and its victims and (2) reproduce and provide further support to the widely circulating stigmas and prejudices revolving around noise and its victims. This caution is the direct implication of the finding regarding the links between the discourse on sensitivity and denial of noise perpetration. Noise should be defined as a *real threat* (also see UNEP, 2022), harmful and destructive to health and wellbeing, not as a *private* problem. Moreover, the finding of corporate denial within the complaints procedures prompts further actions. The present research has shown

that current complaint procedures function to deny harms. Instead of the problematic procedures whereby the corporation is endowed a quasi-local authority status, the individual should be given legal powers in which aviation noise (and other noise and pollution) is recognised as a statutory nuisance. In other words, there needs to be reform in recognising industrially produced noise. This step would significantly improve the context in which environmental justice could be sought, provided that the legal definitions recognise real harms instead of reproducing biases against the noise victims. Understanding the effects of discourse in the reproduction of victimisation is the first step in recognising noise pollution and cultivating a public understanding of its actual harm to health and wellbeing.

More generally, as the Treadmill of Production (Stretesky et al., 2012) and Capitalocene (Moore, 2015) frameworks suggest, the environmental catastrophe is the result of the very processes of endless capital accumulation, constant extraction and withdrawal of resources for the sake of economic growth and constant consumption from which aviation industry is not separate. Based on de-growth approaches (e.g. Kallis et al., 2018), another framework which suggests addressing these very historical processes which deplete resources and create pollution, a thorough reform of policies to regulate corporate production strictly is necessary, even more so to reverse climate change. As a result, the critical *sensibility* toward what exists in our environment as harmful substances/stimulants on the one hand and of the understanding the conditions which create them on the other should be initiated in public policies and academic research. In terms of criminology, researching different pollutants, highlighting the unique features for their invisibility (Davies et al, 2014) (such as the disourse on noise sensitivity, as in the case of noise pollution) and initiating a dialogue between them is urgently needed. It is hoped that through the findings of the present research to influence the status-quo of green crimes and harms, further studies engage with such approaches which focus on the primacy of a safe, nurturing habitat for all, as opposed to the 'rights of Capitalism' (Charles), through researching pollutants from victim-centred and critical perspectives.

Bibliography

Adam, B. (2005) *Timescapes of Modernity: The Environment and Invisible Hazards*. London: Routledge.

Adam, B., Beck, U. and Loon, J. van (2005) *The risk society and beyond: critical issues for social theory*. London: SAGE.

Adam, B. and Loon, J.V. (2005) 'Introduction', in B. Adam, U. Beck, and J.V. Loon (eds) *The risk society and beyond: critical issues for social theory*. London: SAGE.

Addley, E. (2020) '"It's blissful": people living under UK flight paths savour plane-free skies', *The Guardian*, 26 April. Available at: https://www.theguardian.com/world/2020/apr/26/its-blissful-people-living-under-uk-flight-paths-savour-plane-free-skies-coronavirus (Accessed: 28 October 2020).

Agar, M. (1980) *The Professional Stranger: An Informal Introduction to Ethnography*. New York: Academic Press.

Ahmed, S. (2021) *Complaint!* Durham: Duke University Press.

Airport Watch (2014) *London City Airport accused of creating a "noise ghetto" with proposed concentrated flight paths*. Available at: https://www.airportwatch.org.uk/2014/09/london-city-airport-accused-of-creating-a-noise-ghetto-with-proposed-concentrated-flight-paths/ (Accessed: 19 May 2022).

Airport Watch (2021) *DfT decides to roll over the night flights regime for 3 more years (not 2) for Heathrow, Gatwick and Stansted*. Available at: https://www.airportwatch.org.uk/2021/07/dft-decides-to-roll-over-the-night-flights-regime-for-3-more-year-not-2-for-heathrow-gatwick-and-stansted/ (Accessed: 9 January 2022).

Aletta, F. and Kang, J. (2015) 'Soundscape approach integrating noise mapping techniques: a case study in Brighton, UK', *Noise Mapping*, 2(1). Available at: https://doi.org/10.1515/noise-2015-0001.

Altmann, J. (2001) 'Acoustic weapons - A prospective assessment', *Science & Global Security*, 9, pp. 165–234. Available at: https://doi.org/10.1080/08929880108426495.

Alvesalo-Kuusi, A. (2002) 'Downsized by Law, Ideology and Pragmatics – policing white collar crime', in Controversies in White Collar Crime. Cincinnati: Anderson Publishing, pp. 149–164.

Alvesallo-Kuusi, A., Bittle, S. and Lähteenmäki, L. (2017) 'Corporate Criminal Liability and Abolitionism', *Justice Power and Resistance*, 1(1), pp. 24–46.

Alvesalo-Kuusi, A. and Whyte, D. (2018) 'Researching the Powerful: A Call for the Reconstruction of Research Ethics', *Sociological Research Online*, 23(1), pp. 136–152. Available at: https://doi.org/10.1177/1360780417747000.

Alves-Pereira, M. *et al*. (2005) 'Low Frequency Legislation', in. *Twelfth International Congress on Sound and Vibration*, Lisbon, Portugal.

ANIMA (2020) *The ANIMA project*. Available at: https://anima-project.eu/the-anima-project/ (Accessed: 4 November 2020).

Anjaria, J.S. and Anjaria, U. (2020) 'Mazaa: Rethinking Fun, Pleasure and Play in South Asia', *South Asia: Journal of South Asian Studies*, 43(2), pp. 232–242. Available at: https://doi.org/10.1080/00856401.2020.1725718.

Annual World Airport Traffic Report, 2019. ACI World Store. Available at: https://store.aci.aero/product/annual-world-airport-traffic-report-2019/ (Accessed: 24 October 2020).

Atkinson, R. (2002) 'The Life Story Interview', in Gubrium, J. and Holstein, J. (eds) *Handbook of Interview Research*. California: SAGE Publications, Inc., pp. 121–141.

Atkinson, P. *et al*. (2001) *Handbook of Ethnography*. London: SAGE Publications.

Atkinson, P. and Hammersley, M. (1994) 'Ethnography and participant observation', in N.K. Denzin and Y.S. Lincoln (eds) *Handbook of qualitative research*. Thousand Oaks: Sage Publications, Inc, pp. 248–261.

Attali, J. (1985) *Noise: The Political Economy of Music*. Manchester: Manchester University Press.

Augoyard, J.-F. and Torgue, H. (2005) *Sonic Experience: A Guide to Everyday Sounds*. Montreal: McGill-Queen's Press - MQUP.

Auyero, J. (2009) *Flammable: Environmental Suffering in an Argentine Shantytown*. Oxford: Oxford University Press, USA.

Axelsson, Ö., Guastavino, C. and Payne, S.R. (2020) *Soundscape Assessment*. Lausanne: Frontiers.

Axelsson, Ö., Nilsson, M.E. and Berglund, B. (2010) 'A principal components model of soundscape perception', *The Journal of the Acoustical Society of America*, 128(5), pp. 2836–2846. Available at: https://doi.org/10.1121/1.3493436.

Babbage, C. (1864) 'Passages From the Life of A Philosopher', in *The Works of Charles Babbage*. Martin Campbell-Kelly. London: William Pickering.

Babisch, W. (2000) 'Traffic Noise and Cardiovascular Disease: Epidemiological Review and Synthesis', *Noise & Health*, 2(8), pp. 9–32.

Babisch, W. (2008) 'Road traffic noise and cardiovascular risk', *Noise and Health*, 10(38), p. 27. Available at: https://doi.org/10.4103/1463-1741.39005.

Babisch, W. (2011) 'Cardiovascular Effects of Noise', in J.O. Nriagu (ed.) *Encyclopedia of Environmental Health*. Burlington: Elsevier, pp. 532–542. Available at: https://doi.org/10.1016/B978-0-444-52272-6.00244-0.

Babisch, W. (2012) 'Exposure to environmental noise: risks for the health and environment', in *Workshop on 'Sound Level of Motor Vehicles'*. European Parliament Tink Tank. Available at: https://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL-ENVI_AT(2012)475114 (Accessed: 16 September 2019).

Babisch, W. (2014) 'Updated exposure-response relationship between road traffic noise and coronary heart diseases: a meta-analysis', *Noise & Health*, 16(68), pp. 1–9. Available at: https://doi.org/10.4103/1463-1741.127847.

Bachelard, G. (2014) *The Poetics of Space*. New York: Penguin Books.

Barber, J.R., Crooks, K.R. and Fristrup, K.M. (2010) 'The costs of chronic noise exposure for terrestrial organisms', *Trends in Ecology & Evolution*, 25(3), pp. 180–189. Available at: https://doi.org/10.1016/j.tree.2009.08.002.

Barthes, R. (1976) *Sade, Fourier, Loyola*. Berkeley: University of California Press.

Barthes, R. (1991) 'Listening', in *The Responsibility of Forms: Critical Essays on Music, Art, and Representation*. Berkeley: University of California Press, pp. 245–260. Available at: https://books.google.co.uk/books/about/The_Responsibility_of_Forms.html?id=LD9iAAAAMAAJ&source=kp_book_description&redir_esc=y (Accessed: 3 March 2020).

Basner, M. *et al*. (2008) 'Aircraft noise: effects on macro- and microstructure of sleep', *Sleep Medicine*, 9(4), pp. 382–387. Available at: https://doi.org/10.1016/j.sleep.2007.07.002.

Basner, M. *et al*. (2014) 'Auditory and non-auditory effects of noise on health', *The Lancet*, 383(9925), pp. 1325–1332. Available at: https://doi.org/10.1016/S0140-6736(13)61613-X.

Basner, M. *et al*. (2015) 'ICBEN review of research on the biological effects of noise 2011-2014', *Noise & Health*, 17(75), pp. 57–82. Available at: https://doi.org/10.4103/1463-1741.153373.

Basner, M. *et al*. (2017) 'Aviation Noise Impacts: State of the Science', *Noise & Health*, 19(87), pp. 41–50. Available at: https://doi.org/10.4103/nah.NAH_104_16.

Basner, M. and Samel, A. (2004) 'Nocturnal aircraft noise effects', *Noise and Health*, 6(22), p. 83.

Basner, M. and Siebert, U. (2009) 'Markov Processes for the Prediction of Aircraft Noise Effects on Sleep':, *Medical Decision Making* [Preprint]. Available at: https://doi.org/10.1177/0272989X09342751.

Bateson, G. (2000) *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology*. Chicago: University of Chicago Press.

Bazeley, P. (2013) *Qualitative Data Analysis: Practical Strategies*. London: SAGE.

Beck, U. (1992) *Risk Society: Towards a New Modernity*. London: SAGE Publications.

Begon, M. and Townsend, C.R. (2006) *Ecology: From Individuals to Ecosystems*. Hoboken: John Wiley & Sons.

Berglund, B., Lindvall, T. and Schwela, D. (1999) *Guidelines for Community Noise*. Singapore: Institute of Environmental Epidemiology.

Bijsterveld, K. (2001) 'The Diabolical Symphony of the Mechanical Age: Technology and Symbolism of Sound in European and North American Noise Abatement Campaigns, 1900-40', *Social Studies of Science*, 31(1), pp. 37–70.

Bijsterveld, K. (2008) *Mechanical Sound: Technology, Culture, and Public Problems of Noise in the Twentieth Century*. Cambridge: MIT Press.

Bijsterveld, K. (2019) *Sonic Skills: Listening for Knowledge in Science, Medicine and Engineering (1920s-Present)*. London: Palgrave Macmillan UK.

Bijsterveld, K. *et al*. (2014) *Sound and Safe: A History of Listening Behind the Wheel*. OUP USA.

Birdsall, C. and Enns, A. (2008) *Sonic Mediations: Body, Sound, Technology*. Newcastle upon Tyne: Cambridge Scholars Pub.

Blesser, B. and Salter, L.-R. (2009) *Spaces Speak, Are You Listening?: Experiencing Aural Architecture*. Cambridge: MIT Press.

Bourdieu, P. (1991) *Language and Symbolic Power*. Cambridge: Harvard University Press.

Box, S. (1983) *Power, Crime and Mystification*. London: Routledge.

Bradshaw, E.A. (2014) 'State-Corporate Environmental Cover-Up: The Response to the 2010 Gulf of Mexico Oil Spill', *State Crime Journal*, 3(2), pp. 163–181. Available at: https://doi.org/10.13169/statecrime.3.2.0163.

Brainard, J.S. *et al*. (2004) 'Exposure to Environmental Urban Noise Pollution in Birmingham, UK', *Urban Studies*, 41(13), pp. 2581–2600. Available at: https://doi.org/10.1080/0042098042000294574.

Braun, C.B. (2015) 'Signals and noise in the octavolateralis systems: what is the impact of human activities on fish sensory function?', *Integrative Zoology*, 10(1), pp. 4–14. Available at: https://doi.org/10.1111/1749-4877.12092.

Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3(2), pp. 77–101. Available at: https://doi.org/10.1191/1478088706qp063oa.

Brink, M. *et al*. (2019) 'A survey on exposure-response relationships for road, rail, and aircraft noise annoyance: Differences between continuous and intermittent noise', *Environment International*, 125, pp. 277–290. Available at: https://doi.org/10.1016/j.envint.2019.01.043.

Brinkmann, S. and Kvale, S. (2018) *Doing Interviews*. London: SAGE.

Brisman, A. (2009) 'It Takes Green to Be Green: Environmental Elitism, "Ritual Displays," and Conspicuous Non-Consumption', *North Dakota Law Review*, 85(2), pp. 329–370.

Brisman, A. (2013) 'The violence of silence: some reflections on access to information, public participation in decision-making, and access to justice in matters concerning the environment', *Crime, Law and Social Change*, 59(3), pp. 291–303. Available at: https://doi.org/10.1007/s10611-013-9416-3.

Brisman, A. (2017) 'On Narrative and Green Cultural Criminology', *International Journal for Crime, Justice and Social Democracy*, 6(2), p. 64. Available at: https://doi.org/10.5204/ijcjsd.v6i2.347.

Brisman, A. and South, N. (2015) 'State-Corporate Environmental Harms and Paradoxical Interventions: Thoughts in Honour of Stanley Cohen', in R.A. Sollund (ed.) *Green Harms and Crimes: Critical Criminology in a Changing World*. London: Palgrave Macmillan UK (Critical Criminological Perspectives), pp. 27–42. Available at: https://doi.org/10.1057/9781137456267_2.

Brisman, A. and South, N. (2018) 'Green Criminology and Environmental Crimes and Harms', *Sociology Compass*, 13(1). Available at: https://doi.org/10.1111/soc4.12650.

Brooker, P. *et al*. (1985) *United Kingdom Aircraft Noise Index Study: Main Report*. DR Report 8402. Civil Aviation Authority, Department for Transport. Available at: http://publicapps.caa.co.uk/docs/33/ERCD%208402.PDF (Accessed: 14 October 2020).

Brown, M. and Carrabine, E. (2017) *Routledge International Handbook of Visual Criminology*. Oxon: Routledge.

BSI (2014) *Acoustics. Soundscape. Definition and conceptual framework*. BS ISO 12913-1:2014.

Bull, M. (2019) 'Introduction: Sonic Epistemologies and Debates', in Michael Bull (ed.) *The Routledge Companion to Sound Studies*. Oxon: Routledge.

Bull, M. and Back, L. (eds) (2003) *The Auditory Culture Reader*. Oxford: Berg Publishers.

Bull, M. and Cobussen, M. (eds) (2021) *The Bloomsbury Handbook of Sonic Methodologies*. New York: Bloomsbury Publishing Inc.

Bullard, R.D. (2018) *Dumping In Dixie: Race, Class, And Environmental Quality, Third Edition*. New York: Routledge.

Buttel, F.H. (2000) 'Ecological modernization as social theory', *Geoforum*, 31(1), pp. 57–65. Available at: https://doi.org/10.1016/S0016-7185(99)00044-5.

CAA (2011) *Insight Note 2: Aviation Policy for Environment*. London.

CAA (2013) *Noise Envelopes*. CAP1129. London. Available at: https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=5885 (Accessed: 27 May 2022).

CAA (2014a) *Managing Aviation Noise*. CAP1165. Available at: https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=6251 (Accessed: 10 June 2022).

CAA (2014b) *CAP1165: Managing Aviation Noise*. Available at: https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=6251 (Accessed: 10 June 2022).

CAA (2017) Survey of noise attitudes 2014: Aircraft. CAP 1506. West Sussex.

CAA (2018) *Airspace Modernisation Strategy*. CAP1711. London. Available at: https://publicapps.caa.co.uk/docs/33/CAP%201711%20Airspace%20Modernisation%20Strategy.pdf (Accessed: 6 June 2022).

CAA (2022a) UK Regulations. Available at: https://www.caa.co.uk/uk-regulations/ (Accessed: 27 May 2022).

CAA (2022b) Use of UK airspace. Available at: https://www.caa.co.uk/our-work/make-a-report-or-complaint/use-of-uk-airspace/ (Accessed: 27 May 2022).

CAA (2022c) Our role: Information on our work and strategic objectives. Available at: https://www.caa.co.uk/our-work/about-us/our-role/ (Accessed: 10 June 2022)

CAA (2022d) *Noise - Overview*. Available at: https://www.caa.co.uk/consumers/environment/noise/noise/ (Accessed: 10 June 2022).

CAA (2022e) *Performance based navigation*. Available at: https://www.caa.co.uk/Commercial-industry/Airspace/Communication-navigation-and-surveillance/Performance-based-navigation/ (Accessed: 10 January 2022).

CAA (2022f) *Airspace change process | Civil Aviation Authority*. Available at: https://www.caa.co.uk/commercial-industry/airspace/airspace-change/airspace-change/ (Accessed: 15 June 2022).

Cage, J. (1961) *Silence: Lectures and Writings*. Connecticut: Wesleyan University Press.

Cai, Y. *et al*. (2017) 'Long-term exposure to road traffic noise, ambient air pollution, and cardiovascular risk factors in the HUNT and lifelines cohorts', *European Heart Journal*, 38(29), pp. 2290–2296. Available at: https://doi.org/10.1093/eurheartj/ehx263.

Campbell, R. *et al*. (2001) 'Preventing the "Second Rape": Rape Survivors' Experiences With Community Service Providers', *Journal of Interpersonal Violence*, 16(12), pp. 1239–1259. Available at: https://doi.org/10.1177/088626001016012002.

Campbell, R. and Raja, S. (1999) 'Secondary victimization of rape victims: insights from mental health professionals who treat survivors of violence', *Violence and Victims*, 14(3), pp. 261–275.

Campbell, R. and Raja, S. (2005) 'The Sexual Assault and Secondary Victimization of Female Veterans: Help-Seeking Experiences with Military and Civilian Social Systems', *Psychology of Women Quarterly*, 29(1), pp. 97–106. Available at: https://doi.org/10.1111/j.1471-6402.2005.00171.x.

Campen, C. van (2014) *The Proust Effect: The Senses as Doorways to Lost Memories*. Oxford: Oxford University Press.

Carmin, J. and Agyeman, J. (2011) *Environmental Inequalities Beyond Borders: Local Perspectives on Global Injustices*. Cambridge: MIT Press.

Carson, R. (1962) *Silent Spring*. Cambridge: The Riverside Press.

Cater, J.K. (2011) 'Skype: A cost effective method for qualitative research', *Rehabilitation Counselors & Educators Journal*, 4(2), pp. 3–6.

Certeau, M. de (1986) *Heterologies: Discourse on the Other*. Manchester: Manchester University Press.

Chapman, A. (2020) 'The dodgy economics behind expanding our airports', *New Economics Foundation*. Available at: https://neweconomics.org/2020/09/the-dodgy-economics-behind-expanding-our-airports (Accessed: 28 October 2020).

Chatwin, B. (1987) *The Songlines*. New York: Viking.

Christie, N. (1986) 'The Ideal Victim', in E.A. Fattah (ed.) *From Crime Policy to Victim Policy: Reorienting the Justice System*. London: Palgrave Macmillan UK, pp. 17–30.

Chun (2017) *The Discourses of Capitalism : Everyday Economists and the Production of Common Sense*. London: Routledge. Available at: https://doi.org/10.4324/9781315751290.

Civil Aviation Act (1982). Available at: https://www.legislation.gov.uk/ukpga/1982/16/contents (Accessed: 14 July 2022).

Clark, C. (2015) *Aircraft noise effects on health*. London: Queen Mary University of London, p. 32. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/446311/noise-aircraft-noise-effects-on-health.pdf.

Clark, C. (2021) 'The Public Health Impacts of Environment Noise'. *The UK Acoustics Network Webinar*, Online, 14 October 2022.

Clark, C. *et al*. (2006) 'Exposure-effect relations between aircraft and road traffic noise exposure at school and reading comprehension: the RANCH project', *American Journal of Epidemiology*, 163(1), pp. 27–37. Available at: https://doi.org/10.1093/aje/kwj001.

Cockayne, E. (2007) *Hubbub: Filth, Noise & Stench in England 1600-1770*. New Haven: Yale University Press.

Cohen, S. (1993) 'Human Rights and Crimes of The State: The Culture of Denial', *Australian & New Zealand Journal of Criminology*, 26(2), pp. 97–115. Available at: https://doi.org/10.1177/000486589302600201.

Cohen, S. (1998) *Against Criminology*. London: Routledge.

Cohen, S. (2001) *States of Denial: Knowing about Atrocities and Suffering*. Cambridge: Polity.

Coleman, J.W. (1987) 'Toward an Integrated Theory of White-Collar Crime', *American Journal of Sociology*, 93(2), pp. 406–439.

Conley, V.A. (1997) *Ecopolitics: The Environment in Poststructuralist Thought*. Routledge: London

Corbin, A. (1998) *Village Bells: Sound and Meaning in the Nineteenth-century French Countryside*. New York: Columbia University Press.

Cox, C. (2011) 'Beyond Representation and Signification: Toward a Sonic Materialism', *Journal of Visual Culture*, 10(2), pp. 145–161. Available at: https://doi.org/10.1177/1470412911402880.

Critchley, J.B. and Ollerhead, J.B. (1990) *The Use of Leq as an Aircraft Noise Index*. DORA Report 9023. Civil Aviation Authority. Available at: https://publicapps.caa.co.uk/modalapplication.aspx?catid=1&pagetype=65&appid=11&mode=detail&id=761 (Accessed: 27 May 2022).

Cusick, S. (2006) 'Music as Torture / Music as Weapon', *Trans 8*, 8, pp. 379–391.

Daniel, E. (2007) 'Noise and hearing loss: a review', *The Journal of School Health*, 77(5), pp. 225–231. Available at: https://doi.org/10.1111/j.1746-1561.2007.00197.x.

Davies, P. (2008) 'Looking out a broken old window: Community safety, gendered crimes and victimization', *Crime Prevention and Community Safety*, 10(4), pp. 207–225. Available at: https://doi.org/10.1057/cpcs.2008.8.

Davies, P. (2014) 'Green crime and victimization: Tensions between social and environmental justice', *Theoretical Criminology*, 18(3), pp. 300–316. Available at: https://doi.org/10.1177/1362480614522286.

Davies, P., Francis, P. and Wyatt, T. (2014) *Invisible Crimes and Social Harms*. London: Palgrave Macmillan.

Davies, W.J. *et al*. (2007) 'The positive soundscape project', in. *19th International Congress on Acoustics*, Madrid. Available at: http://usir.salford.ac.uk/id/eprint/2460/ (Accessed: 27 January 2020).

Davies, W.J. *et al*. (2013) 'Perception of soundscapes: An interdisciplinary approach', *Applied Acoustics*, 74(2), pp. 224–231. Available at: https://doi.org/10.1016/j.apacoust.2012.05.010.

Deakin, H. and Wakefield, K. (2013) 'Skype interviewing: reflections of two PhD researchers', *Qualitative Research,* 14(5), pp.603-616. https://doi.org/10.1177/1468794113488126.

DEFRA (2010) 'Noise policy statement for England', *GOV.UK*. Available at: https://www.gov.uk/government/publications/noise-policy-statement-for-england (Accessed: 30 September 2020).

DEFRA (2011) *The Economic Value of Quiet Areas Final Report*. London: URS/Scott Wilson. Available at: http://randd.defra.gov.uk/Document.aspx?Document=TheEconomicValueofQuiet_FinalReport.pdf (Accessed: 14 July 2022).

DEFRA (2013) *Guidance for Airport Operators to produce noise action plans under the terms of the Environmental Noise (England) Regulations 2006 (as amended)*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachm

ent_data/file/276226/noise-action-plan-airport-operators-guidance-201401.pdf (Accessed: 14 July 2022).

DEFRA (2014a) *Environmental Noise: Valuing impacts on: sleep disturbance, annoyance, hypertension, productivity and quiet*. Available at: https://webarchive.nationalarchives.gov.uk/20130403165940/http://archive.defra.gov.uk/environment/quality/noise/igcb/publications/firstreport.htm (Accessed: 16 September 2019).

DEFRA (2014b) *Noise Action Plan: Agglomerations (Urban Areas) Environmental Noise (England) Regulations 2006, as amended*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/276228/noise-action-plan-agglomerations-201401.pdf (Accessed: 14 July 2022).

DEFRA (2015) *Statutory nuisances: how councils deal with complaints*, *GOV.UK*. Available at: https://www.gov.uk/guidance/statutory-nuisances-how-councils-deal-with-complaints (Accessed: 10 June 2022).

DEFRA (2019a) *Noise Action Plan: Agglomerations (Urban Areas) Environmental Noise (England) Regulations 2006, as amended*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/813663/noise-action-plan-2019-agglomerations.pdf (Accessed: 14 July 2022).

DEFRA (2019b) *Strategic noise mapping (2017)*, *GOV.UK*. Available at: https://www.gov.uk/government/publications/strategic-noise-mapping-2019 (Accessed: 27 May 2022).

Deleuze, G. (1990) *Expressionism in Philosophy: Spinoza*. New York: Zone Books.

Denzin, N.K. (2017) 'Critical Qualitative Inquiry', *Qualitative Inquiry*, 23(1), pp. 8–16. Available at: https://doi.org/10.1177/1077800416681864.

Department for Transport (2013) *Aviation Policy Framework*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/153776/aviation-policy-framework.pdf. (Accessed: 14 July 2022).

Department for Transport (2021a) 'Night Flight Restrictions at Heathrow, Gatwick and Stansted: Decision Document'. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1004311/night-flight-restrictions-at-heathrow-gatwick-and-stansted-decision-document.pdf (Accessed: 14 July 2022).

Department for Transport (2021b) *Night flight restrictions*, *GOV.UK*. Available at: https://www.gov.uk/government/consultations/night-flight-restrictions-at-heathrow-gatwick-and-stansted-airports-between-2022-and-2024-plus-future-night-flight-policy/night-flight-restrictions (Accessed: 9 January 2022).

Destree, P. (2013) '"Dirty dirt" and sonic relationality: The politics of noise in a London estate community', *Ethnographic Encounters*, 3(2), pp. 13–19.

Dixon Ward, W. *et al*. (1981) 'Total energy and critical intensity concepts in noise damage', *Annals of Otology, Rhinology and Laryngology*, 90(6), pp. 584–590. Available at: https://doi.org/10.1177/000348948109000615.

Dobie, R.A. (2004) *Basics of Sound, the Ear, and Hearing*. National Academies Press.

Dornic, S. and Laaksonen, T. (1989) 'Continuous Noise, Intermittent Noise, and Annoyance', *Perceptual and Motor Skills*, 68(1), pp. 11–18. Available at: https://doi.org/10.2466/pms.1989.68.1.11.

Douglas, P.M. (2003) *Purity and Danger: An Analysis of Concepts of Pollution and Taboo*. Oxon: Routledge.

Drever, J.L. (2015) 'Sanitary Soundscapes: The Noise Effects From Ultra-Rapid "Ecological" Hand Dryers On Vulnerable Subgroups In Publicly Accessible Toilets', in. *2nd International Conference on Hyperacusis (ICH2)*, London, United Kingdom.

Drever, J.L. (2017) 'The Case For Auraldiversity In Acoustic Regulations And Practice: The Hand Dryer Noise Story', in. *24th International Congress on Sound and Vibration (ICSV24)*, London, United Kingdom.

Drever, J.L., Yildirim, A. and Cobianchi, M. (2021) 'London Street Noises: A Ground-Breaking Field Recording Campaign from 1928', *Acoustics*, 3(1), pp. 118–136. Available at: https://doi.org/10.3390/acoustics3010010.

Dunlap, R.E. (2010) 'The Maturation and Diversification of Environmental Sociology: From Constructivism and Realism to Agnosticism and Pragmatism', in M.R. Redclift and G. Woodgate (eds) *The International Handbook of Environmental Sociology*, *2nd ed*. Northampton: Edward Elgar Publishing, pp. 13-34.

Edwards, A. (2013) *Heathrow pays £1.8m for school earthquake-proof moon huts*, *Daily Mail*. Available at: https://www.dailymail.co.uk/news/article-2494771/Heathrow-pays-1-8m-school-earthquake-proof-moon-huts-protect-pupils-ears-aircraft-noise.html (Accessed: 14 June 2022).

Edwards, R. and Holland, J. (2013) *What is Qualitative Interviewing?* London: Bloomsbury Publishing.

EEA (2020) *Environmental Noise in Europe - 2020*. Luxembourg.

Eisenberg, A.J. (2015) 'Space', in D. Novak and M. Sakakeeny (eds) *Keywords in Sound*. Duke University Press, pp. 193–207.

El Aarbaoui, T. and Chaix, B. (2020) 'The short-term association between exposure to noise and heart rate variability in daily locations and mobility contexts', *Journal of Exposure Science & Environmental Epidemiology*, 30(2), pp. 383–393. Available at: https://doi.org/10.1038/s41370-019-0158-x.

Ellis, C. (1999) 'Heartful Autoethnography':, *Qualitative Health Research*, 9(5), pp. 669-683. Available at: https://doi.org/10.1177/104973299129122153.

Environment Agency (2022) *Noise and vibration management: environmental permits*, *GOV.UK*. Available at: https://www.gov.uk/government/publications/noise-

and-vibration-management-environmental-permits/noise-and-vibration-management-environmental-permits (Accessed: 27 May 2022).

Environmental Protection Act, s. 79 (1990). Available at: https://www.legislation.gov.uk/ukpga/1990/43/part/III/crossheading/statutory-nuisances-england-and-wales (Accessed: 31 October 2020).

Eriksson, C. *et al*. (2014) 'Long-Term Aircraft Noise Exposure and Body Mass Index, Waist Circumference, and Type 2 Diabetes: A Prospective Study', *Environmental Health Perspectives*, 122(7), pp. 687–694. Available at: https://doi.org/10.1289/ehp.1307115.

EU Commission (2002) *European Union Noise Directive 2002*. 2002/49/EC.

Fattah, E.A. (1989) *The Plight of Crime Victims in Modern Society*. New York: Palgrave Macmillan.

Feld, S. (1990) *Sound and Sentiment: Birds, Weeping, Poetics, and Song in Kaluli Expression*. Philadelphia: University of Pennsylvania Press.

Feld, S. (1996) 'Chapter 3: Waterfalls of song: an acoustemology of place resounding in Bosavi, Papua New Guinea', in S. Feld and K.H. Basso (eds) *Senses of place*. Santa Fe: School of American Research Press, pp. 91–135.

Feld, S. (2015) 'Acoustemology', in D. Novak and M. Sakakeeny (eds) *Keywords in Sound*. Durham: Duke University Press, pp. 12–21.

Feld, S. and Basso, K.H. (eds) (1996) *Senses of Place*. Santa Fe: School of American Research Press.

Findlay, M.J. (2013) *International and Comparative Criminal Justice: A critical introduction*. Oxon: Routledge.

Fisher, M. (2009) *Capitalist Realism: Is There No Alternative?* London: Zero Books.

Flint, J. (2004) 'The responsible tenant: housing governance and the politics of behaviour', *Housing Studies*, 19(6), pp. 893–909. Available at: https://doi.org/10.1080/0267303042000293991.

Foraster, M. *et al*. (2017) 'Exposure to Road, Railway, and Aircraft Noise and Arterial Stiffness in the SAPALDIA Study: Annual Average Noise Levels and Temporal Noise Characteristics', *Environmental Health Perspectives*, 125(9). Available at: https://doi.org/10.1289/EHP1136.

Forsey, G.M. (2010) 'Ethnography as participant listening', *Ethnography*, 11(4), pp. 558–572. Available at: https://doi.org/10.1177/1466138110372587.

Foster, J.B. (1992) 'The absolute general law of environmental degradation under capitalism', *Capitalism Nature Socialism*, 3(3), pp. 77–81. Available at: https://doi.org/10.1080/10455759209358504.

Foucault, M. (1972) *Archaeology of Knowledge*. London: Tavistock Publications Limited.

Foucault, M. (1978) *The History of Sexuality: An introduction*. New York: Pantheon Books.

Foucault, M. (1980) *Power/knowledge: Selected Interviews and Other Writings, 1972-1977*. New York: Vintage Books.

Friedrichs, D.O. (2010) *Trusted Criminals: White Collar Crime In Contemporary Society*. Belmont: Wadsworth Cengage Learning.

Gallagher, M. (2011) 'Sound, space and power in a primary school', *Social & Cultural Geography*, 12(1), pp. 47–61. Available at: https://doi.org/10.1080/14649365.2011.542481.

Garcia, A.C. *et al*. (2009) 'Ethnographic Approaches to the Internet and Computer-Mediated Communication', *Journal of Contemporary Ethnography*, 38(1), pp. 52–84. Available at: https://doi.org/10.1177/0891241607310839.

Garland, D. (2011) 'Criminology's Place in the Academic Field', in M. Bosworth and C. Hoyle (eds) *What is Criminology?* Oxford: Oxford University Press.

Garrioch, D. (2003) 'Sounds of the city: the soundscape of early modern European towns', *Urban History*, 30(1), pp. 5–25. Available at: https://doi.org/10.1017/S0963926803001019.

Genuit, K. and Fiebig, A. (2005) 'Prediction of psychoacoustic parameters', *The Journal of the Acoustical Society of America*, 118(3), p. 6. Available at: https://doi.org/10.1121/1.4779284.

Gibbs, C. *et al*. (2011) 'Conservation criminology and the global trade in electronic waste: Applying a multi-disciplinary research framework', *International Journal of Comparative and Applied Criminal Justice*, 35(4), pp. 269–291. Available at: https://doi.org/10.1080/01924036.2011.625229.

Goffman, E. (1986[1963]) *Stigma: Notes on the Management of Spoiled Identity*. New York: Simon and Schuster.

Gokhale, S. (2018) 'Environmental Noise Pollution', in *Handbook of Environmental Engineering*. John Wiley & Sons, Ltd, pp. 565–582. Available at: https://doi.org/10.1002/9781119304418.ch18.

Goldsmith, M. (2012) *Discord: The Story of Noise*. Oxford: Oxford University Press.

Goodman, S. (2012) *Sonic Warfare: Sound, Affect, and the Ecology of Fear*. Cambridge: MIT Press.

Gore, M.L. (2017) *Conservation Criminology*. Hoboken: John Wiley & Sons.

Griefe, M.B. and Stretesky, P.B. (2013) 'Crude laws: Treadmill of production and state variations in civil and criminal liability for oil discharges in navigable waters', in N. South and A. Brisman (eds) *Routledge International Handbook of Green Criminology*. Oxon: Routledge, pp. 150–166.

Grimshaw, M. and Garner, T. (2015) *Sonic Virtuality: Sound as Emergent Perception*. Oxford: Oxford University Press.

Grollman, C., Martin, I. and Mhonda, J. (2020) *Aviation noise and public health*. The Independent Commission on Civil Aviation Noise. London: NatCen. Available at: https://iccan.gov.uk/aviation-noise-public-health/ (Accessed: 27 May 2022).

Guattari, F. (1995) *Chaosmosis: an ethico-aesthetic paradigm*. Bloomington: Indiana University Press.

Guattari, F. (2005) *The three ecologies*. London ; New York: Continuum.

Guiljk, C.V. (2014) 'Oil Spills: A Persistent Problem', in T. Spapens, R. White, and K. Marieke (eds) *Environmental Crime and its Victims*. London: Routledge, pp. 151–166. Available at: https://doi.org/10.4324/9781315580005-16.

Gunel, G., Varma, S. and Watanabe, C. (2020) *A Manifesto for Patchwork Ethnography*, *Society for Cultural Anthropology*. Available at: https://culanth.org/fieldsights/a-manifesto-for-patchwork-ethnography?fbclid=IwAR0D5lfr1bsxTx63D9_XpdYJQTL5mQZ_5s7YlyIe2EqRNa05PdtCKaa7i8k (Accessed: 4 June 2022).

Gurney, C. (1999) 'Rattle and hum: gendered accounts of noise as a pollutant: an aural sociology of work and home', in. *Health and Safety Authority Conference*, April, York.

HACAN (2017) *The Most Overflown Boroughs in London*. London.

Hacking, I. (2001) *Why Does Language Matter to Philosophy?* Cambridge: Cambridge University Press.

Hahad, O. *et al*. (2019) 'Environmental Noise-Induced Effects on Stress Hormones, Oxidative Stress, and Vascular Dysfunction: Key Factors in the Relationship between Cerebrocardiovascular and Psychological Disorders', *Oxidative Medicine and Cellular Longevity*, 18, pp.1-13. Available at: https://doi.org/10.1155/2019/4623109.

Haines, M.M. *et al*. (2001) 'Chronic aircraft noise exposure, stress responses, mental health and cognitive performance in school children', *Psychological Medicine*, 31(2), pp. 265–277.

Hall, M. (2013) *Victims of environmental harm: rights, recognition and redress under national and international law*. Oxon: Routledge.

Hall, M. (2017a) 'Criminal redress in cases of environmental victimization: a defence', *International Review of Victimology*, 23(2), pp. 203–223. Available at: https://doi.org/10.1177/0269758016672027.

Hall, M. (2017b) 'Exploring the cultural dimensions of environmental victimization', *Palgrave Communications*, 3(1), pp. 1–10. Available at: https://doi.org/10.1057/palcomms.2017.76.

Hall, S. (2001) 'Foucault: Power, Knowledge and Discourse', in M. Wetherell, S. Taylor, and S. Yates (eds) *Discourse, Theory and Practice*. London: Sage, pp. 72–81.

Halonen, J.I. *et al*. (2015) 'Road traffic noise is associated with increased cardiovascular morbidity and mortality and all-cause mortality in London', *European Heart Journal*, 36(39), pp. 2653–2661. Available at: https://doi.org/10.1093/eurheartj/ehv216.

Halperin, D. (2014) 'Environmental noise and sleep disturbances: A threat to health?', *Sleep Science*, 7(4), pp. 209–212. Available at: https://doi.org/10.1016/j.slsci.2014.11.003.

Halsey, M. (2013) 'Conservation criminology and the "general accident" of climate change', in N. South and A. Brisman (eds) *Routledge International Handbook of Green Criminology*. Oxon: Routledge, pp.107-119.

Hamilton, P. (2010) '"The Proust Effect: Oral History and the Senses"', in D.A. Ritchie (ed.) *The Oxford handbook of oral history*. New York: Oxford University Press, pp. 219–232. Available at:

http://images.lib.monash.edu.au/ats4305/04209496.pdf (Accessed: 16 October 2020).

Hanna, P. (2012) 'Using internet technologies (such as Skype) as a research medium: a research note', *Qualitative Research*, 12(2), pp. 239–242. Available at: https://doi.org/10.1177/1468794111426607.

Hansell, A.L. *et al*. (2013) 'Aircraft noise and cardiovascular disease near Heathrow airport in London: small area study', *British Medical Journal*, 347. Available at: https://doi.org/10.1136/bmj.f5432.

Harding, A.-H. *et al*. (2013) 'The cost of hypertension-related ill-health attributable to environmental noise', *Noise & Health*, 15(67), pp. 437–445. Available at: https://doi.org/10.4103/1463-1741.121253.

Harper, D. (2002) 'Talking about pictures: A case for photo elicitation', *Visual Studies*, 17(1), pp. 13–26. Available at: https://doi.org/10.1080/14725860220137345.

Harper, D. (2012) *Visual Sociology*. London: Routledge.

Harris, A. (2015) 'Eliciting Sound Memories', *The Public Historian*, 37(4), pp. 14–31. Available at: https://doi.org/10.1525/tph.2015.37.4.14.

Harvey, D. (2003) 'The right to the city', *International Journal of Urban and Regional Research*, 27(4), pp. 939–941. Available at: https://doi.org/10.1111/j.0309-1317.2003.00492.x.

Have, I., Jensen, E.G. and Pedersen, B.S. (2011) 'Introduction', *SoundEffects - An Interdisciplinary Journal of Sound and Sound Experience*, 1(1), pp. 1–4. Available at: https://doi.org/10.7146/se.v1i1.5718.

Hayward, K.J. (2012) 'Five Spaces of Cultural Criminology', *The British Journal of Criminology*, 52(3), pp. 441–462. Available at: https://doi.org/10.1093/bjc/azs008.

Health Protection Act 2004 (2004). Queen's Printer of Acts of Parliament. Available at: https://www.legislation.gov.uk/ukpga/2004/17/notes/division/2 (Accessed: 23 May 2022).

Heathrow Airport Ltd. (2019) 'Quieter Homes Scheme'. Available at: https://www.heathrow.com/company/local-community/noise/what-you-can-do/apply-for-help/quieter-homes-scheme (Accessed: 28 November 2020).

Heathrow Airport Ltd. (2022a) *Wind direction*, *Heathrow Airport*. Available at: https://www.heathrow.com/company/local-community/noise/operations/night-flights (Accessed: 10 January 2022).

Heathrow Airport Ltd. (2022b) *Night flights | Heathrow*, *Heathrow Airport*. Available at: https://www.heathrow.com/company/local-community/noise/operations/night-flights (Accessed: 10 January 2022).

Hellstrom, B. *et al*. (2014) 'Acoustic Design Artifacts and Methods for Urban Soundscapes: A Case Study on the Qualitative Dimensions of Sounds', *Journal of Architectural and Planning Research*, 31(1), pp. 57–71.

Herrity, K., Schmidt, B. and Warr, J. (eds) (2021) *Sensory Penalities: Exploring the Senses in Spaces of Punishment and Social Control*. Bingley: Emerald Publishing Limited.

Herrity, K. (2019) *Rhythms and Routines: Sounding order in a local men's prison through aural ethnography*. Thesis. University of Leicester.

Heyl, B.S. (2001) 'Ethnographic Interviewing', in Atkinson, P. et al., *Handbook of Ethnography*. London: SAGE Publications Ltd, pp. 369–383.

Highmore, B. (2011) *Ordinary Lives: Studies in the Everyday*. Oxon: Routledge.

Hill, J.F. (2015) 'A Systems Thinking Perspective on the Motivations and Mechanisms That Drive Wildlife Poaching', in R.A. Sollund (ed.) *Green Harms and Crimes: Critical Criminology in a Changing World*. London: Palgrave Macmillan, pp. 189–219. Available at: https://doi.org/10.1057/9781137456267_10.

Hillyard, P. *et al*. (eds) (2004) *Beyond Criminology: Taking Harm Seriously*. London: Pluto Press.

Hine, C. (2015) *Ethnography for the Internet: Embedded, Embodied and Everyday*. London: Bloomsbury Publishing.

Holl, S., Pallasmaa, J. and Gómez, A.P. (2006) *Questions of Perception: Phenomenology of Architecture*. San Francisco: William Stout.

Hong, J.Y. and Jeon, J.Y. (2014) 'The effects of audio–visual factors on perceptions of environmental noise barrier performance', *Landscape and Urban Planning*, 125, pp. 28–37. Available at: https://doi.org/10.1016/j.landurbplan.2014.02.001.

Howes, D. (2005) *Empire of the Senses: The Sensual Culture Reader*. Oxford: Berg Publishers.

Howes, D. (2006) *Sensual Relations: Engaging the Senses in Culture and Social Theory*. Michigan: University of Michigan Press.

Hulsman, L.H.C. (1986) 'Critical criminology and the concept of crime', *Contemporary Crises*, 10(1), pp. 63–80. Available at: https://doi.org/10.1007/BF00728496.

Hume, K. (2010) 'Sleep disturbance due to noise: current issues and future research', *Noise & Health*, 12(47), pp. 70–76. Available at: https://doi.org/10.4103/1463-1741.63206.

Huss, A. *et al*. (2010) 'Aircraft noise, air pollution, and mortality from myocardial infarction', *Epidemiology (Cambridge, Mass.)*, 21(6), pp. 829–836. Available at: https://doi.org/10.1097/EDE.0b013e3181f4e634.

ICCAN (2020a) *A review of aviation noise metrics and measurement*.

ICCAN (2020b) *ICCAN best practice for engagement between airports and communities on aviation noise*.

Institute for Goverment (2021) *Timeline of UK government coronavirus lockdowns and restrictions*, *The Institute for Government*. Available at: https://www.instituteforgovernment.org.uk/charts/uk-government-coronavirus-lockdowns (Accessed: 5 June 2022).

Jackson, T. (1996) *Material Concerns: Pollution, Profit, and Quality of Life*. London: Routledge

Jarup, L. *et al*. (2008) 'Hypertension and Exposure to Noise Near Airports: the HYENA Study', *Environmental Health Perspectives*, 116(3), pp. 329–333. Available at: https://doi.org/10.1289/ehp.10775.

Jay, M. (1993) *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought*. Berkeley: University of California Press.

Jirakittayakorn, N. and Wongsawat, Y. (2017) 'Brain Responses to a 6-Hz Binaural Beat: Effects on General Theta Rhythm and Frontal Midline Theta Activity', *Frontiers in Neuroscience*, 11. Available at: https://www.frontiersin.org/articles/10.3389/fnins.2017.00365 (Accessed: 10 July 2022).

Johnson, C.K. *et al*. (2020) 'Global shifts in mammalian population trends reveal key predictors of virus spillover risk', *Proceedings of the Royal Society B: Biological Sciences*, 287(1924), p. 20192736. Available at: https://doi.org/10.1098/rspb.2019.2736.

Johnson, P.B. and Cloonan, P.M. (2009) *Dark Side of the Tune: Popular Music and Violence*. Surrey: Ashgate Publishing, Ltd.

Jorgenson, A.K. (2006) 'Unequal Ecological Exchange and Environmental Degradation: A Theoretical Proposition and Cross-National Study of Deforestation, 1990–2000', *Rural Sociology*, 71(4), pp. 685–712. Available at: https://doi.org/10.1526/003601106781262016.

Joynt, J.L.R. and Kang, J. (2010) 'The influence of preconceptions on perceived sound reduction by environmental noise barriers', *The Science of the Total*

Environment, 408(20), pp. 4368–4375. Available at: https://doi.org/10.1016/j.scitotenv.2010.04.020.

Jupp, V., Davies, P. and Francis, P. (1999) 'The Features of Invisible Crimes', in P. Davies, P. Francis, and V. Jupp (eds) *Invisible Crimes: Their Victims and their Regulation*. London: Palgrave Macmillan UK, pp. 3–28.

Kallis, G. *et al*. (2018) 'Research on Degrowth', *Annual Review of Environment and Resources*, 43, pp. 291–316. Available at: https://doi.org/10.1146/annurev-environ-102017-025941.

Katz, R.S. (2010) 'The Corporate Crimes of Dow Chemical and the Failure to Regulate Environmental Pollution', *Critical Criminology*, 18(4), pp. 295–306. Available at: https://doi.org/10.1007/s10612-010-9117-5.

Katzenell, U. and Segal, S. (2001) 'Hyperacusis: review and clinical guidelines', *Otology & Neurotology: Official Publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*, 22(3), pp. 321–326. Available at: https://doi.org/10.1097/00129492-200105000-00009.

Keat, R. and Urry, J. (1975) *Social Theory as Science (Routledge Revivals)*. London: Routledge.

Kelman, A.Y. (2010) 'Rethinking the Soundscape', *The Senses and Society*, 5(2), pp. 212–234. Available at: https://doi.org/10.2752/174589210X12668381452845.

van Kempen, E. and Babisch, W. (2012) 'The quantitative relationship between road traffic noise and hypertension: a meta-analysis', *Journal of Hypertension*, 30(6), pp. 1075–1086. Available at: https://doi.org/10.1097/HJH.0b013e328352ac54.

van Kempen, E. *et al*. (2002) 'The association between noise exposure and blood pressure and ischemic heart disease: a meta-analysis', *Environmental Health Perspectives*, 110(3), pp. 307–317. Available at: https://doi.org/10.1289/ehp.02110307.

Kim, S.J. *et al*. (2014) 'Exposure–Response Relationship Between Aircraft Noise and Sleep Quality: A Community-based Cross-sectional Study', *Osong Public Health and Research Perspectives*, 5(2), pp. 108–114. Available at: https://doi.org/10.1016/j.phrp.2014.03.004.

Klatte, M., Bergstroem, K. and Lachmann, T. (2013) 'Does noise affect learning? A short review on noise effects on cognitive performance in children', *Frontiers in Psychology*, 4. Available at: https://doi.org/10.3389/fpsyg.2013.00578.

Kleist, N.J. *et al*. (2018) 'Chronic anthropogenic noise disrupts glucocorticoid signaling and has multiple effects on fitness in an avian community', *Proceedings of the National Academy of Sciences*, 115(4), pp. E648–E657. Available at: https://doi.org/10.1073/pnas.1709200115.

de Kluizenaar, Y. *et al*. (2007) 'Hypertension and road traffic noise exposure', *Journal of Occupational and Environmental Medicine*, 49(5), pp. 484–492. Available at: https://doi.org/10.1097/JOM.0b013e318058a9ff.

Krain, M. (1997) 'State-Sponsored Mass Murder: The Onset and Severity of Genocides and Politicides', *The Journal of Conflict Resolution*, 41(3), pp. 331–360.

Kramer, R. (1985) 'Defining the Concept of Crime: A Humanistic Perspective', *Journal of Sociology and Social Welfare*, 12, pp. 469–487.

Kramer, R. (2014) 'Climate Change: A State-corporate Crime Perspective', in T. Spapens, R. White, and M. Kluin (eds) *Environmental Crime and its Victims*. Surrey: Ashgate, pp. 23–40.

Krause, B. (1993) 'The Niche Hypothesis: A virtual symphony of animal sounds, the origins of musical expression and the health of habitats', *The Explorers Journal*, (Winter), pp. 156–160.

Kreutzfeldt, J. (2010) 'Acoustic Territoriality and the Politics of Urban Noise', *Soundscape. The Journal of Acoustic Ecology*, 10(1), pp. 14–17.

Kwak, K.M. *et al*. (2016) 'The effect of aircraft noise on sleep disturbance among the residents near a civilian airport: a cross-sectional study', *Annals of Occupational*

and Environmental Medicine, 28(1). Available at: https://doi.org/10.1186/s40557-016-0123-2.

Lather, P. (1986) 'Issues of validity in openly ideological research: Between a rock and a soft place', *Interchange*, 17(4), pp. 63–84. Available at: https://doi.org/10.1007/BF01807017.

Le Masurier, P. *et al*. (2007) *ANASE: Attitudes to Noise from Aviation Sources, Technical report*. London: Department for Transport.

Ledoux, J. (2015) *The Emotional Brain: The Mysterious Underpinnings of Emotional Life*. New York: Simon and Schuster.

Lee, J. *et al*. (2017a) *Noise Exposure Contours for Heathrow Airport 2015*. ERCD REPORT 1601. London: Civil Aviation Authority.

Lee, J. *et al*. (2017b) *Noise Exposure Contours for Gatwick Airport 2015*. ERCD REPORT 1602. London: Civil Aviation Authority.

Lee, J. *et al*. (2017c) *Noise Exposure Contours for Stansted Airport 2015*. ERCD REPORT 1603. London: Civil Aviation Authority.

Lefebvre, H. (2013) *Rhythmanalysis: Space, Time and Everyday Life*. London: Bloomsbury Publishing.

Leitner, B. (1998) *Sound, Space*. Ostfildern: Cantz.

Lercher, P. *et al*. (2002) 'Ambient neighbourhood noise and children's mental health', *Occupational and Environmental Medicine*, 59(6), pp. 380–386. Available at: https://doi.org/10.1136/oem.59.6.380.

Leslie, H.Y. (2005) 'Tongan Doctors and a Critical Medical Ethnography', *Anthropological Forum*, 15(3), pp. 277–286. Available at: https://doi.org/10.1080/00664670500282097.

Leventhall, G., Benton, S. and Robertson, D. (2008) 'Coping Strategies for Low Frequency Noise':, *Journal of Low Frequency Noise, Vibration and Active Control*, 7(4), pp.5-24. Available at: https://doi.org/10.1260/026309208784425460.

Li, S. *et al*. (2015) 'Mid- to high-frequency noise from high-speed boats and its potential impacts on humpback dolphins', *The Journal of the Acoustical Society of America*, 138(2), pp. 942–952. Available at: https://doi.org/10.1121/1.4927416.

Li, S. *et al*. (2018) 'Potential impacts of shipping noise on Indo-Pacific humpback dolphins and implications for regulation and mitigation: a review', *Integrative Zoology*, 13(5), pp. 495–506. Available at: https://doi.org/10.1111/1749-4877.12304.

Lindblad, A.-C., Hagerman, B. and Rosenhall, U. (2011) 'Noise-induced tinnitus: A comparison between four clinical groups without apparent hearing loss', *Noise and Health*, 13(55), p. 423. Available at: https://doi.org/10.4103/1463-1741.90310.

Lloyd, G. (2002) *The Man of Reason: 'Male' and 'Female' in Western Philosophy*. Oxon: Taylor and Francis.

Loon, J. van (2001) 'Ethnography: A Critical Turn in Cultural Studies', in P. Atkinson et al. (eds) *Handbook of Ethnography*. London: SAGE, pp. 273–284. Available at: https://doi.org/10.4135/9781848608337.n19.

Lozano, R. *et al*. (2012) 'Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010', *Lancet (London, England)*, 380(9859), pp. 2095–2128. Available at: https://doi.org/10.1016/S0140-6736(12)61728-0.

Lusk, S.L. *et al*. (2017) 'Reduce noise: Improve the nation's health', *Nursing Outlook*, 65(5), pp. 652–656. Available at: https://doi.org/10.1016/j.outlook.2017.08.001.

Lutman, M.E. (2000) 'What is the risk of noise-induced hearing loss at 80, 85, 90 dB(A) and above?', *Occupational Medicine (Oxford, England)*, 50(4), pp. 274–275. Available at: https://doi.org/10.1093/occmed/50.4.274.

Lynch, M.J. (2020) 'Green Criminology and Environmental Crime: Criminology That Matters in the Age of Global Ecological Collapse', *Journal of White Collar and Corporate Crime*, 1(1), pp. 50–61. Available at: https://doi.org/10.1177/2631309X19876930.

Lynch, M.J. and Stretsky, P.B. (2003) 'The Meaning of Green: Contrasting Criminological Perspectives', *Theoretical Criminology*, 7(2), pp.217-238 p. 22. doi:10.1177/1362480603007002414.

Lynch, M.J. and Stretesky, P.B. (2014) *Exploring Green Criminology: Toward a Green Criminological Revolution*. Farnham: Ashgate Publishing, Ltd.

Lynch, M.J., Long, M.A. and Stretesky, P.B. (2015) 'Anthropogenic Development Drives Species to Be Endangered: Capitalism and the Decline of Species', in R.A. Sollund (ed.) *Green Harms and Crimes: Critical Criminology in a Changing World*. London: Palgrave Macmillan UK (Critical Criminological Perspectives), pp. 117–146. Available at: https://doi.org/10.1057/9781137456267_7.

Lynch, M.J., Long, M.A. and Stretesky, P.B. (2019) *Green Criminology and Green Theories of Justice: An Introduction to a Political Economic View of Eco-Justice*. Cham: Palgrave Macmillan

Lynch, M.J., Stretesky, P.B. and Long, M.A. (2018a) 'Green criminology and native peoples: The treadmill of production and the killing of indigenous environmental activists', *Theoretical Criminology*, 22(3), pp. 318–341. Available at: https://doi.org/10.1177/1362480618790982.

Lynch, M.J., Stretesky, P.B. and Long, M.A. (2018b) 'The Treadmill of Production and the Treadmill of Law: Propositions for Analyzing Law, Ecological Disorganization and Crime', *Capitalism Nature Socialism*, 31(1), pp. 107–122. Available at: https://doi.org/10.1080/10455752.2018.1545241.

Lynch, M.J. *et al*. (2017) *Green Criminology: Crime, Justice, and the Environment*. Oakland: University of California Press.

Lyotard, J.-F. (1991) *The Inhuman: Reflections on Time*. Cambridge: Polity Press.

Lyotard, J.-F. (1993) *Political Writings*. Minneapolis: University of Minnesota Press.

Madison, D.S. (2005) *Critical Ethnography: Method, Ethics, and Performance*. Thousand Oaks: SAGE.

Malaspina, C. (2018) *An Epistemology of Noise*. London: Bloomsbury Publishing.

Malinowski, B. (1922) *Argonauts of the Western Pacific: An Account of Native Enterprise and Adventure in the Archipelagoes of Melanesian New Guinea, Enhanced Edition*. London: G. Routledge and Sons.

Mansell, J.G. (2016) *The Age of Noise in Britain: Hearing Modernity*. Urbana: University of Illinois Press.

Mardassi, A. *et al*. (2016) 'Acute acoustic trauma: how to manage and how to prevent?', *La Tunisie Medicale*, 94(11), p. 664. PMID: 28994869.

Marks, A. and Griefahn, B. (2007) 'Associations between noise sensitivity and sleep, subjectively evaluated sleep quality, annoyance, and performance after exposure to nocturnal traffic noise', *Noise and Health*, 9(34), p. 1. Available at: https://doi.org/10.4103/1463-1741.34698.

Martinho, C. (2017) 'Exploring Aural Architecture: Experience, Resonance, Attunement', in. *Exploring Aural Architecture: Experience, Resonance, Attunement, At Archaeoacoustics III International Conference*, Tomar, Portugal.

Martinho, C. (2018) *Aural Architecture Practice: Creative Approaches for an Ecology of Affect*. Thesis. Goldsmiths, University of London. Available at: https://research.gold.ac.uk/id/eprint/26374/ (Accessed: 14 July 2022).

Massumi, B. (2002) *Parables for the Virtual: Movement, Affect, Sensation*. Durham: Duke University Press.

Mawby, R.I. and Walklate, S. (2002) *Critical Victimology: International perspectives*. London: SAGE.

Maynard, R. and Moorhouse, A. (2010) *Environmental Noise and Health in the UK: A report by the Ad Hoc Expert Group on Noise and Health*. Health Protection Agency.

McClanahan, B. (2014) 'Green and Grey: Water Justice, Criminalization, and Resistance', *Critical Criminology*, 22(3), pp. 403–418. Available at: https://doi.org/10.1007/s10612-014-9241-8.

McClanahan, B. and South, N. (2020) '"All Knowledge Begins with the Senses": Towards a Sensory Criminology', *The British Journal of Criminology*, 60(1), pp. 3–23. Available at: https://doi.org/10.1093/bjc/azz052.

McEwen, B.S. (2006) 'Protective and damaging effects of stress mediators: central role of the brain', *Dialogues in Clinical Neuroscience*, 8(4), pp. 367–381.

Mead, G.H. (2015) *Mind, Self, and Society: The Definitive Edition*. Chicago: University of Chicago Press.

Mee, K. (2007) '"I Ain't Been to Heaven Yet? Living Here, This is Heaven to Me": Public Housing and the Making of Home in Inner Newcastle', *Housing, Theory and Society*, 24(3), pp. 207–228. Available at: https://doi.org/10.1080/14036090701374308.

Merleau-Ponty, M. (1964) *Sense and Non-sense*. Evanston: Northwestern University Press.

Metidieri, M.M. *et al*. (2013) 'Noise-Induced Hearing Loss (NIHL): literature review with a focus on occupational medicine', *International Archives of Otorhinolaryngology*, 17(2), pp. 208–212. Available at: https://doi.org/10.7162/S1809-97772013000200015.

Meyer-Bisch, C. (2005) 'Measuring noise', *Medecine Sciences: M/S*, 21(5), pp. 546–550. Available at: https://doi.org/10.1051/medsci/2005215546.

Miedema, H.M. (2007) 'Associations between self-reported sleep disturbance and environmental noise based on reanalyses of pooled data from 24 studies', *Behavioral*

Sleep Medicine, 5(1), pp. 1–20. Available at: https://doi.org/10.1207/s15402010bsm0501_1.

Miedema, H.M. and Oudshoorn, C.G. (2001) 'Annoyance from transportation noise: relationships with exposure metrics DNL and DENL and their confidence intervals.', *Environmental Health Perspectives*, 109(4), p. 409. Available at: https://doi.org/10.1289/ehp.01109409.

Miers, D. (1990) 'Positivist Victimology: A Critique Part 2: Critical Victimology', *International Review of Victimology*, 1(3), pp. 219–230. Available at: https://doi.org/10.1177/026975809000100301.

Ministry of Housing, Communities and Local Government (2019) *National Planning Policy Framework*.

Mirowska, M. (1998) 'An Investigation and Assessment of Annoyance of Low Frequency Noise in Dwellings', *Journal of Low Frequency Noise, Vibration and Active Control*, 17(3), pp. 119–126. Available at: https://doi.org/10.1177/026309239801700301.

Mitchell, W.J.T. (1987) *Iconology: Image, Text, Ideology*. Chicago: University of Chicago Press.

Mody, C.C.M. (2005) 'The Sounds of Science: Listening to Laboratory Practice', *Science, Technology, & Human Values*, 30(2), pp. 175–198. Available at: https://doi.org/10.1177/0162243903261951.

Moore, B.C.J. (2012) *An Introduction to the Psychology of Hearing*. Bingley: Emerald Group Publishing.

Moore, J.W. (2015) *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*. London: Verso Books.

Moore, J.W. (2016) *Anthropocene or Capitalocene?: Nature, History, and the Crisis of Capitalism*. Oakland: PM Press.

Moorhouse, A.T., Waddington, D.C. and Adams, M.D. (2009) 'A procedure for the assessment of low frequency noise complaints', *The Journal of the Acoustical Society of America*, 126(3), pp. 1131–1141. Available at: https://doi.org/10.1121/1.3180695.

Morton, T. (2010) *The Ecological Thought*. Cambridge: Harvard University Press.

Mrozek, B. (2016) 'Historicisation in Pop Culture', in J.G. Papenburg and H. Schulze (eds) *Sound as Popular Culture: A Research Companion*. Cambridge: The MIT Press, pp. 121–132.

Munzel, T. *et al*. (2014) 'Cardiovascular effects of environmental noise exposure', *European Heart Journal*, 35(13), pp. 829–836. Available at: https://doi.org/10.1093/eurheartj/ehu030.

Muzet, A. (2007) 'Environmental noise, sleep and health', *Sleep Medicine Reviews*, 11(2), pp. 135–142. Available at: https://doi.org/10.1016/j.smrv.2006.09.001.

Nancy, J.-L. (2009) *Listening*. New York: Fordham Univ Press.

Natali, L. (2010) 'The big grey elephants in the backyard of Huelva, Spain', in R. White (ed) *Global Environmental Harm: Criminological perspectives*, Devon: Willan Publishing, pp.193-209.

Natali, L. (2015) 'A Critical Gaze on Environmental Victimization', in R.A. Sollund (ed.) *Green Harms and Crimes: Critical Criminology in a Changing World*. London: Palgrave Macmillan UK, pp. 63–78.

Natali, L. (2016) *Visual approach for green criminology: exploring the social perception of environmental harm*. London: Palgrave Macmillan.

Natali, L. (2019) 'Visually exploring social perceptions of environmental harm in global urban contexts':, *Current Sociology*, 67(5), pp.650-668. Available at: https://doi.org/10.1177/0011392118823842.

Natali, L. and Budo, M. de N. (2018) 'A sensory and visual approach for comprehending environmental victimization by the asbestos industry in Casale

Monferrato', *European Journal of Criminology*, 16(6), pp. 708–727. Available at: https://doi.org/10.1177/1477370818788012.

Natali, L. and McClanahan, B. (2017) 'Perceiving and Communicating Environmental Contamination and Change: Towards a Green Cultural Criminology with Images', *Critical Criminology*, 25(2), pp. 199–214. Available at: https://doi.org/10.1007/s10612-017-9356-9.

NATS (2022) *Airports*, *NATS*. Available at: https://www.nats.aero/services-products/customers/airports/ (Accessed: 15 June 2022).

Nietzsche, F.W. (1995) *The Birth of Tragedy*. New York: Courier Corporation.

Nold, C. (2017) *Device Studies of Participatory Sensing: Ontological Politics and Design Interventions*. University College London. Available at: https://discovery.ucl.ac.uk/id/eprint/1569340/1/Christian%20Nold%20Thesis.pdf (Accessed: 24 October 2020).

Notley, H. *et al*. (2014) *National Noise Attitude Survey 2012 (NNAS2012) Summary Report*. London: DEFRA.

O'Connor, H. and Madge, C. (2017) 'Online Interviewing', in N.G. Fielding, R.M. Lee, and G. Blank (eds) *The SAGE Handbook of Online Research Methods*. London: SAGE Publications Ltd, pp. 416–434.

Ong, W.J. (1967) *The Presence of the Word: Some Prolegomena for Cultural and Religious History*. New Haven: Yale University Press.

Ostri, B. and Parving, A. (1991) 'A longitudinal study of hearing impairment in male subjects - an 8-year follow-up', *British Journal of Audiology*, 25(1), pp. 41–48. Available at: https://doi.org/10.3109/03005369109077863.

Ouis, D. (2001) 'Annoyance from road traffic noise: a review', *Journal of Environmental Psychology*, 21(1), pp. 101–120. Available at: https://doi.org/10.1006/jevp.2000.0187.

Ozymy, J., Jarrell, M.L. and Bradshaw, E.A. (2020) 'How criminologists can help victims of green crimes through scholarship and activism', in N. South and A. Brisman (eds) *Routledge International Handbook of Green Criminology*, 2nd edn, Routledge, pp.150-64.

Pallasmaa, J. (1996) *The Eyes of the Skin: Architecture and the Senses*. London: Academy Editions

Pallasmaa, J. (2009) *The Thinking Hand: Existential and Embodied Wisdom in Architecture*. Chichester: Wiley.

Patel, R. and Moore, J.W. (2017) *A History of the World in Seven Cheap Things: A Guide to Capitalism, Nature, and the Future of the Planet*. Oakland: University of California Press.

Pearce, F. and Tombs, S. (2019) *Toxic Capitalism: Corporate Crime and the Chemical Industry*. Milton: Routledge.

Perec, G. (1997) *Species of Spaces and Other Pieces*. London: Penguin Books.

Peterson, S.L. (2016) *Noise, Social Housing and Sleep: A Social Science Review*. University of Copenhagen Faculty of Social Sciences.

Picard, M. (1956) *La Fuite Devant Dieu*. Paris: Presses Universitaires de France.

Picker, J.M. (2003) 'The Soundproof Study', in *Victorian Soundscapes*. New York: Oxford University Press.

Pickering, H. and Rice, T. (2017) 'Noise as "sound out of place": investigating the links between Mary Douglas' work on dirt and sound studies research', *Journal of Sonic Studies* [Preprint], (14). Available at: https://www.researchcatalogue.net/view/374514/374515 (Accessed: 29 January 2019).

Pijanowski, B.C. *et al*. (2011) 'What is soundscape ecology? An introduction and overview of an emerging new science', *Landscape Ecology*, 26(9), pp. 1213–1232. Available at: https://doi.org/10.1007/s10980-011-9600-8.

Pinch, T. and Bijsterveld, K. (2011) 'Introduction. in: New Keys to the World of Sound', in T. Pinch and K. Bijsterveld (eds) *The Oxford Handbook of Sound Studies*. Oxford: Oxford University Press. Available at: https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780195388947.001.0001/oxfordhb-9780195388947-e-050 (Accessed: 10 January 2020).

Power, E.R. (2015) 'Placing community self-governance: Building materialities, nuisance noise and neighbouring in self-governing communities', *Urban Studies*, 52(2), pp. 245–260. Available at: https://doi.org/10.1177/0042098014525242.

Prigogine, I. and Stengers, I. (2018) *Order Out of Chaos: Man's New Dialogue with Nature*. London: Verso Books.

Pyko, A. *et al*. (2015) 'Exposure to traffic noise and markers of obesity', *Occupational and Environmental Medicine*, 72(8), pp. 594–601. Available at: https://doi.org/10.1136/oemed-2014-102516.

Quehl, J., Müller, U. and Mendolia, F. (2017) 'Short-term annoyance from nocturnal aircraft noise exposure: results of the NORAH and STRAIN sleep studies', *International Archives of Occupational and Environmental Health*, 90(8), pp. 765–778. Available at: https://doi.org/10.1007/s00420-017-1238-7.

Rhys-Taylor, A. (2014). Urban Sensations: A Retrospective of Multisensory Drift in D. Howes (ed). *A Cultural History of the Senses in the Modern Age*, London: Bloomsbury Academic, pp. 55–76.

Rice, T. (2003) 'Soundselves: An acoustemology of sound and self in the Edinburgh Royal Infirmary', *Anthropology Today*, 19(4), pp. 4–9. Available at: https://doi.org/10.1111/1467-8322.00201.

Ringius, L. (2001) *Radioactive Waste Disposal at Sea: Public Ideas, Transnational Policy Entrepreneurs, and Environmental Regimes*. Cambridge: MIT Press.

Ristovska, G., Laszlo, H.E. and Hansell, A.L. (2014) 'Reproductive outcomes associated with noise exposure - a systematic review of the literature', *International*

Journal of Environmental Research and Public Health, 11(8), pp. 7931–7952. Available at: https://doi.org/10.3390/ijerph110807931.

Rodriguez-Manzo, F.E. (2008) 'Towards a classification of the "sonic character" of the architectural space', in. *The Journal of the Acoustical Society of America*, 123(5). Available at: https://doi.org/10.1121/1.2933362.

Ross, S. and Wilson, D. (2015) 'Introduction: Victims Research, Theory and Policy: The Role of Local Contexts', in D Wilson and S. Ross (eds) *Crime, Victims and Policy: International Contexts, Local Experiences*. London: Palgrave Macmillan, pp. 1–9.

Rothe, D. and Kauzlarich, D. (2016) *Crimes of the Powerful: An Introduction*. London: Routledge.

Ruggiero, V. and South, N. (2013) 'Green Criminology and Crimes of the Economy: Theory, Research and Praxis', *Critical Criminology*, 21(3), pp. 359–373. Available at: https://doi.org/10.1007/s10612-013-9191-6.

Ruiz, A. and South, N. (2018) 'Surrounded by sound: Noise, rights and environments', *Crime, Media, Culture: An International Journal*, 15(1), pp.125-141. Available at: https://doi.org/10.1177/1741659017751223.

Ruocco, M.R. (1974) 'Background noise', *Environmental Health*, Jan, pp. 6–11.

Savastano, M. (2008) 'Tinnitus with or without hearing loss: are its characteristics different?', *European Archives of Oto-Rhino-Laryngology,* 265(11), pp. 1295–1300. Available at: https://doi.org/10.1007/s00405-008-0630-z.

Schaeffer, P. (2017) *Treatise on Musical Objects: An Essay across Disciplines*. Oakland: University of California Press.

Schafer, R.M. (1994) *The Soundscape: Our Sonic Environment and the Tuning of the World*. Vermont: Destiny Books.

Schnaiberg, A. (1980) *The Environment, from Surplus to Scarcity*. Oxford: Oxford University Press.

Schnaiberg, A. and Gould, K.A. (2000) *Environment and Society: The Enduring Conflict*. Caldwell: Blackburn Press.

Schopenhauer, A. (2000) 'On Din and Noise', in *Parerga and Paralipomena*. Oxford: Clarendon Press, p. 645.

Schrimshaw, W. (2016) 'Realism and Materialism in Sound Studies', *Sonic Art Matters*, Aarhus University.

Schroeder, J. *et al*. (2012) 'Passerine Birds Breeding under Chronic Noise Experience Reduced Fitness', *PLoS ONE*, 7(7). Available at: https://doi.org/10.1371/journal.pone.0039200.

Seidler, A.L. *et al*. (2018) 'The effect of aircraft, road, and railway traffic noise on stroke – results of a case–control study based on secondary data', *Noise and Health*, 20(95), p. 152-161. Available at: https://doi.org/10.4103/nah.NAH_7_18.

Selander, J. *et al*. (2009) 'Long-term exposure to road traffic noise and myocardial infarction', *Epidemiology*, 20(2), pp. 272–279. Available at: https://doi.org/10.1097/EDE.0b013e31819463bd.

Seremetakis, C.N. (ed.) (1996) *The Senses Still: Perception And Memory As Material Culture In Modernity*. Chicago: University of Chicago Press.

Serres, M. (1995) *The Natural Contract*. Ann Arbor: University of Michigan Press.

Serres, M. (2008) *The Five Senses: A Philosophy of Mingled Bodies*. London: Continuum.

Shelton, D. (2006) 'Human Rights and the Environment: What Specific Environmental Rights Have Been Recognized', *Denver Journal of International Law & Policy*, 35(1). Available at: https://digitalcommons.du.edu/djilp/vol35/iss1/7.

Shepherd, D. *et al*. (2010) 'Exploring the Relationship between Noise Sensitivity, Annoyance and Health-Related Quality of Life in a Sample of Adults Exposed to Environmental Noise', *International Journal of Environmental Research and Public Health*, 7(10), pp. 3579–3594. Available at: https://doi.org/10.3390/ijerph7103580.

Shepherd, D. *et al*. (2015) 'Elucidating the relationship between noise sensitivity and personality', *Noise & Health*, 17(76), pp. 165–171. Available at: https://doi.org/10.4103/1463-1741.155850.

Shore, S.E. and Wu, C. (2019) 'Mechanisms of Noise-Induced Tinnitus: Insights from Cellular Studies', *Neuron*, 103(1), pp. 8–20. Available at: https://doi.org/10.1016/j.neuron.2019.05.008.

Sliwinska-Kowalska, M. and Davis, A. (2012) 'Noise-induced hearing loss', *Noise and Health*, 14(61), p. 274-280. Available at: https://doi.org/10.4103/1463-1741.104893.

Smith, A. (2003) 'The concept of noise sensitivity: implications for noise control', *Noise & Health*, 5(18), pp. 57–59.

Smith, J.W. and Pijanowski, B.C. (2014) 'Human and policy dimensions of soundscape ecology', *Global Environmental Change*, 28, pp. 63–74. Available at: https://doi.org/10.1016/j.gloenvcha.2014.05.007.

Sollund, R.A. (2015) 'The Illegal Wildlife Trade from a Norwegian Outlook: Tendencies in Practices and Law Enforcement', in R.A. Sollund (ed.) *Green Harms and Crimes: Critical Criminology in a Changing World*. London: Palgrave Macmillan UK, pp. 147–169.

South, N. and Beirne, P. (1998) 'Editors' Introduction', *Theoretical Criminology*, 2(2), pp. 147–148. Available at: https://doi.org/10.1177/1362480698002002001.

Sparkes, A.C. (1996) 'The Fatal Flaw: A Narrative of the Fragile Body-Self', *Qualitative Inquiry*, 2(4), pp. 463–494. Available at: https://doi.org/10.1177/107780049600200405.

Sparkes, A.C. (2000) 'Autoethnography and Narratives of Self: Reflections on Criteria in Action', *Sociology of Sport Journal*, 17(1), pp. 21–43. Available at: https://doi.org/10.1123/ssj.17.1.21.

Spencer, D.C. and Fitzgerald, A. (2013) 'Three ecologies, transversality and victimization: the case of the British Petroleum oil spill', *Crime, Law and Social*

Change, 59(2), pp. 209–223. Available at: https://doi.org/10.1007/s10611-013-9422-5.

Stanko, E. (2013) 'Violence', in E. McLaughlin and J. Muncie (eds) *The SAGE Dictionary of Criminology*. London: SAGE, pp. 483–486.

Stansfeld, S. (1992) 'Noise, noise sensitivity and psychiatric disorder: epidemiological and psychophysiological studies', *Psychological Medicine*, Suppl 22, pp. 1–44.

Stansfeld, S. and Clark, C. (2015) 'Health Effects of Noise Exposure in Children', *Current Environmental Health Reports*, 2(2), pp. 171–178. Available at: https://doi.org/10.1007/s40572-015-0044-1.

Stansfeld, S., Haines, M. and Brown, B. (2000) 'Noise and health in the urban environment', *Reviews on Environmental Health*, 15(1–2), pp. 43–82.

Stehr, N. (ed.) (2017) *The Governance of Knowledge*. Oxon: Routledge.

Sterling, P. and Eyer, J. (1988) 'Allostasis: A new paradigm to explain arousal pathology', in S. Fisher and J. Reason (eds) *Handbook of life stress, cognition and health*. Oxford, England: John Wiley & Sons, pp. 629–649.

Sterne, J. (2012) 'Sonic Imaginations', in Jonathan Sterne (ed.) *The Sound Studies Reader*. Oxon: Routledge, pp. 1–18.

Stevens, W. (1990) *The Collected Poems of Wallace Stevens*. New York: Vintage Books.

Stretesky, P.B., Long, M.A. and Lynch, M.J. (2012) 'Does environmental enforcement slow the treadmill of production? The relationship between large monetary penalties, ecological disorganization and toxic releases within offending corporations', *Journal of Crime and Justice*, 36(2), pp. 233–247. Available at: https://doi.org/10.1080/0735648X.2012.752254.

Stretesky, P.B., Long, M.A. and Lynch, M.J. (2014) *The Treadmill of Crime: Political Economy and Green Criminology*. Oxon: Routledge.

Sullivan, J. (2013) 'Skype: An Appropriate Method of Data Collection for Qualitative Interviews?', *The Hilltop Review*, 6(1), pp.54-60. Available at: https://scholarworks.wmich.edu/hilltopreview/vol6/iss1/10.

Sumner, C. (1990) *Censure, Politics and Criminal Justice*. Milton: Open University Press.

Sykes, G.M. and Matza, D. (1957) 'Techniques of Neutralization: A Theory of Delinquency', *American Sociological Review*, 22, pp. 664–670. Available at: https://doi.org/10.2307/2089195.

Tarnopolsky, A., Watkins, G. and Hand, D.J. (1980) 'Aircraft noise and mental health: I. Prevalence of individual symptoms', *Psychological Medicine*, 10(4), pp. 683–698. Available at: https://doi.org/10.1017/S0033291700054982.

Tennessen, J.B. *et al*. (2018) 'Frogs adapt to physiologically costly anthropogenic noise', *Proceedings of the Royal Society B: Biological Sciences*, 285(1891). Available at: https://doi.org/10.1098/rspb.2018.2194.

Terranova, T. (2004) *Network Culture: Politics for the Information Age*. London: Pluto Press.

The Environmental Noise (England) Regulations (2006). Available at: https://www.legislation.gov.uk/uksi/2006/2238/contents/made (Accessed: 31 October 2020).

Thompson, E. (2002) *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900-1933*. Minnesota: MIT Press.

Tombs, S. and Whyte, D. (2015) *The Corporate Criminal: Why Corporations Must Be Abolished*. Oxon: Routledge.

Tombs, S. and Whyte, D. (2020) 'The Shifting Imaginaries of Corporate Crime', *Journal of White Collar and Corporate Crime*, 1(1), pp. 16–23. Available at: https://doi.org/10.1177/2631309X19882641.

Topham, G. (2018) 'Heathrow third runway noise would affect 2.2m people, analysis finds', *The Guardian*, 9 April. Available at: https://www.theguardian.com/environment/2018/apr/09/heathrow-third-runway-noise-affect-people-government-documents (Accessed: 20 April 2022).

Turnbull, C. (2015) *The Forest People*. London: The Bodley Head.

Tzivian, L. *et al*. (2015) 'Effect of long-term outdoor air pollution and noise on cognitive and psychological functions in adults', *International Journal of Hygiene and Environmental Health*, 218(1), pp. 1–11. Available at: https://doi.org/10.1016/j.ijheh.2014.08.002.

Ummels, R. and Verkerk, M. (2019) *CPRE aircraft noise study*. Findings report 19.861.01. The Hague, Netherlands: To70.

UNEP (2021) *NEGLECTED: Environmental Justice Impacts of Marine Litter and Plastic Pollution*. Nairobi. Available at: http://www.unep.org/resources/report/neglected-environmental-justice-impacts-marine-litter-and-plastic-pollution (Accessed: 29 March 2022).

UNEP (2022) *Frontiers 2022: Noise, Blazes and Mismatches - Emerging Issues of Environmental Concern*. Nairobi.

United Nations (2016) 'The World's Cities in 2016'. UN. Available at: https://doi.org/10.18356/8519891f-en.

Van den Eede, A. (2012) *The right to protection against noise nuisance as a threat to the right of the child to play*. Thesis. Padua: Universita degli Studi di Padova.

Van Renterghem, T. et al. (2020) 'Interactive soundscape augmentation by natural sounds in a noise polluted urban park', Landscape and Urban Planning, 194, 103705. Available at: https://doi.org/10.1016/j.landurbplan.2019.103705.

Vannini, P., Waskul, D. and Gottschalk, S. (2011) *The Senses in Self, Society, and Culture: A Sociology of the Senses*. New York: Routledge.

Vaughan, D. (1996) *The Challenger Launch Decision: Risky Technology, Culture, and Deviance at NASA*. London: University of Chicago Press.

Venter, Z.S. *et al*. (2020) 'COVID-19 lockdowns cause global air pollution declines', *Proceedings of the National Academy of Sciences*, 117(32), pp. 18984–18990. Available at: https://doi.org/10.1073/pnas.2006853117.

Vienneau, D. *et al*. (2015) 'The relationship between transportation noise exposure and ischemic heart disease: a meta-analysis', *Environmental Research*, 138, pp. 372–380. Available at: https://doi.org/10.1016/j.envres.2015.02.023.

Vienneau, D. *et al*. (2022) 'Transportation noise exposure and cardiovascular mortality: 15-years of follow-up in a nationwide prospective cohort in Switzerland', *Environment International*, 158, 106974. Available at: https://doi.org/10.1016/j.envint.2021.106974.

Virilio, P. (1990) *Popular Defense & Ecological Struggles*. New York: Semiotext(e).

Voegelin, S. (2010) *Listening to Noise and Silence: Towards a Philosophy of Sound Art*. New York: Continuum.

Vokes, R. (2007) '(Re)constructing the Field Through Sound: Actor-Networks, Ethnographic Representation and "Radio Elicitation" in South-western Uganda', in E. Hallam and T. Ingold (eds) *Creativity and Cultural Improvisation*. Oxford: Berg Publishers, pp. 395–423.

Volcler, J., Volk, C. (2013) *Extremely Loud: Sound as a Weapon*. New York: The New Press.

Wainwright, D. (2016) 'Heathrow Airport noise complaint every five minutes', *BBC News*, 1 November. Available at: https://www.bbc.com/news/uk-england-37803205 (Accessed: 15 June 2022).

Walstrom, M.K. (2004) 'Ethics and Engagement in Communication Scholarship: Analyzing Public Online Support Groups as Researcher/Participant-Experiencer', in E. Buchanan (ed.) *Readings in Virtual Research Ethics: Issues and Controversies*.

IGI Global, pp. 174–202. Available at: https://doi.org/10.4018/978-1-59140-152-0.ch010.

Walters, R. (2007) 'Crime, regulation and radioactive waste in the United Kingdom', in P. Bierne and N. South (eds) *Issues in green criminology – Confronting harms against environments, humanity and other animals*. Devon, UK: Willan, pp. 186–205.

Walters, R. (2009) *Crime is in the air: air pollution and regulation in the UK | Centre for Crime and Justice Studies*. London: Centre for Crime and Justice Studies. Available at: https://www.crimeandjustice.org.uk/publications/crime-air-air-pollution-and-regulation-uk (Accessed: 8 October 2020).

Walters, R. (2010) 'Toxic Atmospheres Air Pollution, Trade and the Politics of Regulation', *Critical Criminology*, 18(4), pp. 307–323. Available at: https://doi.org/10.1007/s10612-010-9119-3.

Walters, R. (2013) 'Air crimes and atmospheric justice', in N. South and A. Brisman (eds) *Routledge International Handbook of Green Criminology*. United Kingdom: Routledge, pp. 134–149.

Walters, R. (2014) 'Air Pollution and Invisible Violence', in P. Davies, P. Francis, and T. Wyatt (eds) *Invisible Crimes and Social Harms*. London: Palgrave Macmillan UK, pp. 142–160.

Walters, R. and Martin, P. (2013) 'Crime and the Commodification of Carbon', in R. Walters, D.S. Westerhuis, and T. Wyatt (eds) *Emerging Issues in Green Criminology: Exploring Power, Justice and Harm*. London: Palgrave Macmillan UK (Critical Criminological Perspectives), pp. 93–107.

Wang, D. *et al*. (2021) 'Association of occupational noise exposure, bilateral hearing loss with atherosclerotic cardiovascular disease risk in Chinese adults', *International Journal of Hygiene and Environmental Health*, 235, 113776. Available at: https://doi.org/10.1016/j.ijheh.2021.113776.

Weber, M. (1945) 'Science as a Vocation', in *From Max Weber: Essays in Sociology*. New York: Oxford University Press, pp. 129–156.

Weinhold, D. (2015) *Sick of noise: the health effects of loud neighbours and urban din*. London: The Grantham Research Institute on Climate Change and the Environment. Available at: http://www.lse.ac.uk/GranthamInstitute/publication/sick-of-noise-the-health-effects-of-loud-neighbours-and-urban-din/ (Accessed: 10 February 2020).

Wengraf, T. (2001) *Qualitative Research Interviewing: Biographic Narrative and Semi-Structured Methods*. Thousand Oaks: SAGE.

White, R. (2008) *Crimes Against Nature: Environmental Criminology and Ecological Justice*. London: Willan Publishing.

White, R. (2011) *Transnational Environmental Crime: Toward an Eco-global Criminology*. London: Routledge.

White, R. (2013a) 'Resource Extraction Leaves Something Behind: Environmental Justice and Mining', *International Journal for Crime, Justice and Social Democracy*, 2(1), pp. 50–64. Available at: https://doi.org/10.5204/ijcjsd.v2i1.90.

White, R. (2013b) 'The Conceptual Contours of Green Criminology', in D. Westerhuis, R. Walters, and T. Wyatt (eds) *Emerging Issues in Green Criminology: Exploring Power, Justice and Harm*. Springer.

White, R. (2015) 'Environmental Victimology and Ecological Justice', in D. Wilson and S. Ross (eds) *Crime, Victims and Policy: International Contexts, Local Experiences*. London: Palgrave Macmillan UK, pp. 33–52.

White, R. (2018a) 'Green victimology and non-human victims', International Review of Victimology, 24(2), pp. 239–255. Available at: https://doi.org/10.1177/0269758017745615.

White, R. (2018b) 'Ecocentrism and criminal justice', *Theoretical Criminology*, 22(3), pp.342-362.

White, R. and Heckenberg, D. (2014) *Green Criminology: An Introduction to the Study of Environmental Harm*. London: Routledge.

WHO (2009) *Night Noise Guidelines for Europe*. Copenhagen: The Regional Office for Europe of the World Health Organization.

WHO (2011) *Burden of disease from environmental noise: Quantification of healthy life years lost in Europe*. Copenhagen: The Regional Office for Europe of the World Health Organization.

WHO (2018) *Environmental Noise Guidelines for the European Region*. Copenhagen: The Regional Office for Europe of the World Health Organization.

WHO (2021) *WHO global air quality guidelines: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide*. Geneva: World Health Organisation.

Whyte, D. (2016) 'It's common sense, stupid! Corporate crime and techniques of neutralization in the automobile industry', *Crime, Law and Social Change*, 66(2), pp. 165–181. Available at: https://doi.org/10.1007/s10611-016-9616-8.

Williams, C. (1996) 'An Environmental Victimology', *Social Justice*, 23(4), pp. 16–40. Available at: http://www.jstor.org/stable/29766973. Accessed 14 Jul. 2022.

Williams, R. (1980) *Problems in Materialism and Culture: Selected Essays*. London: Verso.

Wittgenstein, L. (1972) *Tractatus logico-philosophicus eli Loogis-filosofinen tutkielma*. Porvoo and Helsinki: Werner Soderstrom.

Wrightson, K. (2000) 'An Introduction to Acoustic Ecology', *Soundscape: Journal of Acoustic Ecology*, 1, pp.10–13.

Wyck, P.C.V. (2005) *Signs of Danger: Waste, Trauma, and Nuclear Threat*. Minneapolis: University of Minnesota Press.

Yoon, J.-H. *et al*. (2015) 'Dose - response relationship between noise exposure and the risk of occupational injury', *Noise & Health*, 17(74), pp. 43–47. Available at: https://doi.org/10.4103/1463-1741.149578.

Young, A. (2014) 'From object to encounter: Aesthetic politics and visual criminology', *Theoretical Criminology*, 18(2), pp. 159–175. Available at: https://doi.org/10.1177/1362480613518228.

Young, J. (2011) *The criminological Imagination*. Cambridge: Polity Press.

Zedner, L. (2011) 'Putting Crime Back on the Criminological Agenda', in M. Bosworth and C. Hoyle (eds) *What is Criminology?* Oxford: Oxford University Press, pp. 271–285.

Zizek, S. (2002) *For They Know Not what They Do: Enjoyment as a Political Factor*. London: Verso.