The Noisy City: People, Streets and Work in
Germany and Britain, c. 1870-1910

A Thesis submitted to the University of Manchester for the degree of Doctor of Philosophy in the Faculty of Humanities

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<td>LNRWAB</td>
<td>Landesarchiv Nordrhein-Westfalen Abteilung Rheinland</td>
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<td>MLA</td>
<td>Manchester Local Archives</td>
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<td>MLIC</td>
<td>Manchester Local Image Collection</td>
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<td>MMB</td>
<td>Millennium Memory Bank</td>
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<td>MOSI</td>
<td>Museum of Science &amp; Industry</td>
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<td>StaB</td>
<td>Stadtarchiv Bochum</td>
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<td>StaD</td>
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Abstract

This thesis surveys the sounds of everyday street and work life to argue for a reassessment of the way historians have understood community, space, materiality and identity in late-nineteenth and early-twentieth-century Germany and Britain. It will demonstrate that sound played an important role in the organisation of urban space and social order. Furthermore it will show how the historical subject as listener emphasises the volatility of identity, place-making and community. Sounds either defined a community through positive responses or created conflict where one group heard the sounds of another group as noise. Sound helps to define the social groups that this thesis focuses on, such as experts, intellectuals, local administrators, immigrants or factory labourers. The ephemeral nature of sound and the subjectivity of listening, however, also pull apart such neat definitions and reveal the fractures within each of these social groups.

Throughout this thesis, differing reactions to everyday sounds in the conurbations of Manchester and Düsseldorf will demonstrate how communities sought to define themselves and their environments through the production and reception of sound. What emerges is a re-composition of everyday life in the late-nineteenth and early-twentieth century that challenges examinations of it based on images of class, sociability and culture. Düsseldorf and Manchester were substantial cities that grew during the period studied here and underwent similar processes of technological change that affected both the social order and the physical environment. This thesis demonstrates that the audibility of specific technologies, buildings and machines physically affected listeners, and that working classes, middle-class professionals and local administrators all created regimes of noise intent on controlling behaviour in streets and workplaces.

One of the key tropes within studies of sound is that listening places the historical subject at the centre of their environment while seeing places them outside of it. Using this idea, this thesis will make an original contribution to a number of debates. First of all, sounds broke down visual boundaries between street and workplace and this dissertation examines how that changes historical notions of place and space. Secondly, this thesis establishes how sound exposes the lines of fracture and cohesion within and between social groups that historians of popular street culture have tried to emphasise through class relations. Thirdly, sound allows for a re-examination of the power structures in which factory labourers and immigrants worked and lived as it presents practices of listening and sound production that breathe new life into ‘histories from below’ and challenge the top-down approaches associated with governmentality. Finally, this thesis will challenge the notion of noise as unwanted sound, prevalent in the growing number of histories on urban noise by demonstrating the diversity of everyday and medical reactions to ‘noise’ and exploring the problem of ‘silence’ in negotiations of migrant and worker identity and the development of road technologies.

Overall, this thesis will determine that the role of sound in the late-nineteenth and early-twentieth-century complicates historical debates on the physical and social organisation of urban space. Different communities transformed their identities around shared listening practices and adapted their rhythms of everyday life to sounds that resonated between street and home, work and leisure.
Declaration

No portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.
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Introduction

In their introduction to *The Auditory Culture Reader*, sociologists Michael Bull and Les Back argue that sound can make us rethink the nature of social experience, and our relations to community, environment, and power.¹ With this in mind, historical study of everyday sounds of the city enhances the understanding of space as a relational construct and refines the notion of identity as a fluid construct attached to both sound and place.² Studying sound in history alters our ideas about space and identity because historians have tended to ‘look’ for historical evidence or viewable sources, consequently comprehending their subjects’ experiences in visual terms as well. Hearing, however, provides a very different experience from seeing. As the philosopher John Dewey described back in 1927, ‘vision is a spectator, hearing is a participator.’³ Whereas

our ears place us in the middle of the world, our eyes place us at the edge looking in. Furthermore, sounds resonate inside us as our own sounds resonate from within us into the world around us.

Over the past twenty years historians have increasingly examined the impact of sound on a variety of topics. The tone was set by Alain Corbin’s 1994 publication *Village Bells* in which he explored how the sounds of church bells in nineteenth-century French rural areas created an aural space that diametrically opposed what he defined as ‘the acceleration that swept the nineteenth century along.’ By understanding the distinctive sounds of church bells and how people responded to them Corbin was able to provide a different perspective to the widespread idea among historians that the nineteenth century was all about speed and the compression of time and space. Corbin’s book focused on the sensitivity of a specific social group and how an ever-present sound defined them. The church bell is an example of an acoustic signal, which are sounds with a specific social meaning, and it is these sounds that historians have mainly examined. Other examples of acoustic signals are types of music and forms of noise, both of which have received scholarly attention from historians writing on aurality. Their work presents useful ways to understand the historical topics that this thesis will explore.


Noise and Music: When History Engages Sound

Noise has always proliferated in society. Historian Emily Cockayne has suggested how it can present us with access to the soundscapes of the past when she notes that ‘people are most vocal when they are moaning about things that have disgusted or annoyed them.’\(^6\) There is a lot of evidence about what has historically been considered noise and in the late-nineteenth and early-twentieth-century anti-noise campaigners institutionalised the ‘problem’ of noise as they started to join forces locally, nationally and internationally.\(^7\) Noise, of course, has always been a subjective category. Historian Peter Bailey acknowledged this when he described noise as ‘sound out of place.’\(^8\) Certain people found certain sounds at certain times and in certain places undesirable. This thesis will discuss why it is important for historians to be as specific as possible about issues of localization and periodization when examining how noise has been pathologized.

Research into anti-noise campaigns has demonstrated that they arose because of the idealism of a small urban elite who searched for a ‘silent’ environment within the clamour of the city.\(^9\) John Picker has investigated the soundscapes of Victorian London


\(^{9}\) Besides the works mentioned in note 6 there’s a broad range of articles in both English and German that follow this principle, see: Jon Agar, ‘Bodies, Machines and Noise’ in Iwan Rhys Morus (ed.), *Bodies/Machines* (Oxford, 2002), 197-219; Lawrence Baron, ‘Noise and Degeneration: Theodor Lessing’s Crusade for Quiet’ *Journal of Contemporary History* 17 (1982), 165-178; Karin Bijsterveld, ‘The Diabolical Symphony of the Modern Age: Technology and Symbolism in European and North American Anti-
and calls the urban elite who campaigned against noise ‘brainworkers’ because they worked in high-minded occupations such as journalism, literature, the sciences and philosophy. According to Picker’s brainworkers, the effect of noise on the urban population was disquiet and nervousness. Their ideas resonated with psychologists and nerve specialists who argued that noise was a cause of neurasthenia. Some historians, such as Joachim Radkau or Anson Rabinbach, have claimed that the period from around 1870 to 1914 was a nervous age. Because the ear was unable to close itself, it was extremely susceptible to overstimulation. Moreover, sounds resonated between different spaces, which meant that the sounds of the street and of neighbours infringed on home and work places. It was at those moments that sounds became noise in the ears of brainworkers. Although there were extensive debates on the aesthetic qualities

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10 Picker, *Victorian Soundscapes*, 52.


of specific sounds, the influence of sound on the physical ear and the brain has not received any sustained scholarly analysis. This thesis will argue that it was these crucial bodily factors that ensured that anti-noise campaigns were relatively successful.

Sound and hearing were important elements of the experience of the modern city. By studying the listening practices of different social groups within urban populations, this thesis exposes the variability of identity within seemingly homogenous communities. To appreciate how the social experience of sound allowed people to form communities, this thesis uses the concept of ‘acoustic community,’ which has been defined by the composer Barry Truax:

Acoustic cues and signals constantly keep the community in touch with what is going on from day to day within it. Such a system is ‘information rich’ in terms of sound, and therefore sound plays a significant role in defining the community spatially, temporally in terms of daily and seasonal cycles, as well as socially and culturally in terms of shared activities, rituals and dominant institutions.13

This definition clarifies why sound is so important to urban historians who are naturally inclined to think about the spatial organisation of the city, and how different places have their own influence on the construction of identity. Whilst anti-noise campaigners and nerve specialists in the late-nineteenth century argued that excessive noise negatively effected the wellbeing of the urban population, in light of Truax’s definition it is clear that even within a noisy space such as a factory workplace, an acoustic community could form. Practices of listening therefore constructed identities. This thesis will demonstrate how this allows historians to consider the role different regimes of noise had in ordering the city.

Utilising the idea of governmentality many historians have examined urban spaces and practices from the perspective of experts who desired to establish a regime through

13 Barry Truax, Acoustic communication 2nd Ed. (Westport, CT, 2001) 66.
what sociologist Nikolas Rose has called ‘a web of visibilities.’ What the different regimes of noise discussed in this thesis demonstrate is that the emphasis in histories of governmentality on seeing has created a skewed ‘vision’ of the city. Furthermore, historians tend to investigate different regimes of governmentality as if local and state authorities or engineers and other experts invented them. By focusing on the slow change of acoustic regimes based on noise control, this thesis demonstrates how the social control of the city was a more on-going process than historians who have applied ideas of governmentality have previously surmised.

The bottom-up critique of governmentality presented in this thesis also resonates with the work of many historians who have researched the popular culture of the late-nineteenth and early-twentieth-century city from the perspective of class and space. In her book on workers’ culture in Imperial Germany, Lynn Abrams argued that street musicians were mainly a nuisance because ‘the streets were beginning to be regarded as threatening and dangerous by the new elite.’ This elite consisted of the brainworkers


16 Abrams, Workers’ Culture, 93.
discussed by Picker and those industrialists who through their wealth could exert control on municipal decision-making. Besides the fact that street musicians literally took up space, there were also aesthetic problems. Simon Gunn has argued that the urban bourgeoisie created a cultural hierarchy by judging that street music had little to no cultural value, while they deemed music played in designated music chambers and in concert halls to be of significance. From the top down this elite not only infused the broader middle classes with their values, but was also able to project them onto public spaces. However, this thesis will argue that the limits within which an aesthetic cultural hierarchy existed were not as straightforward as historians have often assumed.

For urban professional elites music had qualities of education and self-development. In her work on Felix Mendelssohn’s revival of J.S. Bach, Celia Applegate has shown that such qualities could carry a broader identity. For Applegate, Mendelssohn’s performance of Bach’s Matthäus Passion in 1829 was central to the forging of a national German nationhood. Applegate, like Gunn and Picker, follows the idea of a cultural hierarchy based on taste. It was the urban professional elites who were able to express their opinions publically, and, generally speaking, the power struggle over public space was uneven. Historians who have utilised the idea of cultural hierarchy have adopted the idea of the urban elites they discuss, positing that street music was made by and played for the working classes. However, music, and sound more broadly, had the

ability to break open these power relations. James Hepburn has demonstrated this with the idea of a ‘captive audience,’ which he defined as, ‘all sorts of people who crossed the paths of ballad singers and reciters’ in the streets where they sang and performed. 19

What this definition shows is how an ‘audience’ was not just made up of active listeners but a number of audiences, an issue that will be of key interest to this thesis.

Methodology: Where, When, and the Use of Sound

The conurbations of Manchester and Düsseldorf were two crucial arenas when it came to urban and industrial development. Within these cities issues of social order and experiments with spatial organisation were representative for transformations into urban areas in Britain and Germany respectively. Like in many of the other growing industrial cities in Western Europe the urban and rural met and, faced with rapid expansion, Manchester and Düsseldorf became indicative of the modern sensory experience. By focusing on these two arenas, this thesis presents a transnational history. It diverges, however, from the recent popular interpretation of the model, which has seen historians focus on transfers and relationships. 20 Neither is it comparative in its


approach, in the sense of bringing out the similarities and contrasts between two or more locations. Instead, this thesis deals with the listening cultures and soundscapes of Manchester and Düsseldorf as a representation of the widespread urban transformations that affected many Western nations in this period. In other words, both of these cities are typical examples of a broader phenomenon of urban, social and cultural change that was specifically sonic in its nature and specific to its time.

This thesis focuses on the period from about 1870 to 1910 because it was an era when technological developments introduced new sounds into everyday life. From around 1910 sound reproduction devices such as gramophones and radios became more and more common in everyday life, creating another entirely different experience of the urban soundscape from the 1920s onwards. Historian Peter Payer refers to the period as ‘the age of noise,’ mainly because a discourse around the problems of noise began to emerge that propelled research into the impact of noise and the need for noise control.

Noise, between 1870 and 1914, moved from being something related to humans and nature to being related to machines. This thesis does not trace this particular development, but it places the decades on either side of 1900 as part of a longer process that influenced the way the urban world sounded and the way urban populations listened to their environment. The thesis focuses on a variety of social groups who

specific benefits and challenges of transnational history, see: Jan Rüger, ‘OXO: Or, the Challenges of Transnational History’ European History Quarterly 40 (2010), 656-668.


22 Payer, ‘The Age of Noise.’
created a sense of place and constructed communities as they interpreted their heard world.

To get at both the social experience of sound and the acoustic and material understanding of specific locations, this thesis fuses sound studies, social history and cultural history. While methodologies are always evolving, sound studies have witnessed a particularly rapid development as a new interdisciplinary field of research that involves a wide range of disciplines, including history, anthropology, neurology, art, ethnography and sociology. This thesis builds on two specific bodies of work within sound studies that are particularly relevant to this thesis. Firstly, there are a number of books and articles in which strict historical questions underpin the research. Emily Thompson and Jonathan Sterne have focused on how science and technology influenced modernity, and related the production of specific sounds and the development of listening cultures to efficiency, technical mastery and consumerism. Similarly, historians Mark Smith and Karin Bijsterveld have focused on the symbolic meaning of sound and how it affected social and cultural practices such as the sectionalism of mid-nineteenth-century America or the legislation of noise in the twentieth century.


23 Bijsterveld, Mechanical Sound, 27-41; Smith, Listening, 147 and 177-181.
Murray Schafer’s original idea of the soundscape and consequently redefined its meaning. From these studies we can learn how humans process sounds they hear around them, how they filter out noise and how they are able to discern minute changes to their soundscapes. Soundscape studies have demonstrated how people navigate their sonic environments from the centre instead of looking in from the periphery. Historians rarely engage directly with these ideas, even though it offers a way to understand how historical subjects experienced sound and how sound affected spaces and the connections between them. When I talk about the soundscape, I refer to acoustic environments that were filled with sounds, and I have selected those which had social or cultural significance and as such were acoustic signals. Schafer’s soundscape was one which threatened environmental stability because of increasing noise levels and which subsequently required design to alleviate the pressures of noise on society. This thesis presents acoustic environments from the perspective of historical actors, thus providing a more nuanced and variegated interpretation of the soundscape, the basis of which related to the experiences of the listener.

In incorporating these historical and technical approaches to sound, this thesis follows Bruce Smith’s work in *The Acoustic World of Early-Modern England*, in which he emphasised the importance of bringing together the cultural protocols of listening, a psychology of listening and the subjective experience of sound. By further developing the complexities of historical soundscapes and the social and psychological experience of sound within them, this thesis will provide a model for a more unified and holistic methodology that historians writing about sound can use. Furthermore, this thesis will historicise some of the questions that sound theorists have raised by focusing specifically on the social and cultural function of hearing. This thesis utilises traditional historical sources, such as newspapers, minutes from local authorities, personal testimonies and other printed materials. However, I have approached these sources with a particular ear for the metaphors, descriptions and symbolisms of sounds and sonic events. Added to this, I have used maps and images to illustrate the location, proximity and effect of certain sounds.

I also draw on recorded sounds, which the reader finds on the accompanying CD at the back of this thesis. The sounds I use come from two different types of sources, personal and official recordings. These recordings first of all help to sonically illustrate a printed source. The recordings come from personal archives, the North West Sound Archive in Britain and the archive assembled by musician Richard Ortmann in the Ruhrgebiet. All of these recordings present evidence of the industrial soundscapes of Britain and Germany that allows historians, sometimes speculatively, to re-compose the

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heard worlds of urban populations. They also allow this thesis to test contemporary assumptions about the noisiness of certain technologies or ambiances. Finally, this thesis connects the sounds of some recordings to their acoustic context to understand how certain sounds became signals, expanding the methodologies used by historians of sound.

The Structure of this Thesis

Chapter one examines how various responses to man-made street sounds confirmed and disrupted social boundaries and the organisation of urban space. It explores the idea that sounds defined urban spaces and were instrumental to the way contemporaries, mainly middle-class professionals, imagined, understood and navigated their city. Historians have demonstrated that urban populations knew their cities visually and technologically. However, they also knew the city through acoustic signals, which, depending on various thresholds of tolerance, were perceived as noise in certain situations. Different reactions to the practice of street hawking show how sensibilities to noise changed over time and how specific acoustic signals fixed identities in place. Social historians have built on the work of sociologist Pierre Bourdieu to argue that the middle classes differentiated themselves through what they perceived as their good taste. This thesis shows that listening, as an everyday practice, disrupts the cultural


hierarchies defined through a Bourdieuan approach. That said, anti-noise campaigns in the period focused on man-made street noises as particular nuisances that invaded the private spaces of middle-class professionals. Those sounds were part of an urban sonic regime that was slowly transforming. Examining this provides a bottom-up critique of liberal governmentality.

The focus of anti-noise campaigners changed from man-made sounds to mechanical ones around 1900, and chapter two picks up on how this led to a shift in thinking about how to prevent noise. Because cities such as Manchester and Düsseldorf were dependent on industry, its accompanying noises were equally conceived as useful sounds signifying progress and modernity. To accommodate a desire to control the urban soundscape engineers and other experts developed technologies that allowed the progress of industry alongside a dampening of urban noise levels. The chapter focuses specifically on the experimentation with road surfaces materials for which ‘silence’ was deemed an important measure. The focus on road surfacing also showcases how the urban experience was multi-sensorial as poor roads negatively affected both the nose and ear. New technologies did not necessarily allay fears of nervous breakdown as the introduction of the automobile and the shrieks of the train whistle evidence.


Unexpected mechanical noises were a target for anti-noise campaigners, but often originated from the modern technologies they championed. Each new technology introduced in the urban environment around 1900 found itself balancing between being a pinnacle of progress and emitting unacceptable noise. Chapter two argues that communities created themselves through the way people heard certain sounds and that such listening practices defined the social and spatial organisation of the city.

The idea of the speech community is central to chapter three, which focuses on communication between immigrants and their host society and how that influenced issues of identity. Immigrants found a sense of place amongst the familiar sounds of their own spoken language. Because they lived in close-knit groups their community was able to establish itself quite easily within the urban environment. The chapter focuses on Poles in the Ruhrgebiet, whom the German government forbid to speak Polish. Poles had adopted the German custom of organising themselves in choral and sports societies. Their interactions with German police forces show that community was expressed in silence as much as in sound, thus challenging the way historians understand the aurality of history. Speech was an important acoustic signal through

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which immigrants identified themselves and through which a host society attached identities to them. Eastern European Jews in Manchester who spoke Yiddish found their old identities reaffirmed in a new place. Englishmen often heard, and hence perceived, a group of hard-working and thrifty people, while older generations of Jews tended to hear the rumblings of anti-Semitism when the poor immigrants spoke Yiddish. The interplay between these identities and how, when and where they presented their different layers allows for a more refined understanding of identity as a fluid construct attached to both sound and place.

The final chapter turns to the workplace and argues that workers adapted to their soundscape to allow themselves moments when they could break out of the power structures in which they worked. By analysing which acoustic signals workers used to their advantage, this chapter develops ideas about working-class culture and masculinity and sheds fresh light on how work-discipline operated. To understand the relationship between workers and their soundscape, this chapter focuses on the cotton factory in Manchester and the mine in the Ruhrgebiet, the two largest industries for the respective conurbations. Both of these case studies provide ample evidence through their material environment, the existence of sound recordings and personal testimony. Combining these different sources, this chapter creates a platform from which other histories of sound can work. The chapter also develops the notion of workers’ sense of self through sound and shows how labour reformers used workers’ adjustment to their soundscapes.


to improve efficiency.\textsuperscript{36} Psychologists and economists focused on diminishing fatigue to improve work rates, an issue both beneficial to the worker and to the industrialists employing them. They also connected the issue of fatigue to bourgeois nervous disorders, breaking down social boundaries historians have placed around the nervous age. The rhythms of labour proved effective in both allowing a worker to adapt to the power structures of industrial work and in reinforcing them, refining the way historians understand the power relations of the workplace.

This thesis reveals how, as urban ambient noise levels increased through new technologies and growing cities, sound was a significant measure to which a variety of social groups attached meaning. The control of sound meant power, and this thesis examines how street culture was transformed as middle-class professionals, engineers and local authorities developed techniques and strategies to organise the urban soundscape to their own ideals. Equally, this thesis demonstrates that notions of bourgeois quietude were often a myth as sounds broke down visually demarcated spaces and allowed migrants and workers to destabilize the power structures imposed on them.

Chapter One: Man-Made Street Sounds: Place, Nerves, and Acoustic Conflict in the Modernising City

Introduction

In his edited volume on the sounds of modern history, historian Daniel Morat asks one of the fundamental questions for historians of sound: ‘have “auditory regimes” been equally important in the formation of modern culture and modern subjectivity as “scopic regimes?”’\(^1\) This chapter attempts to answer this question as it demonstrates how sound affected the relations between the urban populations of late-nineteenth-century Manchester and Düsseldorf. It specifically focuses on the street and the man-made sounds that proliferated on it. It explores where, when and for whom some of these sounds became noise. Peter Bailey, historian of popular culture, has shown that there were ‘a variety of responses [to noise] from amusement to exasperation, from indulgence to repression, according to shifting thresholds of tolerance.’\(^2\) Bailey was unable to explain in detail the reasons for the shifting of thresholds of tolerance for noise. While all of the responses Bailey mentioned are examined in this chapter, the thresholds of tolerance and the subsequently different responses to noise will be clearly identified through differing modes of listening and the issue of place.

Noise around 1900 has mostly been analysed by historians in the context of the struggle for quietude by the urban middle classes. This approach has shown how noise was a

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social and cultural construct embedded in the negotiations of urban identities. What the literature has paid little attention to, however, is where and how certain sounds ‘became’ noise as a result of different thresholds of tolerance, even within seemingly homogenous social groups such as the urban intellectuals that historian John Picker has called ‘brainworkers.’ In other words, historians have analysed noises separately from the wider soundscape. The noises discussed in this chapter broadly fall into categories of popular culture. Not only were they part of the cacophony of urban life, they also resonated in discussions on urban leisure. Social historians, such as Lynn Abrams or Gareth Stedman Jones, have placed a defined spatial analysis on urban leisure together with a defined genre attached to different expressions of music, theatre, processions, etc. This chapter argues that the sounds of popular culture on the streets blurred boundaries of performance spaces and neat parameters of urban leisure.

This chapter postulates that issues surrounding noise were a part of what historians such as Joachim Radkau and Michael Cowan have termed ‘the nervous age.’ They have

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argued that the decades around 1900 witnessed an increase in nervousness, especially among the bourgeoisie, due to technological transformations that sped up the rhythms of life. While these historians hint at the importance of noise for the increase in nervous disorders and the rise of the urban experience as a nervous one, this chapter will make noise central to that analysis. Because noise influenced the rhythms of life and work and because there were different thresholds of tolerance to it, it created an acoustic conflict. Martin Cloonan and Bruce Johnson, both scholars of popular music, have identified the urban acoustic conflict within the context of modernity’s increasing levels of ‘noise in increasingly densely packed spaces.’ Around 1900, doctors, journalists and philosophers joined together in anti-noise campaigns in an effort to suppress those noises that they felt hindered modernity’s progress. This vocal minority has received the bulk of historical attention in histories about nervous disorders. This chapter seeks to balance the analysis of the ‘nervous age’ as a particularly bourgeois phenomenon by demonstrating that noise affected the wider urban population in spite of their social status, eliciting nervous responses.

A variety of sources will be used to capture the noises of the period. Most of these sources are text-based, principally newspapers and periodicals, and draw upon their descriptions of sonic events. These sources not only provide information about the different modes of listening that existed among their middle-class readership, but also offers insights into when and where certain sounds became noises. Council records

![Image](https://via.placeholder.com/150)

*Origin of Modernity* (London, 1992). All translations from the German in this thesis are mine, unless otherwise stated.


provide similar evidence, demonstrating that sounds were socially as well as aesthetically
judged and listened to on a broad register. Ballads are used for their textual descriptions
of the sounds of certain parts of the city, but are also taken as sonic events. All of the
sources used are either visual or textual, meaning that sensitivity to their aural content is
necessary. Throughout the chapter I develop such sensitivity by paying attention to
metaphors and by picking out the underlying significance of sound in many historical
accounts. Ballad singers, like other street musicians and hawkers, were acoustic
presences that elicited a variety of responses from listeners of all social classes, at work
or at rest, positive and negative. Whether merely heard or actively listened to, the urban
population, from working-class people on a night out to the journalist writing at his
desk at home, used the acoustic signals of hawkers and street musicians to navigate the
city and construct a sense of place.

Section one focuses on a variety of sounds, but mainly on hawkers and street musicians
as specific acoustic signals within the urban hubbub. These sounds defined people’s
movement through their urban environment, and mapping them refines historians’
understanding of the spatial organisation of the late-nineteenth-century city. Finally, it
will use the broadside ballad as a guide to the city. Section two focuses on the variety of
responses that existed to urban man-made street sounds. It examines when and where
certain sounds became noise for the urban, intellectual elite. Increasingly, this elite
began to listen to noises as polluters of body and mind that caused nervous disorders.
Finally, it demonstrates that regimes of noise developed and that power structures
transformed instead of new urban elites inventing them. The third section takes a more
chronological view of the slow demise of street music to demonstrate that the main
cause for it was not the anti-noise campaigns nor the legislation against it, but the

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general rise of ambient noise levels. The section shows that shifting listening practices over a longer period challenge existing notions of how middle-class professionals organised urban space. Overall this chapter explores the changing sensibilities towards noise that existed in the late-nineteenth and early-twentieth centuries to evaluate how urban populations organised their cities through what they heard.

**Hawkers, Acoustic Signals and Place-Making in Late-Nineteenth-Century Manchester**

Since the ‘spatial turn’ historians have tried to understand the role that space played in the construction and negotiation of identity and how people attached social, cultural or political meanings to specific places. What this attention to ‘space’ has shown is that historians should construe spaces as, in the words of historians Beat Kümin and Cornelie Usborne, ‘the result of relational processes with the potential to affect subsequent social interaction.’ Moreover, historians, sociologists and geographers alike have shown that this relational construction of space explains why people attach meaning to certain sites and locations, thus creating a sense of place. Kümin and Usborne, and some of the authors in their special issue of *History and Theory*, call for a re-focus of the ‘spatial turn’ to think about what space and place meant to people and

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communities.\textsuperscript{12} However, as historian Celia Applegate has shown, ‘our capacity to make sound and to listen to sound is a crucial aspect … in the process of transforming the physical reality we encounter into meaningful space.’\textsuperscript{13} Applegate has opened a new way of investigating place-making and how urban populations navigated their city in a field dominated by visual boundaries. However, Applegate’s interest in classical music leaves many sounds unaccounted for, such as the sounds of everyday street life. The acoustic signals that this section investigates are those of the hawker and the street musician. Sounds produced by these actors were signals, most of all, because their producers wanted to be heard above the din of the urban soundscape.

Hawkers used a variety of techniques to attract attention, but their voice was central to how they distinguished themselves from the rest of the urban streetscape. Hawkers and street musicians positioned themselves in places where their voices reached furthest and therefore reached the most ears. Their reasons for creating acoustic signals was clear: to attract attention. How other urban actors reacted to the sounds made by hawkers and street musicians reveals that urban places, from work places to public places, were not neatly organised alongside each other. Sound infiltrated all spaces and the signals created by hawkers and street musicians entering a place or work or a home from the street met with a variety of responses – from pleasure to disgust. By investigating for whom and where the sounds of hawkers and street musicians became noise, this section redresses historical understandings of urban space as visually demarcated and discrete from one another. The first step this section takes is to establish how hawkers created


acoustic signals, before investigating who listened to those signals as noise and, finally, giving an example of how the sonic act of hawking broke down the spatial organisation of Manchester’s urban space.

Most of the historical accounts of hawkers and street musicians – and street life in general – come from observers in London and Berlin. There are, however, also contemporary publications of observations of street life from non-capital cities, such as Manchester. One Mancunian observer, writing under the pseudonym Felix Folio (John Page), was a toll collector for the Market Committee of the Manchester Corporation. His book on the hawkers and street dealers of Manchester from 1858 provides a detailed picture of the way street peddlers worked. The publisher of the book was John Heywood who ran a Manchester business with connections to social reformers and Chartists and whose brother, Abel, later became mayor of Manchester.

Throughout the book Folio’s dislike for hawkers of all kind, who did not pay tolls, is evident, perhaps hinting at an audience for the book who saw and heard hawkers as a plague to urban life. The hawkers often came from the poorest sections of society and the urban elites tended to mistrust the business of selling goods on the streets on an itinerant basis. Furthermore, the mere presence of ‘the poor’ in public life was a cause of...
for concern for many among the industrialists, ‘brainworkers,’ civil servants and other members of the growing urban bourgeoisie who strove for progress and a respectable city.

One of the hawkers Folio described is the ‘needle dodge,’ the latter word relates to beggars who used to fake injury.19 The workings of the needle dodge were as follows:

Fellows dressed as distressed workmen – generally they have a white apron twisted round their bodies, and a paper cap on their heads – arrest the attention of people in the streets, in the same manner as nearly all the street-dealing impostors do, namely, by “patterning.” The needle dodger, having selected a street corner, in a good thoroughfare, opens his box … and having arranged his needles thereon, immediately commences the “patter.”20

Folio described the needle dodge as an impostor, who faked injury and hardship. The street dealer dressed the part, but what they looked like was not what captures the attention of people around him. His visual appearance was important to his act, but in relation to the sound of his voice, the patter. The needle dodge’s voice was his primary asset and through it he could attract attention and custom.

Using patter to arrest attention relates to what sociologist Pierre Bourdieu has termed an ‘articulatory style,’ which is a ‘system of phonological features which characterizes … pronunciation.’21 Bourdieu used the concept to distinguish different ways of speaking between social classes, such as the dropping of final r’s and l’s among the lower classes for example, but it also helps to understand the effect of patter as an auditory expression. Patter as an articulatory style becomes a series of phonetic pronunciations

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20 Folio, *The Hawkers and Street Dealers*, 106.

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that have a particular effect on the listener. Psychologists have shown that listeners use ‘phonetic information preserved in the [acoustic] signals to distinguish and identity talkers whose vocal characteristics were already known.’ The hawker constructed his patter around specific vocal characteristics, mainly rapidity, constructing inflections of his voice that sounded familiar to passers-by and attracted them to what he sold. Folio described patter as continuous, even during transactions with customers, as the needle dodge continuously made sure he was a signal within the street’s soundscape.

Patter consisted of stories of difficulties to find work, distress or other sentiments to appeal to different publics. According to Folio, patter had two effects: some purchased ‘thinking the needles cheap’ and others purchased ‘with the charitable desire to assist the unfortunate but industrious maker of them.’ These are two types of listeners, practical and charitable, but the same articulatory style attracted both. Hawkers also used other tactics than patter to attract customers. Fruit sellers, for example, made use of alliterations to create sounds as full as the flavour of the fruits being sold. Each hawker adapted his or her articulatory style to what they sold and used sound to create signals for potential customers. Many of the historians writing about hawkers adopted the concept of noise as unwanted and disorganised sound. The former qualification still stands, but the analysis of patter as an acoustic signal demonstrates that it was organised sound. Historical thinking about noise thus needs to be refined to understand noise on a much broader spectrum where it was under the influence of social mores and cultural values.

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Hawkers were not only aware of the importance of being an acoustic signal, they also had spatial awareness as they positioned themselves carefully on a street to increase their potential reach. Folio’s needle dodge, for example, positioned himself ‘on a street corner, in a good thoroughfare.’25 The acoustic reach of the patter was broader from a corner than it was from other positions on a street. A good thoroughfare meant that there were plenty of people who came within earshot of the patter and could be attracted to the hawker’s wares. Hawkers and street entertainers alike were spread throughout the cities of mid-nineteenth-century Germany and Britain, from the central areas to the working-class quarters. Historians have often placed the tensions between hawkers and the authorities within the discourse of class.26 Lynn Abrams, in her study of workers’ culture in Imperial Germany, argued that ‘public performances created a disturbance’ in the ideal cityscape of the urban bourgeoisie.27 This notion requires some refinement if the role of sound and place are made central to the analysis of the urban ‘problem’ of street hawkers. The ‘noise’ label attached to hawkers by historians follows from that label attached to them by the bourgeois subjects they investigated. However, hawkers and street entertainers were also a spatial problem as the acoustic signals they produced drew custom from rate-paying businesses or attracted crowds in busy thoroughfares. Their ‘noise’ was not so much the loudest or shrillest sound in the street, but it was a disturbance to the rhythms of industry, business and movement in general.

Within Manchester, official complaints about noise disturbing the rhythms of daily life were put to the Nuisance Committee of the Manchester Corporation. The committee was responsible for a wide range of sanitary and environmental issues, noise being one

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of them. As early as 1848 the Nuisance Committee made a statement regarding hawkers that captured how they interfered with the organisation of urban space:

[The] Committee is decidedly of opinion that serious obstructions and danger would arise both to persons on horseback and in carriages, as well as annoyance to foot-passengers, if Hawking ... were permitted: as the hawkers would frequent the most crowded streets and places, and would obstruct the foot crossings in the principal thoroughfares.

This passage is typical of how local authorities made hawking problematic at the time, by judging them as obstructions to free movement through the streets. Public space in the city, and especially streets, were places of transport that allowed people and traffic to go from one point to another. Streets were not places of business and entertainment, although shop windows were aimed at attracting customers from the street, mostly women, as much as the voice of the hawker. The presence of hawkers was a problem, because they obstructed flows of movement, which they did by attracting crowds with their voices.

Historians who have examined the negotiations of identity in modern street life in the context of leisure and economy have focused on an urban bourgeoisie who attempted to establish regulations that imposed what they saw as respectable and well-ordered

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29 ‘Minutes,’ Nuisance Committee, 7 March 1849, GB127.Council Minutes/Nuisance Committee, MLA.

Hawkers and other street entertainers contested such an order as they stopped movement and disrupted business. In a report from the Polizeiverwaltung in Essen, obstruction, this time due to street music, was again the main issue raised in defence of banning such practices:

Musical troupes that wander around the city always attract groups of the curious and loiterers as well as street youths who follow them around, to the point where again and again traffic is made impossible in the streets.32 Those attracted to the street musicians are labelled negatively as loiterers or street youths, although the label of the curious has less of a negative ring to it. Implicit in the issue of movement here is that it was the sounds of street hawkers and entertainers that caused traffic to halt. The desired effect of the patter of hawkers and the music of street musicians was to make anyone within earshot stop their movement to listen, to buy or to simply give some money. The influence exercised by hawkers and street musicians on the places they were in came from their sounds and how those sounds subsequently disrupted the flow of traffic. The conflict between hawkers and local authorities, who looked at the streets as places whose movement was a pillar for industry, was acoustic, because it was patter and music that influenced the spatial organisation of the street.

Through its positive and negative effects on those within earshot, sound gave meaning to specific places as it created a certain type of atmosphere. Hawkers and other street entertainers exploited their ability to influence the ambience around them by standing in certain locations and making specific sounds. Placing sounds on a city map helps to examine how sonic actors created place and influenced movement through a city. For

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the sake of clarity, I will now focus specifically on Manchester on a Saturday night in the
1860s. The city centre was transformed from a centre for business to a centre for leisure
at this time. Historians have broadly divided the available pastimes along class lines,
with class divisions in the seating at theatres, concert halls and music hall, while the
poorest classes found their entertainment on the streets. As the historian of
Manchester Alan Kidd has shown, the late-night markets in the centre of Manchester,
such as Smithfield Market (fig. 1.1) were places where ‘walking around the market …
[was] entertainment in itself.’ The numerous hawkers who gathered at these markets,
performing acts and selling a variety of products, provided the entertainment. The
hawkers tailored their voices and appearance to attract as large a crowd as possible,
while what they said, shouted or cried tempted onlookers to buy what they sold.

The hawkers were at Smithfield Market because of an attempt by the Manchester
Corporation to control space. Smithfield was part of the Shudehill market area just
north-east of the city centre. From the mid-eighteenth century Manchester’s markets
had been scattered all over the town, but the Manchester Markets Act of 1846 allowed
the Markets Committee to centralize the different markets. Historians such as Patrick
Joyce have stressed that local authorities implemented acts and bye-laws, such as the

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33 For the issue of class among theatre, concert and music hall audiences, see: Abrams, *Workers’ Culture*,
34-62 and 92-138; Bailey, *Leisure and Class*; Peter Bailey, ‘Conspiracies of Meaning: Music-Hall and the
Knowingness of Popular Culture’ *Past & Present* 144 (1994), 138-170; Barry Faulk, *Music Hall and
Modernity: The Late-Victorian Discovery of Popular Culture* (Athens, OH, 2004); Jan Hein Furnée, “‘Le Bon
Public de la Haye’ Local Governance and the Audience in the French Opera in the Hague, 1820-1890”
*Urban History* 40 (2013), 625-645; Simon Gunn, ‘The Sublime and the Vulgar: The Hallé Concerts and the
Constitution of “High Culture” in Manchester, c. 1850-1880’ *Journal of Victorian Culture* 2 (1997), 208-228;
Dagmar Kift, *Victorian Music Hall: Culture, Class and Conflict*, transl. Roy Kift (Cambridge, 1996); Kift,
Paris and Vienna between 1830 and 1848* 2nd ed. (Aldershot, 2004). On street leisure culture, see: Mervyn
Busteed, ‘Little Islands of Erin: Irish Settlement and Identity in Mid-Nineteenth-Century Manchester’
*Immigrants & Minorities* 18 (1999), 94-127; Croll, ‘Street Disorder’; Stefan Jankiewicz, ‘A Dangerous Class:
The Street Sellers of Nineteenth-Century London’ *Journal of Social History* 46 (2012), 391-415; Brian
Maidment, *Reading Popular Prints: 1790-1870* 2nd ed. (Manchester, 2001), 27-52; Lynda Nead, *Myths of
Markets Act, to control the circulation of traffic and people. While these historians have focused on the regulation of space in relation to a transformation in how cities were governed, the effect of the Markets Act was also on the everyday practice of both the operation of the market and the position of hawkers. The latter found in Smithfield Market a place where they could, after the wholesalers had left, attract crowds without immediately obstructing streets; in doing so, they created a space for leisure. This happened specifically on Saturday nights, when the market traded until ten o'clock. While the wholesalers sold off their wares cheaply at the end of the day, the hawkers and other entertainers came in to the market area to provide a large variety of amusements. The effect of the Markets Act, then, was as much the construction of a dedicated site of leisure as a measure to centralize and control the Manchester markets.

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Urban populations continually found ways to adapt the power structures placed upon them.

Because Smithfield Market was a covered market (fig. 1.2), it contained sound better than streets did. The centralization of the market not only prevented streets from being obstructed physically, but also helped to enclose the sounds produced by the market place. On a Saturday different sales pitches of hawkers and quack doctors trying to sell trinkets or balms accompanied by the rustling sound of voices and the shuffling of feet dominated the soundscape as the normal trading came to a close. The ‘Cheap Johns’ – an itinerant hawker who moved around with a van selling a large variety of things instead of one particular thing – were a big attraction often drawing large crowds. Felix Folio describes how ‘at least two hundred persons, mostly men – there [were] some women among them – and a good sprinkling of lads’ listened to and watched a Cheap John on a Saturday evening at Smithfield Market. 36 The Cheap John had drawn the crowd telling jokes that caused ‘a general roar of laughter.’ 37 As he stood on a stage made outside of his van the Cheap John’s voice carried over the heads of the crowd allowing him to reach his large audience. Of course, the heightened stage also meant that his wares were more visible than if stationed on the ground, providing an extra attraction. The Cheap Johns and other hawkers and entertainers on a Saturday evening on Smithfield Market provided a spectacle and the voice was the call for attention.

Different hawkers used different articulatory styles to attract customers. Folio informs that the Cheap John’s technique was based on telling jokes, which resulted in attracting passers-by to the laughter of the crowd outside his van as much as to himself. The Cheap John demonstrated how hawkers consciously made themselves acoustic signals

36 Folio, *Hawkers and Street Dealers*, 72.
37 Folio, *Hawkers and Street Dealers*, 72.
through positioning and vocal action. Singling out one sonic act, however, leaves questions about competition for the attention of the public in Smithfield by the variety of sonic performers there. By moving to a different place and using a different type of source material, the cacophony of public places of leisure and the ways hawkers drew attention with their articulatory styles can be made evident. The approach is different from the one taken by historians of popular culture, such as Lynn Abrams or Peter Bailey. These historians view the public places of leisure in the late-nineteenth century as transitional, as popular entertainment moved from the street to the music hall and *Tingel Tangel*.38 In that sense, Smithfield Market can be seen as part of that transition as it was a designated, covered location. However, the sounds produced by performers and audience alike, while recognised by historians, has not received attention beyond the

stamp of being part of the recreation on offer and found to be objectionable by a broadly defined urban bourgeoisie. This chapter defines sites for public leisure through the sounds produced there. By using the broadside ballad as a source to describe a public place of leisure, it is possible to demonstrate how sound defined such places and how hawkers made a concerted effort to adapt their own sounds to the cacophony around them.

A popular ballad of the time captured the hubbub of Victoria Bridge (fig 1.3), another urban place of leisure like Smithfield Market, and the acoustic signals that existed there. The ballad *Victoria Bridge on a Saturday Night* was printed in Manchester in the 1860s by Joseph Pearson, then the largest broadside printing house in the city. Ballads were a prominent feature of mid-nineteenth-century urban life and, as historians such as Patrick Joyce and Roy Palmer have shown, they were read as much as sung and listened to. Contemporary reports speak of the waning popularity of the street ballads as music halls became increasingly popular. In one such report in the *National Review* in 1861 an anonymous author writes that, “the broadside business is not generally what it used to be … [but] even in these degenerate days, when a ballad makes a real hit, from 20,000 to 30,000 copies of it will go in a very short time.” Even though the writer says the sale of ballads was going down in general, he still speaks of ‘a real hit’ and great numbers that were sold. Ballads, in the period around the 1860s, were most likely referred to as hits when they were also successful on the music hall stage. It is difficult to know exactly how popular the ballad *Victoria Bridge on a Saturday Night* was, but the fact that it was printed by Pearson at the very least meant that it found its way into the

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41 Anon, ‘Street Ballads’ *The National Review*, 26 October 1861, 397-419 (400).
stock that was performed and sold by many of the ballad hawkers of Manchester.

The historiography on the broadside ballad is vast, ranging from historians’ use of it as a textual source providing information on working-class experiences and identities, to a more general history of the ballad and its trade. Cultural historian Patrick Joyce, for example, used the ballad as a source for understanding the values of the late-nineteenth-century provincial British working-class. Musicologist Derek Scott, however, has shown that the bourgeois sung the broadside ballads too and historian Brian Maidment has identified the difficulty faced by working-class ballad writers to define themselves within their social class. Overall, the historiography on the broadside ballad shows a


44 Joyce, Visions of the People, 230-255.

45 Maidment, Reading Popular Prints, 101-137; Scott, The Singing Bourgeois.
diffuse field of interest, both amongst historians and contemporaries, where it is
difficult to create an understanding of a unified identity through ballads, whether read
or sung. This chapter moves away from the general historical discussion on the ballad’s
importance, but accepts that the sung ballad was an acoustic signal within the urban
soundscape of the 1860s. The ballad *Victoria Bridge on a Saturday Night*, however, I use as
a source that speaks of other acoustic signals.

Victoria Bridge connected Manchester and Salford and on both sides of the bridge
there were a number of businesses as well as working-class housing and on the
Manchester side Ben Lang’s Music Hall was situated. The audience on the bridge on a
Saturday night was made up of a mixture of locals, music hall visitors and other pleasure
seekers. The ballad refers to the varied audience ‘as though Babel had settled’ down
there, calling to mind Nead’s analysis of London as a Victorian Babylon. The ballad
goes on to describe the general ‘bawling and pushing’ on the bridge and the multitude
of hawkers that were there, each with a slightly different description of the use of their
voice. Here is one of the eight stanzas as an example:

There’s cab drivers calling and fish women bawling,
Their cod-fish and haddock, fresh flunder and fluke
With dory and dab fish and cockles, and crak-fish
And beautiful salmon, just caught – with a hook,
There’s lots of disparity, folks craving for charity,
Howling away, you would drop with surprise,
And some you will find are so desperately blind,
Sure they can’t see at all till they open their eyes.

The cab drivers called, which implies direction. In other words, they attempted to create
an acoustic signal specifically aimed at one person in the crowd. The fish woman
bawled, which describes a noisy shout, all about volume as she tried to reach as many

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46 For a more detailed description of the area surrounding Victoria Bridge see, Mark Crinson,
‘Photography and the Industrial City: Manchester and Salford, Ancient and Modern’ *Word & Image: A
47 ‘Victoria Bridge on a Saturday Night’ *Pearson Collection* 5b, CL; Nead, *Victorian Babylon*.
48 ‘Victoria Bridge on a Saturday Night’ *Pearson Collection* 5b, CL.
hungry ears as possible. Finally, the folk craving charity howled to convey their anguish and implore the crowd to throw a few pennies their way. Within the multitude on Victoria Bridge each hawker and street entertainer used his or her voice in relation to what they offered and in the process each created an acoustic signal specific to him- or herself and recognisable in the general hubbub of the bridge.

The sounds of the bridge defined the space as a place for leisure, attracting folk from the working-class districts on either side of the bridge as well as others who wandered around the centre of Manchester on a night out. As a place for leisure, however, historians have tended to focus on Ben Lang’s Music Hall, visible just to the right of the Cathedral in fig. 1.4. Ben Lang’s had a capacity of 2,000 and was one of the music halls in Manchester that attracted critical reactions from within the middle classes. The Manchester weekly *The Free Lance*, in a series of articles on leisure in the city between 1866 and 1868, classed Ben Lang’s, then called Victoria Music Hall, among what their writers perceived as a lower class of music halls. As Simon Gunn has argued, such a classification conformed to certain social hierarchies based on aesthetics, as the middle classes listened to orchestral symphonies in the concert halls and the working classes to ballads and comedy in the music halls. Furthermore, the discrete spaces of leisure reinforced the social hierarchy. The geographer Neil Burton has shown that the official leisure locations, such as concert halls and variety theatres, centred around Peter Street and Mosley Street (fig. 1.5), or roughly the other end of Manchester’s city centre from Smithfield Market. However, the sounds of Victoria Bridge challenged the social

49 Kift, *Victorian Music Hall*, 32.
Fig. 1.4 James Mudd, The River Irwell from Blackfriars Bridge’ 1859, MLIC, m60991.

Fig. 1.5 Leisure District (in red) and Mechanics Institute (in green), Ordnance Survey County Series, SJ79, 1848.
hierarchies by resonating through the streets and by drawing people from one location to another.

Movement between different places of leisure was easy as they were not too far from one another and sound signals helped to connect different locations. The ballad *Victoria Bridge on a Saturday Night* mentioned the Manchester Mechanics Institute as a part of the activities on the Bridge. The map in fig. 1.5 shows how the Mechanics Institute was located closer to the official theatres around Mosley Street than it was to Victoria Bridge. It was in the latter location that customers were approached to ‘… pick up their rifles, and kill the bull’s eye for a penny a shot’ in the Mechanics. 53 The voice of the person advertising shooting at the Mechanics on Victoria Bridge brought the sites of leisure of Manchester’s street life closer together. Social hierarchies did not break down because of it, but they were equally not as discretely spatialised as some historians have made out.

Through the resonating voices of hawkers and other street entertainers and the general ambient noise of public sites of leisure as much as through specific acoustic signals aimed at moving people around the city, different sites were brought into contact with each other. Sonic actors such as hawkers consciously created place by adjusting to and positioning themselves in their soundscape. Mapping the acoustic signals of hawkers onto the city at a time of leisure such as a Saturday evening shows how those signals shaped movement. The acoustic signals of a broad array of hawkers furthermore created an urban environment where places that middle-class professionals, civil servants as well as historians imagined and analysed as visually and morally separate were actually infused with each other’s sounds. Manchester provided the case study here, but similar processes will have taken place in Düsseldorf and other British and German

53 ‘Victoria Bridge on a Saturday Night’ Pearson Collection 5b, CL.
Cities. In the next section, the responses to man-made street noises will demonstrate that responses to specific noises in Manchester and Düsseldorf were very similar and caused distress and nervousness.

Noise & Taste: Listening, Nervousness, and the Production of Self

The first section has shown that sounds broke down the spatial organisation of the city and this section demonstrates that sound. Listening practices also blurred the construction of identity and complicated the social order of the city. This second section focuses on control, both of urban space and of the self. By focusing on sound and listening this section adapts and challenges the idea of historians following the Foucaultian notion of governmentality. 54 According to sociologist Nicolas Rose governmentality expressed itself as ‘a web of visibilities’ through which citizens controlled their own behaviour without a direct intervention of the state being necessary. 55 This section expands the concept of governmentality by demonstrating the importance of sound in issues of urban control. It shows that urban populations adapted to and exerted, albeit limited, control over it.

This section furthermore continues to engage with the historiography on popular culture which has two major tenets: first, there is the argument that musical taste does not relate directly to social categories as audiences included most classes; 56 second, there

55 Nikolas Rose, Powers of Freedom: Reframing Political Thought (Cambridge, 1999), 73.
is the argument, more or less following Bourdieu, that ‘cultural consumption [is] predisposed, consciously and deliberately or not, to fulfil a social function of legitimating social differences.’ 57 However, it is possible to connect the two strands and to look at – listen to – changes to practices of everyday life and longer term social transformations together by drawing on the German sociologist Norbert Elias’s work in *The Civilizing Process*. Within this work, Elias showed how, from the Renaissance, Western society had increasingly sought to control the self by analysing the transformations of prescribed standards in etiquette books. 58 Elias used the practical changes in, for example, table manners to draw out larger societal changes, such as the increasing disciplining of the self. Elias’ idea of combining everyday practices and broader societal changes is central to this section as it analyses the listening practices of certain middle-class professionals, such as men working in offices or writers working from home, to demonstrate how they defined themselves in relation to what they heard and how they listened to it. The section ends with an analysis of rough music to show that the disciplining of the self through listening was not a purely middle-class phenomenon.

John Picker, historian of Victorian London’s soundscape, has investigated the responses to street music of middle-class professionals who worked from home – mostly artists, writers, philosophers – and required silence to perform their work. Furthermore, Picker defines the struggle of these middle-class professionals as spatial: ‘the anti-street music

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movement can be considered an urban territorial campaign, a conflict for control between regions of harmony and those of dissonance.\textsuperscript{59} However, the definition of a space as harmonious or full of dissonance was subject to personal taste. Picker, by grouping all middle-class professionals under one umbrella, takes a Bourdieuan approach to create a social hierarchy based on a shared taste.\textsuperscript{60} Different reactions to street music reveal that people in the same professions had different thresholds of tolerance for the sounds coming into their places of work which allowed them to demarcate themselves differently from each other.

Objectors to street music could vent their opinions more publicly than through a complaint to the Nuisance Committee by writing to newspapers. One letter to the editor of the \textit{Manchester Guardian} in 1853 asked, ‘When will our ears cease to be bored by the execrable din that wandering musicians inflict? It is annoying to everyone, much more to men of business.’\textsuperscript{61} The writer presented himself as a serious business professional whose work should not be distracted by the noise of street musicians. Furthermore, the writer signed his letter with ‘a lover of music,’ which implies that he thought of himself as a person who knew and liked music and that what he heard in the street was something else. The ‘music’ is instead referred to as an ‘execrable din’ and this fits the notion put forward by Picker that ‘the most damning method of attacking street music, aesthetic arbiters appeared to realise, was to deny its very musicality.’\textsuperscript{62} By claiming that street music was not music at all, the ‘lover of music’ defined himself as a listener with a superior understanding of the musical conventions than the musician or band that played in the street.

\textsuperscript{59} Picker, \textit{Victorian Soundscapes}, 44.
\textsuperscript{60} Other historians writing on noise abatement have followed a similar approach: Bijsterveld, \textit{Mechanical Sound}, 27-52; Payer, ‘The Age of Noise;’ Golan, ‘Soundscapes of Urban Development’; Toyka-Seid, ‘Noise Abatement,’ 217-220.
\textsuperscript{61}‘Itinerant Musicians’ \textit{Manchester Guardian}, 7 December 1853.
\textsuperscript{62} Picker, \textit{Victorian Soundscapes}, 62. See also, Bijsterveld, \textit{Mechanical Sound}, 137-158.
A reply sent to the *Manchester Guardian*, signed ‘a lover of real music’ attacks the ‘lover of music’s’ taste, saying that ‘he is no judge of real music’ and that ‘the itinerant German bands … play some of our finest compositions in an artistic and splendid manner.’ Moreover, he wrote that street musicians were ‘a great assistance, as they drown out the noise of the vehicles outside, which are a real though unavoidable annoyance, and enable me to better compose my mind to business.’ By praising the music of the street musicians and attacking his fellow businessman for his aesthetic judgment, this writer set himself apart from the unified professional elite discussed by Picker. Among brainworkers and businessmen there was not one threshold of tolerance for noise, but several and often competing ones. Many within the urban elites listened to street music as having little to no aesthetic value and little to no power of enervation. In her study on German bourgeois modernism historian Maiken Umbach contends that for the urban elites, ‘performing music … was a process of self-education and self-disciplining.’ She speaks here of performances of classical musical pieces in the setting of a music chamber in a bourgeois home. To place street music in the same aesthetic bracket as a performance in a music chamber was to give it the same values of self-education and self-disciplining. Yet, that was exactly what the ‘lover of real music’ did by calling the street musicians a great assistance. For him, the street musicians played sounds that were aesthetically worthy of the label of music. Furthermore, the sounds of street music actually helped to discipline himself in his work. Because street musicians still organised sound into compositions, the ‘lover of real music’ listened to it as a way of blocking the unorganised sounds, the noise, of vehicles and other traffic.

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63 ‘Street Music’ *Manchester Guardian*, 10 December 1853.
For the urban middle class generally, music throughout the nineteenth century had become something to be consumed and enjoyed in drawing rooms, concert halls and music chambers, and had to conform to certain standards of musicianship. Listening to music in such situations allowed the positive, self-disciplining aspects of music that Umbach has discussed to take effect. The bourgeois newspaper Düsseldorfer Generalanzeiger captured this idea in an article in 1878, which ironically spoke of the ‘most beautiful disharmony’ when between ten and eleven at night ‘a lady sung, dogs barked and the locals cursed, gossiped and hummed at the singer.’ The article did not specify whether the singing lady was a street singer or someone practicing from her home. Either way, the article placed the aesthetic label of singer on the lady, the effect she had on her environment, however, was negative. Perhaps in other circumstances she would have been able to instil the self-disciplining power of music, but not when heard on the streets, accompanied by barking dogs. Just as important as the organisation of sound was to aesthetic judgments, was the place where musicians produced sounds. The disharmony of the singing voice and barking dogs occurred in the streets, because the sounds from different locations blended together. Again, the perception of sound as unorganised defined it as noise.

The timing of the event described in the Düsseldorfer Generalanzeiger equally played a part in the description of it as unwanted, disharmonious, or noise. Between ten and eleven in

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66 ‘Lokales’ Düsseldorfer Generalanzeiger, 7 August 1878.
the evening was a time for rest and quiet for most urban middle-class professionals.\(^67\) Throughout the period discussed here anti-noise campaigners focused on noise as a source of disruption during times of rest. Towards the turn of the century, research into the nervous system by psychologists had begun to understand rest and quietude as key factors in preventing and treating neurasthenia – the disease that encapsulated a variety of nervous disorders.\(^68\) In other words, it was important from the nerve specialist’s perspective to control time and retain the discipline to afford the self the rest it needed. According to Joachim Radkau, historian of ‘the nervous age,’ noise was ‘one of the worst and least preventable factors causing stress in industrial society.’\(^69\) Noise was difficult to prevent for two reasons: 1) sounds resonated between different spaces and entered where inhabitants did not want them; 2) the ambient noise of urban life increased with technological developments.

Considering those two reasons, sound, and its perception as noise, was a constant influence as hawkers and street musicians, traffic and animals continuously impacted the nerves of the urban population. For early sociologist Georg Simmel, urban life had led to ‘the intensification of nervous stimulation,’ which led to individuals detaching themselves from their immediate surroundings as they could not process all the stimuli around them.\(^70\) The intensification of nervous stimulation within the discourse surrounding middle-class self-discipline became something through which control of the self could be expressed. It was the sufferers of neurasthenia who became detached

\[^{67}\text{Matthias Lentz, “Ruhe ist die erste Bürgerpflicht”: Lärm, Grossstadt und Nervosität im Spiegel von Theodor Lessing’s “Antilärmverein”” Medizin in Geschichte und Gesellschaft 13 (1994), 81-105.}\]


\[^{69}\text{Joachim Radkau, *Das Zeitalter der Nervosität*, 208.}\]

from the world while the self-disciplined professional was able to control the stimuli around him. Or, as historian Michael Cowan, who investigated what he calls a ‘cult of the will’ around 1900, put it: ‘if mental states could influence bodily performance, those states appeared at one as the result of bodily performance itself.’71 By the early-twentieth century the focus in the thinking about neurasthenia shifted from the helplessness of the sufferers to a self that could discipline him- or herself, so as not to become neurasthenic in the face of noise or other over-stimulating causes.

Anti-noise campaigners also changed their approach to what they perceived as the problem of noise in society, signalling a broader shift in thinking from self-discipline towards an ability to perform tasks in the multi-sensational condition of urban life. A Manchester correspondent of the medical journal *The Lancet* developed the idea that it was necessary to have energy to control the negative stimulation of noise.

Familiarity has doubtless in many cases bred, not indeed an impossible contempt, but a certain unconcern engendered by habitual endurance. The ache of annoyance is not forgotten, but it ceases to be acutely felt. It is only, as a rule, when the evil is aggravated by excess, or when it enters as a turbulent and jarring interruption during some interval or a surrounding peace, that it excites the angry comments of a long-suffering public.72

For this correspondent the ears of urban dwellers had been so continuously exposed to street music, hawking and other such street noises that they had, in a way, been numbed. There is nothing in this quote, however, to suggest that the listening self he referred to disciplined his or her ears to withstand the effects of noise. Instead, ‘the ache of annoyance’ always lingered and it was because the annoyed did not have the energy to feel that annoyance all the time that they had gotten to a state of ‘unconcern.’ As historian of medicine Volker Roelcke has argued, ‘the idea of limited energy reservoirs of an individual’s body’ was a crucial factor behind the concept of neurasthenia.73 The

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71 Cowan, *Cult of Will*, 15.
73 Volker Roelcke, ‘Electrified Nerves, Degenerated Bodies: Medical Discourses on Neurasthenia in Germany, c. 1880-1914’ in Gijswijt-Hofstra and Roy Porter (eds), *Cultures of Neurasthenia*, 177-198 (178).
article in *The Lancet*, then, placed noise firmly within the discourse of nervous disorders, not in the sense of a lack of self-control, but in the sense of psychic overload.

Within this analysis, it was not only individuals who could suffer from nervous disorders, but groups of people as well. Another article in *The Lancet* from 1896 mentioned how a troupe of dancers and an organ grinder on a London street scared a horse which then shied away and in the process overturned its cab. The large crowd that had formed around the organ grinder ‘lined both sides of the street’ where the incident occurred in and was subsequently ‘panic-stricken and [people] ran in all directions.’ While the immediate cause for this sensory overload resulting in blind panic appears to have been the horse’s reaction, the correspondent placed the cause with the noise and the dancing of the troupe. In the situation described here by *The Lancet*’s correspondent the typical symptom of the nervous age, ‘depletion of nervous energy,’ quickly eclipsed the pleasure provided by the musicians and dancers. Such depletion, however, did not suddenly occur at the sensory overload of the street scene after the horse got shy, but was already apparent within the listening crowd. The British psychologist James Cappie had written in 1886 that ‘meaningless reverie will take the place of coherent thought’ if the conscious mind focused itself in the wrong direction. What the sound, or noise, of the piano organ had done in the first place was to direct the attention of the crowd to ‘meaningless reverie,’ a state from which the listeners could not respond appropriately to the events with the horse and the cab.

Dismissing the noises of hawkers and street musicians was possible, because the middle-class professional had no attachment to their producers. This was different

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when it came to the noise produced by children on the streets, which subsequently brought with it an entirely different nervous disposition. Throughout the nineteenth century children had received an ever increasing legal status, mostly through work and education policies. Historians have taken many different approaches to the role of the child in society in the decades around 1900. Carolyn Steedman has focused on the symbolic child in Victorian literary writings produced by adults to understand themselves. Timothy Gilfoyle and Andrew Davies have written on the criminal aspects of youth street culture to explain how, while street children lived outside the domestic middle-class world, their ‘values mirrored elements of the dominant society.’

David Hamlin explored the contrasting desires of German working-class children who wanted the freedom of not having to work that middle-class children enjoyed, who in their turn envied the freedom to play in the streets that working-class children enjoyed.

Throughout the historiography on childhood in the nineteenth century, children are equally regarded as independent actors and as being in need of parental or other adult guidance. Here, I investigate noisy street children in relation to the question of who was responsible to keep them quiet to demonstrate that noise impacted the nervous system in multiple ways – directly, though the ears, and indirectly, through the responsibility to keep certain noise-makers quiet.


Child hawkers created a nuisance similar to that produced by adult hawkers, but instead of simply banning their trade, the Watch Committee in Manchester, which oversaw the running of the police force, voted, in 1896, for what they called ‘supervision’ in the matter. The Committee’s aim was, as the Chief Constable said, to prevent the boys ‘from becoming thieves, loafers and disorderly persons’ and the girls from taking ‘to an evil life.’ The decision was greeted positively by The Lancet who pushed the point of responsibility by writing that ‘most of the children are the victims of their parents’ vices. Children were noisy, and otherwise mischievous, but they required responsible adults to educate them in everyday urban life outside of their school or work environments. Even if parents were not able to teach their children when and where to be quiet, other adults who heard children’s noise in passing should step in.

George Beard, the founder of American research into neurasthenia, understood children’s noise as a nuisance and urged adults to keep children around them quiet. Beard wrote that ‘the noise of play of children’ had the ability to be ‘a source of great distress.’ The Watch Committee in Manchester decided to increase prevention of children’s noise and mischief from their side and the police forces in Regierungsbezirk Düsseldorf did the same. The Polizeidirektor in Düsseldorf, however, stressed in a communication to all the local Bürgermeister that, ‘apart from [the responsibility of the police force], parents, carers and teachers remain responsible for any damages made by children in their play.’ This notice from 1856 held those adults who were directly responsible for children at different times of the day accountable for the repercussions of the actions of children. By 1863, however, Düsseldorf’s Oberbürgermeister acknowledged the need for a broader range of responsible adults to cover the different

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81 ‘Minutes,’ Watch Committee, 7 September 1896, GB127.Council Minutes/Watch Committee, MLA.
82 ‘Street Hawking by Children’ The Lancet, 24 September 1896, 821-822.
83 Beard, A Practical Treatise, 48.
84 Der Polizeidirektor zu Düsseldorf, 20 May 1856, II 1439, StaD.
areas where children played, especially outside of school hours. The Oberbürgermeister stressed that it was not just the teachers who needed to make sure that children ‘were calm and behaved appropriately.’ He continued by writing that, ‘children need to be forbidden from noisy and disrupting games in the city gardens [and] the public squares, streets and roads.’ In this communication, the Oberbürgermeister described children as a nuisance that needed prevention as much as the nuisance created by street musicians and hawkers. The responsibility for the prevention of children’s noise, however, was not solely with the police force. Instead, it was one of the extra burdens placed upon adults in public life. In other words, children making noise in the streets or other public places presented a double danger for the nerves of the adults around them. The noise itself directly affected nerves negatively and legislators stressed that all adults needed to educate children and inform them of appropriate behaviour relative to the place where they created their mischief.

The issue of responsibility for children’s noise demonstrates that there were different structures of social order in place. A variety of social regimes existed next to each other and wove in and out of each other as situations demanded. The noise of children disrupted the urban ambience desired by the local authorities, businessmen and brainworkers alike, but was not as easily suppressed as the that produced by hawkers. The transformation of the urban soundscape involved slow processes of change to the social order and not all of them stemmed from the work of the ‘experts’ on which historians have based ideas of liberal governmentality on. An exploration of the way that Katzenmusik or ‘rough music’ disappeared from urban life in the late-nineteenth

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85 Der Oberbürgermeister zu Düsseldorf, 5 March 1863, II 1439, StaD.
century will further demonstrate that urban power structures in this period evolved from older ones. Equally, it demonstrates that sounds broke down identity structures as much as they confirmed them.

E.P. Thompson, in his study on rough music, defined it as ‘a rude cacophony, with or without more elaborate ritual, which usually directed mockery or hostility against individuals who offended against community norms.' Katzenmusik was a rural form of punishment that no longer fitted new ways of policing in the late-nineteenth-century city. However, the ethnologist Karl Meuli cautions against understanding rough music as a form of primitive behaviour:

A close analysis shows that what at first seemed to be simply to be rough and wild acts of harassment are in truth well-defined traditional customs and legal forms by means of which from time immemorial the ban and proscription was carried out.

The noisiness of hitting on pots and pans and singing libellous songs with false notes did not fit the ordered city as local authorities and middle-class professionals imagined it. The sonic organisation of rough music, however, was purposefully dissonant and aesthetically unpleasant. Both producers and receivers heard noise during acts of Katzenmusik. With their noise, Katzenmusiker aimed to unsettle the nerves of a particular person or group of people. It was meant as a form of social control and, as Meuli stated, a form of legal action. The noisy Katzenmusik made way in the nineteenth-century for a controlled urban ambience that stemmed as much from the seemingly spontaneous acts of rough music as they did from bourgeois demands of social control in the city.


88 Karl Meuli quoted in Giorgio Agamben, State of Exception (Chicago, 2005), 72.
Within Britain rough music had disappeared slowly in the urban context as cities had grown and rural customs had been pushed out by an urban life that offered a variety of outlets for leisure and new ways of policing. 89 In the Regierungsbezirk Düsseldorf, Katzenmusik was still an issue that needed to be legislated against in the 1890s, which can be explained by Germany’s later development of mass industrialisation. 90 However, Katzenmusik was only an issue in the smaller towns of the Regierungsbezirk Düsseldorf, which demonstrates that in the major urban areas the practice had disappeared. The Landrat in the town of Solingen reported to the Regierungspräsident in 1896 that Katzenmusik was still a major issue and that in the past years, there have been several cases where hundreds of Katzenmusiker took part and the police was unable to prevent their actions until there were fifty policemen on the scene to keep the participants from achieving their goal. 91

The custom was still popular and while it was supposed to be a form of punishment and retribution for breaking the norms of the local community, it was now the Katzenmusiker that the police targeted as the wrong-doers. However, the Landrat in Solingen did not just hear noise in the sounds of the Katzenmusiker. In the same report from 1896 he wrote that Katzenmusik ‘also has very positive effects on the moral order and can often count on support from the local community.’ 92 Here, the Landrat acknowledged the traditional effects of Katzenmusik and how it was often an important part of local integrated communities. Within the urban setting, however, community life

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90 One of the reasons Joachim Radkau begins his ‘nervous age’ in 1870, is because from that moment Germany’s industrialisation sped up exponentially: Radkau, *Das Zeitalter der Nervosität*, 13.

91 Der Landrat zu Solingen, 22 September 1896, BR 0007 30463, LNRWAB.

92 Der Landrat zu Solingen, 22 September 1896, BR 0007 30463, LNRWAB
manifested itself differently and order was increasingly placed in the hands of individuals classified to uphold it. Part of the development of the police force in the Regierungsbezirk Düsseldorf, as its historian Elaine Glovka-Spencer has shown, was that the police ‘insisted that public authorities, not self-generated popular groups, should decide what sanctions were to be imposed for misdeeds and against whom.’ Such directives seem to be aimed specifically at Katzenmusiker and were, of course, part of the police’s ambition to be in control of the city’s order. What this shows is that popular groups traditionally had disciplinary regimes too and that power structures established by experts could come into conflict with those, especially within the context of urban ambiances of overstimulation.

Within the context of everyday life and urban forms of policing it was no longer accepted that people took the law into their own hands by bursting out in cacophonous noise in the streets, instead it was the sounds of the police force that enforced order in the city. Police sounds changed too, as their ‘weapon’ changed from a rattle to a whistle in the mid-nineteenth century. The rattle’s sound did not carry very far and was as noisy as some of the instruments of Katzenmusiker. The whistle provided a clear note that carried forward into the street and around corners. The disappearance of Katzenmusiker meant that one layer of responsibility and one source of distressing noise disappeared from the urban setting and the police force replaced it with more ordered sounds. One method of disciplining the self developed into another one as the cacophony of Katzenmusik changed to the ambience of police order. With ambient noise levels becoming more powerful, the urban population adapted constantly and focused

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93 Glovka-Spencer, Police and the Social Order, 110. For a similar analysis of British cities, see: Taylor, The New Police, 44-88.
94 On the emergence of the whistle, see: T.A. Critchley, Understanding Police Culture (Cincinnati, OH, 1967), 51; Tim Prenzler, Police Corruption: Preventing Misconduct and Maintaining Integrity (Boca Raton, FL, 2009), 1-3. That the police whistle was not always perceived as a clear sound is shown in: Clare Corbould, ‘Streets, Sounds and Identity in Interwar Harlem’ Journal of Social History 40 (2007), 859-894 (870).
on man-made street noises as nuisances, but also as sounds that could easily be taken out of the urban soundscape. Often the latter happened through the campaigns of middle-class professionals in tandem with legislative changes. *Katzenmusiker* present a case that fits the notion of liberal governmentality, as it shows how the police force exerted its power to rid the soundscape of cacophonous explosions. At the same time, though, *Katzenmusik* also shows that governmentality as a social tool for the suppression of unwanted behaviour can be refined to include a longer history entailing methods used by non-experts and lower classes. The difference between earlier regimes of noise and those established in the late-nineteenth century was caused by specific not wholesale change.

*Street Music's Fading Out: From Nuisance to Sedative*

Through the work of anti-noise campaigners street music, like *Katzenmusik*, slowly disappeared from the urban soundscape in the decades around 1900. The examples discussed so far have focused on the role of sound in breaking down discrete spaces and social order. Now, the focus will shift from specific instances of tensions surrounding man-made street noises to a more overarching chronology. The period discussed in this chapter roughly follows the institutionalisation of anti-noise campaigns, from the early campaigns of the mathematician and philosopher Charles Babbage in England in the 1860s to the more formally organised anti-noise societies, such as the philosopher Theodor Lessing’s *Antilärm-Verein*, founded in Germany in 1908. Although street music remained an issue for anti-noise campaigners in the early-twentieth century, the focus of their ire had shifted more to mechanical noises by that time. The chronology of campaigns against man-made street sounds overlaps with that of the
‘nervous age,’ which historians usually take to run from George Beard’s *A Practical Treatise on Nervous Exhaustion* published in 1880 to the onset of the First World War.⁹⁵

As this chapter has argued, middle-class professionals attacked street music as a nuisance by denying its musicality.⁹⁶ Throughout the period, however, anti-noise campaigners had difficulty explaining exactly when certain sounds became noise as they had no scientific measurement system to quantify noise. This section focuses specifically on how the listening practices of anti-noise campaigners and the debates between city administrators developed. As such, it will demonstrate that the increasing of ambient noise levels defined the way these men listened to the competition of noises in their environment.

Social historians such as Gareth Stedman Jones, whose work focused on the emergence of a Victorian working-class culture in the face of middle-class oppression, and environmental historians such as Harold Platt, whose work focused on social reformers intent on environmental conservation, have indirectly investigated man-made street noises as pollutants to social order and health.⁹⁷ Both of these historical approaches are about the creation and maintenance of boundaries within urban life that helped to negotiate the identities of different groups within the city. Recently, historians have started to investigate man-made street noises, and music specifically, as direct causes for social and spatial disruption and health disorders. Karin Bijsterveld has written about the noise of neighbours as a defining issue surrounding debates on urban community life and private space.⁹⁸ James Kennaway has shown that contemporary critics of Richard Wagner heard reflected in his music everything that was morally and culturally

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⁹⁶ Also compare to: Picker, *Victorian Soundscapes*, 52-65.


wrong with society.\(^9\) The idea that noise and even music affected urban populations negatively is modified here by focusing on the shifting modes of listening to street music by some of the middle-class professionals who seemed intent on quietude in the urban hustle and bustle.

Theodor Lessing is best known for his philosophical work on Jewish self-hatred, but he also founded the first German anti-noise society in 1908.\(^{100}\) Lessing’s rhetoric followed that of the earlier nineteenth-century noise-campaigners as he found noise to be intrusive to rest, quietude and thinking. In his book, *Der Lärm* (Noise), published in 1908, Lessing argued that noise was an agitation of Western society against its increasing regimentation. In the book, Lessing aligned his ideas with the discourse around nervousness and addiction and argued that the increasing noise levels of society demonstrated that industrial progress had a negative influence on society.\(^{101}\) Before the publication of *Der Lärm*, Lessing had published two short essays on the issue of noise at the beginning of the century. In the second essay he wrote about the noises that especially annoyed him and which could be silenced with simple solutions, all of which were man-made. One of these reflected complaints found in the contemporary police records of the city archive in Düsseldorf: neighbours practicing their music.\(^{102}\) The solution for Lessing was to enforce ‘uniform quiet hours for all residential buildings’ and ‘to close the windows’ when practicing during the day.\(^{103}\) The police records in Düsseldorf show that the quiet hours started at either ten or eleven o’clock in the


\(^{101}\) For a broader interpretation of Lessing’s ideological framework, see: Lawrence Baron, ‘Noise and Degeneration: Lessing’s Crusade for Quiet’ *Journal of Contemporary History* 17 (1982), 165-178.

\(^{102}\) Theodor Lessing, ‘Noch Einiges Ueber den Lärm’ *Nord und Süd* 103 (1902), 330-339. For the police records, see: *Ruhestörende Lärm*, III 5636, StaD.

\(^{103}\) Lessing, ‘Noch Einiges,’ 333.
evening – different police officers referred to different times. Lessing did not draw on
matters of taste to contest noise in this case, nor was it just the working classes that
produced noise in this case, if anything, it was specifically a middle-class noise. For
Lessing, practicing musicians produced organised sounds, but even music could
negatively affect the body – and thus turn into noise – when heard at the wrong time
and place.

Not all musicians kept to the quiet hours and one complaint about a practicing musician
shows how the issue of private space could be used by the perceived noise-maker as
well. One Friedrich Schmidt wrote to Düsseldorf’s Polizei Kommissar in 1908 that his
neighbour, an opera singer called Charlotte Roeder, had, ‘after eleven o’clock in the
evening, been singing and playing the piano.’ He continued by writing that he had
‘already asked her to stop, but that nonetheless she kept doing it.’ The sounds of
Roeder’s music making invaded the private space of Schmidt’s home, disrupting the
domesticity of that space. As historians such as John Tosh and Martin Hewitt have
argued that domesticity was a key development in the shaping of late-nineteenth-
century society, an unwanted and uncontrollable sound in the home was a disruption
not just of that space, but of a wider set of values. However, Roeder’s response to the
policeman who called on her to force her to act on Schmidt’s complaint turned the
argument around. The policeman reported that after he told Roeder to stop singing and
playing music after eleven:

104 Friedrich Schmidt an der Herrn Polizei Kommissar Kapf, 8 March 1908, III 5636, StaD.
105 On the idea of the separation of the private home and the public city, see: Anna Davin, Growing Up
Poor: Home, School and Street in London, 1870-1914 (London, 1996); Barbara Franzoi, “…with the wolf
always at the door…” Women’s Work in Domestic Industry in Britain and Germany’ in Marilyn J. Boxer
and Jean Helen Quataert, Connecting Spheres: European Women in a Globalizing World, 1500 to the Present
(Oxford, 2000), 164-173; Martin Hewitt, ‘District Visiting and the Constitution of Domestic Space in the
Mid-Nineteenth century’ in Inga Bryden and Janet Floyd (eds.), Domestic Space: Reading the Nineteenth-
Century Interior (Manchester, 1999), 121-141; John Tosh, A Man’s Place: Masculinity and the Middle-Class Home
in Victorian England (Bury St. Edmunds, 1999), 31-32.
She said that she rents the apartment from the owner Ortmann and that she can do as she pleases in it. Furthermore, when she has guests or when she needs to practice she will play as long as she likes. If the other residents of the building do not like this, they can move out.106

Because Roeder’s home was her place, she felt that she could do in it what she wanted and when she wanted. Similar to the middle-class professionals discussed so far, Roeder’s home could also transform into a workplace or a place for entertainment. Because of her profession, her workplace produced specific sounds, and because she felt she could work or practice in her home, her local community had to adapt to her playing music late night.

Roeder felt that living in the early-twentieth-century city meant being confronted with people who sang after eleven o’clock. In other words, sound was part and parcel of city life and living in the city meant being confronted with constant sonic expressions. Roeder perhaps was a very strong-minded example, but her response can be placed alongside the voices of the critics of Lessing and his fellow campaigners. For them, those campaigning against noise were merely oversensitive and unwilling to accept the progress of industry and urbanisation. Peter Payer, who researched the reactions to noise in turn-of-the-century Vienna, has shown that critics of Lessing there found that anti-noise campaigners’ ‘refusal to put up with noise was seen as a neurotic sign of weakness, an inability to adapt to modern life.’107 These critics stemmed from the same group of middle-class professionals and unlike most street musicians had the ability to express themselves in the public sphere. Their critique turned the theories around neurasthenia upside down: it was the people that let themselves be distracted by noise who were not mentally strong enough for urban life. Noise was something that did not have to be prevented through campaigns and legislation, but instead celebrated as the sound of progress and modern urban life.

106 Polizeisergeant Hamoffs, 26 March 1908, III 5636, StaD.
The debate about the problem of noise for urban life in the early-twentieth century, however, focused more on industrial noise than the noise street musicians or those musicians studying in their homes. Since the mid-nineteenth century both local and national acts of government had curtailed street musicians’ right to perform. Urban historians and historians of popular culture have often taken curtailment of street music as a middle-class oppression of working-class culture. The records of local government in Düsseldorf, however, question the success of the legislation. In 1893, for example, the Regierungspräsident in Düsseldorf asked his local administrators to inform him on how they dealt with street musicians. In some towns, such as Mönchengladbach, the police allowed no street musicians to play on the streets. Other towns, such as Duisburg, allowed street musicians every day. The typical response, however, came, amongst others, from Essen, where the police issued permits to street musicians ‘only on Tuesdays, Wednesdays and Fridays … [and] only to one musical choir or group per day.’ It is possible to read, as Abrams has, into these records that the legislation against street music was successful. However, with such legislation being implemented for twenty years by 1893 – since the foundation of Imperial Germany in 1871 – it is also possible to argue that the fact that street musicians still played the streets of Düsseldorf and other cities meant that there remained an audience for them.

The argument that campaigns and legislation against street music were not as successful as historians have often taken them to be, however, is questioned by the eventual disappearance of the street musician. Historians John Picker and Julia Schröder have shown that in London and Berlin, the street musician became a rare sight. Schröder

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109 *Der Oberbürgermeister zu Mönchengladbach*, 20 September, 1893, BR 0007 30474, LNRWAB.
110 *Der Oberbürgermeister zu Duisburg*, 23 September, 1893, BR 0007 30474, LNRWAB.
111 *Der Polizeiverwaltung zu Essen*, 27 September 1893, BR 0007 30474, LNRWAB.
investigated the phenomenon of the *Harfenjule*, an old and blind lady who played the harp and sang in the courtyards of Berlin’s apartments. By the early-twentieth century, the *Harfenjule* had been playing for fifty years and by then she had become a rarity – and a celebrity, hence the extensive documentation about her – in Berlin’s soundscape.¹¹² Picker also argued that the ‘anti street music movement was … unsuccessful,’ but he has also shown that ‘toward the end of the century … aggressive attacks upon the intractable street music problem came to be regarded with a mingling of empathy and satire.’¹¹³ It seems that street music in the early-twentieth century was simply not ‘noisy’ enough to still be made into a health problem. Furthermore, within the ever-increasing ambient noise levels of the city, street music, for many middle-class professionals, became a source of relaxation. In that sense, the sentiment was not unlike that of the ‘lover of real music’ who, already in 1853, listened to street musicians as a source of sound that allowed him to block the noises of traffic.

The slow disappearance of the street musicians from urban life was not a direct result from the campaigns against them organised by middle-class professionals in need of quietude, but the result of a broader transformation in urban life. It had become almost impossible for street musicians to make themselves heard above the urban, industrial hubbub. Because of that – and here the legislation against street music had helped too – street entertainment had moved inside. Leisure, by the early-twentieth century was no longer something that was associated with the street, but with the music hall, theatre and *Tingel Tangel*. The musicians that remained on the streets became, in the words of Picker, ‘quaint curiosities, exotic reminders of the life that once animated metropolitan streets.’¹¹⁴ In most cases, the musicians who still played on the streets were no longer

¹¹³ Picker, *Victorian Soundscapes*, 77-78.
¹¹⁴ Picker, *Victorian Soundscapes*, 77.
itinerant as they had been before, but residents of the city or town they performed in. The decline in the numbers of street musicians becomes clear by looking at the decline in the numbers of organ grinders in Düsseldorf. The address book for 1874 showed numerous organ grinders, most of them living in the workers’ districts of Bilk and Flingern or in the old centre.\textsuperscript{115} According to Abrams, ‘64 [organ grinders] roamed the streets of Düsseldorf in the 1880s.’\textsuperscript{116} By 1902, there were three organ grinders listed in the Düsseldorfer address book of that year. The three were Italian and related by last name, Rossi, and they lived in the Ritterstraße (fig. 1.6) just north of the old centre and a street where many Italian musicians resided. Most of these will have played for Luigi Arcari, who was listed as a ‘concert organiser.’\textsuperscript{117} There were, then, still plenty of musicians in Düsseldorf, but most of them played for an organiser who booked them into the beer halls and variety theatres of the city.

It is difficult to ascertain exactly where and for whom these Italian musicians played. What is clear is that there was a small community of musicians in the Ritterstraße. Victor Noack’s account of a Berliner musician in Hans Ostwald’s \textit{Großstadtdokumente} supports the claim that most of these, except for the organ grinders, played indoors in the early-twentieth century.\textsuperscript{118} The \textit{Großstadtdokumente} were a collection of pamphlets of about 100 pages each written by a variety of writers who all shared an intention to inform readers – and the \textit{Großstadtdokumente} were widely read as it went through several editions before the First World War – about the technological and cultural changes of the city. Ostwald was a self-educated writer and publisher who had published a book about his experiences traveling the country working as, among other things, a goldsmith. Noack was a socialist who has also written on the role of the German \textit{Arbeitersängerbund}

\textsuperscript{115} \textit{Adressbuch Düsseldorf}, 1874, 2-3 F 26 X, StaD.
\textsuperscript{116} Abrams, \textit{Workers’ Culture}, 93.
\textsuperscript{117} \textit{Adressbuch Düsseldorf}, 1902, 11 F 26 X, StaD.
\textsuperscript{118} Noack, ‘Was ein Berliner Musikant Erlebte,’ 1-118.
Fig. 1.6 Ritterstraße (marked in red), Plan der Stadt Düsseldorf 1901-02 (cut out), 5-1-0-7 0003, StaD.
(workers’ singing association) in the emancipation of the working classes.\textsuperscript{119} Part of Noack’s agenda in the \textit{Großstadtdokumente} was therefore probably to inform the readers of the conditions in which what he referred to as the ‘musicians proletariat’ worked in.\textsuperscript{120} The \textit{Großstadtdokumente} were an attempt by Ostwald, according to one of its historians Peter Fritzsche, ‘to publish a series of pamphlets to provide some sort of documentation of the diversity and to offer a guide through the labyrinth of the city.’\textsuperscript{121} They offered a broad overview of Berlin, from the brothels to the business districts and from the slums to Noack’s struggling musician.

The musician described by Noack played in beer halls and beer gardens as well as variety theatres, but never in the streets. Noack described the travails of a musician and the difficulty in finding work in the city, but even in such conditions, the musician did not turn to playing in the streets anymore. An essay written for the Manchester publication \textit{Odds and Ends} – a yearly journal of the St. Paul’s Literary and Educational Society – stated that playing music in the street was a last resort for many among the lower urban classes.\textsuperscript{122} The author of the article reminisced on the street musician’s slow demise, but informed his readers that,

\textit{only a few years ago when the great coal strike was on [presumably he meant the Welsh coal strike of 1898], the streets of Manchester and those also I presume of its neighbouring towns were invaded by bands of colliers who in the aid of music both vocal and instrumental attempted to fill the household purse.}\textsuperscript{123}

At other times, though, street musicians were less and less a part of the urban soundscape and when they were, their quality was, according to the writer of the \textit{Odds and Ends} article, worse than it had been. Musicians otherwise seemed to rely on concert

\textsuperscript{120} Noack, ‘Was ein Berliner Musikant Erlebte,’ 110.
\textsuperscript{121} Fritzsche, ‘Vagabond in the Fugitive City,’ 388.
\textsuperscript{122} The journal is mostly known for its links to radicalism, see: Martin Hewitt, ‘Radicalism and the Victorian Working Class: The Case of Samuel Bamford’ \textit{The Historical Journal} 34 (1991), 873-892.
\textsuperscript{123} Rob Jordan, ‘Itinerant Musicians’ \textit{Odds and Ends} (Manchester, 1901), 359-374 (365).
organisers, such as Arcari in the Ritterstrasse, to find them work in one of the indoor establishments.

Whether the organ grinding Rossis had anything to do with Arcari is difficult to know, but unlike most of the other musicians in the Ritterstrasse the Rossis did not have to rely on a concert organiser. Instead they relied on receiving a permit to play in the streets. Where the Rossis grinded their organs is, again, difficult to ascertain, but they most likely walked through the nearby Hofgarten and into the old centre to the south of the Ritterstrasse. The police no longer handed out permits on every day of the week and on the days that they did hand them out, tensions could arise between the musicians and the police, but also between different local authorities. In 1912, the Landrat in Moers complained to the Regierungspräsident about the fact that local administrations in Duisburg, Krefeld and Essen had denied street musicians from the Moers district the right to play. To put some weight behind his complaint, the Landrat wrote that ‘a prohibition of musicians from other districts leads to a nullification of the trade license for itinerant musicians.’ That the license was indeed no longer very relevant can be read into the Regierungspräsident’s response: ‘because of the fact that permission is granted on ever fewer days of the week, or even month, most local administrations accept musicians on a local basis first.’ The debate here no longer had the basis of the morality that pervaded the discussion about street music only twenty years earlier and which dominates the historiography of popular urban culture. Local administrations began to prefer local musicians to play the streets and instead of hearing street music as an immoral act, seemed to have an almost moral obligation to let their ‘own’ musicians

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124 Der Landrat zu Moers, 18 June 1912, BR 0007 30474, LNRWAB.
125 Der Regierungspräsident zu Düsseldorf, 26 June 1912, BR 0007 30474, LNRWAB.
play. Part of it probably goes back to the choir master that began the 1893 inquest by
the Regierungspräsident into the practice of licensing itinerant street musicians in
Regierungsbezirk Düsseldorf. This choir master had written that the local administrations
should not allow the itinerant bands, ‘who often play the most wretched music,’ but
instead allow only local bands whose ‘quality could be checked’ and insured.127 There
was a shift in the early-twentieth century from street music as a part of urban culture,
criticised and reviled by a section of the urban middle-class professionals, to street
music as part of a localised culture.

As Celia Applegate has shown in the case of art music in the nineteenth century, it
mattered where musicians came from. As such, they carried a certain local identity that
was relevant to those who heard them play.128 The importance of place to the
‘authenticity’ of musicians is evidenced by Noack’s musician, who, when he joined a
musical group, adopted their ‘nationality’ and as such he had performed as a ‘Russian, a
Pole, a Hungarian, a Spanish man, an Italian man and even as an Indian.’129 Street
musicians also often adopted identities in performance, but when their numbers
dwindled their main strength became their local identity.130 What connected the local
administrators’ stance towards street music to the earlier debates among the middle-
class professionals was that the quality of the performance remained important. The
Regierungspräsident captured the general stance toward street music in 1914:

127 Christoph Bleecker, Chorführer zu Mettmann, 8 July 1893, BR 0007 30474, LNRWAB.
128 Applegate, ‘Music in Place,’ 54. See also: Bohlman, ‘Landscape – Region – Nation – Reich’; Tony
Green, ‘James Lyons: Singer and Story-Teller: His Repertory and Aesthetic’ in Michael Pickering and
Tony Green (eds.), Everyday Culture: popular song and the vernacular milieu (Milton Keynes, 1987), 105-124;
Richard Leppert, Music and Image: Domesticity, Ideology and Socio-Cultural Transformation in 18th Century England
(Cambridge, 1993), 107-175; Margaret Mahony Stoljar, Poetry and Song in Late Eighteenth Century Germany: A
129 Noack, ‘Was ein Berliner Musikant Erlebte,’ 70.
130 On street musicians adopting identities in their songs, see: Axel Körner, Das Lied von einer anderen Welt: Kulturelle Praxis im französischen und deutschen Arbeitermilieu, 1840-1890 (Frankfurt, 1997); Sam Richards,
‘Westcountry Gypsies: Key Songs and Community Identity’ in Pickering and Green (eds.), Everyday
Culture, 125-149; Smith, Acoustic World, 196-205.
Several cases have now caused me to give notice that harmless popular amusement, such as organ grinding or the singing of choirs in the streets of the city, will no longer be prohibited on the basis that they cause noise. It is possible to argue that the electrical trams, the factories etc. do more to disrupt peace and quietude, as such popular amusements that entertain the people, take place only several times a week and only last briefly. If need be, we can make sure that only good instruments are used and that only trained individuals are allowed to play.131

Street music could no longer be admonished for being noise around 1914, because there were sounds in the city that were much louder and more persistently present. However, the Regierungspräsident was aware that quality of performance was still an issue for a section of the urban population and he stressed that legislation could be put in place that guaranteed a certain level of music.

Picker’s assessment of street musicians in the early twentieth century as ‘quaint curiosities’ has to be adapted in light of the practicality of the Regierungspräsident’s approach. For the latter, street musicians were not so much quaint curiosities, but a source of relaxation and pleasure to an urban population engulfed in noises from industry and transport. Street music still had to adhere to the established aesthetic qualities that middle-class professionals sought in music. However, with the rise of urban ambient noise levels, street music, at least for a section of the middle class that included many local administrators, became endowed with the qualities not long before only attributed to concert hall or chamber music. Furthermore the Regierungspräsident’s communication points to a shift away from a need for quiet to a need for organised sounds in a sonic environment deprived of them. The most important factor in the slow disappearance of street music was not the debates about aesthetics and noise among middle-class professionals nor the anti-noise campaigns and the legislation put in place to prohibit street music, but the rise in ambient noise levels due to technological developments. Different types of noise had begun to command attention as nuisances and in light of those, mostly mechanical, noises some of the middle-class professionals

131 Der Regierungspräsident zu Düsseldorf, 11 June 1914, BR 0007 30474, LNRWAB.
who had campaigned and legislated against street music had begun to listen to it differently and more appreciatively.

Conclusion

This chapter has demonstrated that by focusing on sound within urban space, historians’ understanding of discrete spaces, organised by social as well as physical boundaries, needs to be adjusted. Many of the man-made noises discussed in this chapter fall into the category of popular culture. Historians of popular culture have tended to take a Bourdieuvian approach to show how shared aesthetic values defined cultural hierarchies. Instead, this chapter has followed Elias’s approach of considering specific everyday practices – in this case listening – within the context of broader social transformations. Focusing on the listening practices of actors within these cultural hierarchies has demonstrated that the reactions to noise disrupt the idea of clearly defined social groups. The group of middle-class professionals discussed in this chapter consisted of men who were against man-made noises such as street music, but also of men who championed them. Because noise is such a subjective category it allows historians to understand the differentiation that existed within social groups commonly understood to share cultural and social values.

Sound breaks down spatial understandings of the urban environment, because it echoes and resonates from one space to another. By mapping the sounds of hawkers onto the leisure environment of Manchester in the 1860s, this chapter has demonstrated that the sounds of leisure of different social groups were less separated than often imagined by historians who have focused on the discrete spaces of leisure in this period. Middle-class professionals understood the need for leisure to a healthy life, and disruptions to
both leisure and work could lead to nervous disorder. Historians have followed contemporary understandings of neurasthenia as a particular middle-class phenomenon. The practice of *Katzenmusik*, however, showed that the working classes can also be understood to have disciplined their selves in a way similar to the middle classes, and that what historians following Foucault have called liberal governmentality was not a ‘new’ way of disciplining, but one that had its roots in older forms of regulation and control.

By the early years of the twentieth century, middle-class professionals had started to debate the impact of street music as noise. A number of them turned the arguments surrounding neurasthenia around to argue that self-discipline meant being able to live with urban noise. Others started to argue for street music as a sedative against other, more invasive noises. Within these debates surrounding street music, the focus on it as a working-class expression shifted to include middle-class practitioners of music in their homes. The latter’s sounds could become noise by travelling from one home to another and therefore had the same effect as sounds entering from the street: an unwelcome distraction from outside the space of the home. Again, certain middle-class professionals turned the argument around and argued that cities were filled with sounds and that living in a city meant accepting that. Sound could become noise at particular times and places and with a particular listening aesthetic, but the rising ambient noise levels of the city meant that sounds once understood as noise could transform into sounds of pleasant distraction. Peter Bailey was right to point out the existence of different thresholds of tolerance, which can be understood as different reactions to sounds and this chapter has shown how the different thresholds shifted between spaces, people and over time. In the process it has refined historical understanding of social order and control in the late nineteenth and early twentieth century as a more measured and fractured experience than often suggested by social and cultural historians.
Chapter Two: Mechanical Street Sounds: Technology, Noise and Listening

Introduction

The introduction of new technologies and the debates surrounding them helped shape the spatial and social organisation of urban everyday life. One of the defining features of the technologies of road surfacing, automobiles and trains, which this chapter examines, was their audibility. How a technology sounded played a significant role in its development as well as in how social groups such as medical professionals or consumers perceived it, yet this has received little historical attention. By placing sound central to its analysis, this chapter adjusts the emphasis of historians on vision and visuality in the modern city towards aurality and audibility to challenge existing notions about space and place. Sound theorist and artist Brandon Labelle has argued that, ‘the temporal and evanescent nature of sound imparts great flexibility and uncertainty to the stability of space.’ An emphasis of sound over vision presents historians with a blurred acoustic realm. This blurring diverges from the neatness and discipline with which historians like Wolfgang Schivelbusch, Judith Walkowitz and Chris Otter have imbued

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2 This argument can also be found in: R. Murray Schafer, ‘Acoustic Space’ in David Seamon and Robert Mugerauer (eds.), * Dwelling, Place & Environment: Towards a Phenomenology of Person and World* (New York, 1989), 87-99 (94); Don Ihde, *Listening and Voice: A Phenomenology of Sound* (Athens, OH, 1976).
Visually defined spaces. Sound thus complicates how historians have demarcated spaces and opens up new ways to understand the relationships between people, place and technology.

The historiography around Michel Foucault’s concept of governmentality provides a particular example where historians have used visuality to define spaces and where visual signals provided specific disciplining functions that created free and liberal individuals. Acoustic signals also afforded disciplining functions, but the main discussions surrounding the sonic qualities of technologies in the late-nineteenth and early-twentieth century focused on how sounds invaded spaces. Because sound resonated and echoed through and around visual spatial boundaries it disrupted a social order that aimed to keep transport, health and education as separate realms. The way a sound reverberates depends on the types of surfaces it encountered. This chapter demonstrates that urban administrators, medical professionals, clergymen and engineers were all aware of the important effect of materiality on the impact of sound. An examination of the sounds of history and the role they played in the development of technologies and the spatial organisation of the city enables historians to develop a

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clearer understanding of the role of materiality, and the complicated ways material environments need to be understood.

Karin Bijsterveld is one historian who has examined the impact of sound in society. For her, ‘the sound of technology not only marks our sonic environment, but has also been a highly controversial aspect of technology – an aspect invested with symbolic significance.’ Bijsterveld’s approach fits into the science, technology and society (STS) model, which historians and sociologists established in the late 1980s to demonstrate that technologies developed in relation to their uses in everyday life. The fact that the sonic qualities of technologies were controversial meant that these played a role in the development of them as well as in how they found their way into everyday use. By focusing on the symbolic meaning of sound, Bijsterveld has shown that users of technologies measured its successful introduction into everyday life by how they sounded as much as by other measures of usefulness. This chapter shifts Bijsterveld’s focus on the symbolic meaning of sound to the material and physical qualities of sound within an urban environment through the debates among four social groups: medical professionals, engineers, consumers and local administrators. Each of these social groups used the sonic qualities of a technology as a lever to construct an ‘ideal’ urban environment. Attending to sound directly instead of through the symbolism in discourses about noise refines how historians following STS understand the introduction and development of technologies in everyday life.


Composer Barry Truax works with acoustic signals to understand how soundscapes function. He defines acoustic signals as ‘those sounds that stand out clearly against the ambient noise background.’ They provide a point of departure for this chapter, which bases its discussions of the mechanical sounds of transport on traditional sources such as council records and periodicals. It extracts sounds from these sources by focusing on how local administrators, health specialists and engineers tried to measure and control the levels of sound in space. Such textual accounts provide information on the sonic qualities of technologies, but also on what the sounds of technology symbolised. Furthermore, this chapter examines the construction of road surfacing materials, recorded sounds, and the material spaces in which sounds resonated. The sounds discussed provide principal examples of the way that specific social groups within urban societies responded to and influenced the transformations of urban life through the development of technologies of transport and industry.

The organisation of the chapter follows the different technologies that it examines. The first section explores how different social groups affected the development of a variety of road surfaces. From the late 1870s to circa 1910 engineers developed different types of road surfaces designed to dampen the noise created by the friction between the street and the vehicles on it. The section demonstrates the importance of sound for different social groups as they attempted to organise urban spaces by controlling how these spaces sounded. The second section continues with a focus on the car and how its sounds changed the social organisation of urban space. Moreover, the section expands...

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existing historical methodologies by introducing recorded sounds to interrogate the opinions of different social groups involved in the development of the car. Finally, the third section examines one specific acoustic signal: the train whistle. This section shifts the usual focus of train historians from inside the carriage to how trains impacted on urban spaces and the people traversing these spaces. The section advances the argument from the previous chapter by breaking down the discrete spaces through which historians have tended to analyse the city. Throughout the chapter, health is a key factor that often affected the attitudes of the different social groups in question to the sonic qualities of new technologies.

Street Surfaces, Suppressing Noise, and Constructing a Hygienic City

This section expands the work of historians who have argued that streets were physical objects that influenced technological developments and the social construction of place by analysing how sound created a road surfacing issue. Chris Otter has examined the discussions concerning, and experiments with, road surfacing in relation to broader historical debates on the visual improvement of the city. Otter emphasised the perceived necessity of clear visibility for civil conduct and self-government and for him, noise was a distraction to proper visibility. By focusing specifically on the audibility of road surfacing, this section reformulates Otter’s work by demonstrating the importance

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9 Otter, The Victorian Eye, 92.
of sound to the social and cultural organisation of the city at street level. Soundscape scholar Raymond Murray Schafer has suggested that the main difference between visual and aural signals is one of perception. ‘We are always at the edge of visual space looking into it with the eye. But we are always at the centre of auditory space listening out with the ear.’ Auditory perception is significantly different from visual perception and this manifested itself in the debates about urban road surfaces. Furthermore, acoustic signals and the technologies that produced them encouraged public interest in urban improvement and self-control through the repression of noise. A new technology that emerged in response to this focus were ‘noiseless’ road surfaces. This section explores the way the sonic aspects of road surfacing altered both the physical layout of cities and the listening practices of urban communities.

The development of sound-dampening road surfacing originated with the physician Benjamin Ward Richardson’s utopian city, called ‘Hygeia: A City of Health.’ He presented his ideas in 1875 to the Social Science Association in Brighton, just after the British parliament had passed the Public Health Act of the same year. Sanitary reformers had campaigned for almost forty years for the act, and it was visionaries like Richardson who used it as an opportunity to think about the next steps in reform. ‘Hygeia’ became an influential model for many urban social reformers, not just in Britain, but also in America and Germany. According to the environmental historian Harold Platt, Richardson’s utopia ‘would help municipal reformers envision the slums in novel ways as a problem of bad housing and poor neighbourhood design.’

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10 Schafer, ‘Acoustic Space,’ 94. The same argument underpins the work by Don Ihde, see: Ihde, Listening and Voice.
focused on Hygeia as an ideal and its most lasting impact was in inspiring other sanitarians, such as Ebenezer Howard and his Garden City, who turned some of Richardson’s utopian ideals into realities.\textsuperscript{12} On a smaller scale, some of the ideas put forward in Hygeia also developed into actual technologies used in the urban environment.\textsuperscript{13} This section focuses on the issue of road surfacing to demonstrate that sound played a significant role within urban health reforms.

Within Hygeia, ‘the streets of the city are paved throughout with the same material. As yet wood pavement set in asphalte (sic) has been found the best. It is noiseless, cleanly and durable.’\textsuperscript{14} Noise, for Richardson, was a sanitary problem as it impacted on the health of the urban population. The sociologist Richard Sennett has placed the connection between health and the city into a long history that shows that urban planners have, since ancient times, understood the urban form as corporeal.\textsuperscript{15} The noise produced by the friction of street paving and vehicles on those streets impacted, much like the noise of street musicians and hawkers, on the nerves of the urban population.

According to the historian Andreas Killen, doctors, social hygienists and nerve

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\textsuperscript{14} Benjamin Ward Richardson, \textit{Hygeia: A City of Health} (London, 1876), 20.

specialists in late-nineteenth-century Germany ‘believed that a combination of public health and enlightened medicine could effectively manage the problem of nervous degeneration.’ Noise produced by road surfaces became part of the issue of public health and the accompanying social hygiene necessary to attain it in both Britain and Germany. Richardson, for example, envisioned Hygeia as a city that aided the health of the urban population through technologies, such as wooden road surfacing, that repressed negative influences on the human body.

From within the medical profession, doctors, psychologists and nerve specialists raised concerns about the noisiness of streets. Dr. Thomas Radford, who had been connected to St. Mary’s Hospital in Manchester since the 1820s, for example, wrote to the Paving, Sewering and Highways Committee of the city’s Corporation in 1877 asking their ‘kind interest to obtain a changed surface in the street opposite [St. Mary’s] hospital so as to be less noisy.’ In response to this, the committee, whose responsibility it was to upkeep the city’s streets, began to experiment with wooden paving around St. Mary’s Hospital, which was located on Byrom Street in the centre of Manchester (fig. 2.1). From the committee’s minutes, it is unclear how much wooden paving the Corporation put down, but the Manchester correspondent in the medical journal The Lancet in 1881 indicated that in front of St. Mary’s ‘one-half of the street is paved with wood.’ The experiment, then, did not extend to the full surface of the streets around St. Mary’s Hospital, nor did it reach the nearby Eye and Ear hospitals along St. John Street. This was, however, the blueprint for how the Corporation dealt with noiseless paving: institutions that desired quietude wished to control the levels of noise entering their buildings, while the paving committee faced choices concerning the types of pavements, the attitudes of specific

17 ‘Minutes,’ Paving, Sewering and Highways Committee, 3 October 1877, GB127.Council Minutes/Highways Committee, MLA.
18 ‘Manchester,’ The Lancet, 12 February 1881, 274.
social groups involved in various institutions and the cost of implementing these new technologies.

During the same meeting of the paving committee at which the councillors made the decision to put down wooden paving around St. Mary’s Hospital, they also decided to put wooden paving down on a portion of Princess Street, without specifying exactly where, to test its qualities. The committee chose Princess Street, because it was a particularly busy thoroughfare. Subsequent experiments, with wooden paving and other surfaces, in both Manchester and Düsseldorf happened on streets that were busy in order to test the surface for wear. The committee decided to lay down creosoted wood pavement on a bed made of lime mortar, broken stone and gravel, and to grout it

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19 ‘Minutes,’ *Paving, Sewering and Highways Committee*, 3 October 1877, GB127.Council Minutes/Highways Committee, MLA.
with asphalt.20 The creosote oil, the mortar and the asphalt grouting all contributed to a
decrease of friction between wheels, hooves and road as it helped keep the wood blocks
in place. The oil also prevented the pores of the wood from filling with water and other
liquid substances so that it would not rot.21 The wood mainly prevented friction as a
smooth surface, but it also absorbed more sound, due to its soft nature, than the granite
stone setts common to Manchester’s streets at the time. The engineers Henry Law and
D.K. Clark explained that wood absorbed sound better, because of its ‘elastic action.’
Wood pavement was ‘a material, which, with its vertical fibre, acts as a coat of velvet
might be supposed to do, simply to absorb and neutralise minute vibration.’22 By the
end of the century problems of hygiene would crop up around wooden road surfacing,
but around 1880, the main problems concerned its durability and expense. The cost of
the wooden surface in Princess Street was almost a third more expensive than the
regular granite pavement used in Manchester.23

Noise created by the friction of vehicles driving over streets also entered The Royal
Infirmary (fig. 2.2). In 1882, the Infirmary Board wrote to the Paving, Sewering and
Highways Committee, requesting the streets surrounding the Royal Infirmary to be
paved with wood. The Lancet’s Manchester correspondent wrote that it was ‘doubtless
that this will be done at once.’24 Medical professionals listened to streets as producers of
noise, but also understood their potential as noise dampeners. The technology of
wooden road surfacing was a social construct, because its implementation stemmed
from debates surrounding the wellbeing of patients. Without the pressure of medical
professionals, wooden road surfacing would probably not have been adopted as readily

#References#
20 ‘Minutes,’ Paving Nuisance and Highways Committee, 3 October 1877, GB127.Council Minutes/Highways
Committee, MLA.
21 George W. Tillson, Specifications for Creosoted Wood Block Paving (Indianapolis, IN, 1915), 13-16.
23 ‘Minutes,’ Paving Nuisance and Highways Committee, 3 October 1877, GB127.Council Minutes/Highways
Committee, MLA.
24 ‘Manchester,’ The Lancet, 11 June 1881, 972.
as was the case. However, the paving committee decided not to put down wooden pavements around the Infirmary, ‘on the ground of the enormous difference in first cost and maintenance of a wood pavement to that of granite.’

While medical professionals and engineers argued for the qualities of wood pavement, finance issues prevented local administrators from using it on a great scale.

In Manchester, the paving committee agreed to put down wood or asphalt road surfaces around places such as the Owens College in 1883, Manchester and Liverpool District Bank in 1903 and the United Methodist Free Church also in 1903. It was these local institutions that led the way towards more noiseless pavements. In Germany, many local administrations opted for wooden paving in various parts of their streets. Heinrich Freese was an industrialist and social reformer who campaigned for hygienic cities and

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25 ‘Minutes,’ Paving Nuisance and Highways Committee, 1 December 1882, GB127.Council Minutes/Highways Committee, MLA.
26 ‘Minutes,’ Paving Nuisance and Highways Committee, 1 August 1883 and 14 January 1903, GB127.Council Minutes/Highways Committee, MLA.
owned a company that produced wooden paving. His company was responsible for the wooden pavements in Leipzig, Berlin, Hamburg and other German cities. His company tried to sell wooden road surfacing to Düsseldorf’s Stadtverwaltung or city administration and not much later specifically to the city’s Stadtbauverwaltung or construction authorities in 1884. The company’s letters did not mention the noiseless or other qualities of wooden road surfaces, which suggest that its merits were well-known and taken for granted. In the first of two letters advertising their product Freese’s company mentioned the application of creosote oil and a concrete basis, which were similar to the methods of laying wooden road surfaces in Manchester at the time.

Noiseless road surfaces connected engineers, social reformers and local administrators in Britain and Germany in their ideas about the need for the repression of noise and in their belief that technology would remedy the issue. However, this notion does not follow historian David Blackbourn’s concept of cultural transfers between Germany and Britain based on an exchange of ‘ideas, practices and artefacts.’ Instead the similarities in policy and technology came from similar urban processes, which included rising ambient noise levels, health concerns and technological developments.

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28 Hamburg-Berliner Jalousiefabrik an die Stadtverwaltung Düsseldorf, 22 July 1884, III 10303, StaD; Hamburg-Berliner Jalousiefabrik an die Stadtbauverwaltung Düsseldorf, 6 December 1884, III 10303, StaD.
29 Hamburg-Berliner Jalousiefabrik, 6 December 1884.
It was the sonic qualities of wooden paving that embedded the technology and its construction in contemporary debates about noise and health.\(^{31}\) As such, it can be established that engineers were not only interested in the effects of wooden road surfaces, but also in wider social issues when they discussed the construction of such surfaces. In a letter to the editor of *The Lancet*, the engineer and sanitarian Robert Rawlinson stated that,

> the bad example of America must have been followed in England, and especially in London at first: such as loose and ill-formed foundations with blocks set wide apart, the spaces filled in with gravel or with concrete. In these cases the foundations gave way, the blocks frayed at the edges, and sunk, the whole surface becoming uneven and jolting with less than twelve months’ wear. When wood blocks are laid on a solid and smooth foundation, and are close jointed, they cannot sink or fray at the edges, but must wear evenly, because the traffic passes over smoothly. Such surfaces may be washed by hose and jet so as each morning to be clean and sweet as when new.\(^{32}\)

Wood blocks used for paving required a firm foundation, which reflected Rawlinson’s and other sanitarians’ ideals of similar foundations for society. Without a solid foundation, the positive effects of wooden paving could not be optimised. Similarly, the wooden blocks needed to be closely jointed and worn-down at an even rate.

Wooden road surfacing, however, was not the only paving technology used to try and suppress the noise of urban traffic. In fact, there were considerable practical problems with pavements made of wood. Historian Chris Otter has already pointed out that one of the reasons that wooden paving was not successful was that, ‘in hot weather, clouds of stinking particles escaped from subsurface spaces.’\(^{33}\) Similarly, the historian Clay McShane has demonstrated that in America, the stink emanating from wooden paving was the main reason health reformers were against it.\(^{34}\) Wooden road surfacing absorbed sound better than granite setts and, if built on a proper foundation, presented

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\(^{31}\) Similar arguments on analysing sensory experiences within a broad social context are found in: Coates, ‘The Strange Stillness’; Mark M. Smith, ‘Producing Sense, Consuming Sense, Making Sense: Perils and Prospects for Sensory History’ *Journal of Social History* (2007), 841-858.

\(^{32}\) ‘Wood Pavement,’ *The Lancet*, 30 September 1882, 549.

\(^{33}\) Otter, *The Victorian Eye*, 94.

a much more even surface. However, wood is a porous natural substance and it absorbed the excrement of horses leading to the emission of nauseating vapours. One correspondent in *The Lancet* wrote about the effect of the porosity of wooden pavements:

Too much, again, has been made of the porosity of wood-blocks. This, as also the degree and rapidity of their wear, is so trifling that practically there can be little to choose between their contagion-breeding properties and those of the other materials above.35

The other materials the author referred to were ‘stone, asphalte (sic) and concrete paving.’36 The author defended the use of wooden paving as it had ‘the great advantage’ of providing ‘a smooth and comparatively noiseless roadway.’37 For many medical professionals – especially those working with patients in hospitals – the qualities of wooden road surfaces were primarily understood in sonic terms. Nauseating vapours emanated from many different sources but for many medical professionals working in hospitals the streets were the main source of noise and for this reason they advocated the use of wooden road surfacing to keep noise levels down.

By the late-nineteenth century a number of correspondents in *The Lancet* began to discuss the unhygienic aspects of wooden paving. The paving committee received letters from citizens and cab drivers in the early-twentieth century regarding the negative effects of wooden paving on both humans and horses.38 One article in *The Lancet*, published in 1895, reported on research conducted by Alexander Wynter Blyth, the medical officer of health for the London borough of St. Marylebone, regarding the saturation of wooden paving with horse excrement and other pollution.39 Blyth’s study

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35 ‘Sore-Throat in Relation to Wooden paving’ *The Lancet*, 17 June 1893, 1451.
36 ‘Sore-Throat in Relation to Wooden paving’ *The Lancet*, 17 June 1893, 1451.
37 ‘Sore-Throat in Relation to Wooden paving’ *The Lancet*, 17 June 1893, 1452.
38 ‘Minutes,’ Paving, Sewering and Highways Committee 12 August 1903, GB127.Council Minutes/Highways Committee, MLA.
showed that the wooden blocks he had analysed were, ‘as a whole permeated with pollution.’

The creosote oil should have prevented the absorption of excrement, but as the journal *The Engineer* informed its readership, constant traffic ground down the oil quickly, leaving ‘little or nothing to prevent the fibres and pores of the wood from becoming saturated with … noxious liquids.’ Over time, the hygiene concerns raised by those who argued in support of wooden road surfacing broadened the scope of the discussion to include senses other than hearing. Historians have linked odours, like sounds, into a broad social and cultural history centred around Alain Corbin’s ground-breaking work in which he asked: ‘What produced the mysterious and alarming strategy of deodorization that causes us to be intolerant of everything that offends our muted olfactory environment?’ The answer, in the case of wooden paving, was that the odours emanating from the wooden blocks not only contained the smell of excrement, but also carried bacteria.

The stance taken by medical professionals towards wooden road surfacing shifted, because they became more concerned with its negative impact on urban hygiene, and because engineers had developed a better option. Within the debates about noiseless road surfaces, the issue of smooth surfaces provided the crucial point, which in turn explains why those people inside churches, libraries and schools – and thus not immediately troubled by bad vapours – remained positive about wooden road surfaces.

Noise caused by friction on the streets arose mainly because the uneven granite setts or macadam – a surface of little broken stones pressed together – provided too many points of friction between wheels, hooves and the pavement. Chemical engineers discovered a solution to the problem of uneven streets by developing a natural pitch, which was a fluid mixture, often also including coal-tar and creosote oil. The development of natural pitch aided the eventual breakthrough of asphalt as the preferred paving materials in most cities. In combination with pitch, asphalt provided a pavement that was hard, smooth and flexible and which did not absorb excrement, something that also decreased with the gradual increase of cars over horses. Even when the Manchester Corporation still preferred granite stone pavements around 1900, engineers used ‘a pitch-composition for closing the joints of the stone-sets,’ because it provided an ‘elasticity [that prevented] it from cracking.’ In other words, pitch became the key to a frictionless and quiet pavement.

In the decades around 1900, there was a culture of listening among engineers, social reformers and medical professionals that constructed the street as a cause of noise. They understood that it was a combination of increasing traffic and the development of heavier vehicles and the friction between those and the material of a street’s surface that produced this noise. However, the industrial and urban environment meant that the repression of noise was a difficult task. The increasing ambient noise levels of urban society had an equally growing impact on the nervous system. Willy Hellpach, a German nerve specialist, wrote in 1902 that ‘today, the nerve doctors best friend is the engineer.’ Within the context of street paving, this was certainly true. The development of natural pitch by engineers led, in the early-twentieth century, to the

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43 Charles Kingzett, ‘Some analyses of Asphalte Pavings,’ The Analyst 8 (1883), 4-10.
45 Willy Hellpach, Nervosität und Kultur, 38.
prevalence of asphalt street surfaces, because it combined the repression of noise with a set of sanitary qualities that wood did not have. One London health inspector undertook a six year trial of the sanitary qualities of wooden pavements in Oxford Street. He concluded that, ‘for the purposes of health asphalt is the best form of pavement, since it, in all probability, is proof against the amount of saturation … in wood.’ The decision-making process surrounding street paving was made up of a combination of social and technological issues. That asphalt eventually became the common choice for street paving in urban environments resulted from a combination of the listening culture of medical professionals and the developments pioneered by engineers.

Road noise was not just about the surfaces. It was also about the wheels and the emergence of new technologies of wheel-making. Experiments with noiseless tyres happened concurrently with experiments in noiseless road surfaces. In 1880, one cab company, based in Manchester and London, fitted their cabs with rubber tyres meaning ‘the wheels were noiseless.’ The engineer William Worby Beaumont explained that,

> the advantages of rubber and especially of pneumatic tyres are not, however, confined to the lowering of traction effort as shown by haulage tests. The absorption of the periphery of the wheel of a large part of the vibration, and the softening of the jar and impact of road inequalities materially modifies the conditions of running of motor vehicles mechanisms.

Rubber tyres decreased the friction between wheels and road surface and the subsequent development of pneumatic tyres meant that there was air to soften the contact with uneven surfaces. In the early-twentieth century, the combination of rubber, ...

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pneumatic tyres and natural pitch asphalt created road surfaces that were broadly accepted as the best solution for a society that was increasingly based on motorised transport. The German anti-noise campaigner Theodor Lessing published his book against urban noise *Der Lärm* in 1908 and in it he argued that ‘rubber tyres in combination with noiseless paving will not give rise to traffic noise.’ The early campaigns of medical professionals to create greater quietude and, thus, healthier environments within the urban context had focused on street surfaces as a cause for noise. Lessing’s anti-noise campaign still understood streets as creators of noise, but was able to provide ready-made solutions due to technological developments that had happened since the 1870s.

The physical lay-out of the city had changed from the early experiments with wooden paving in the late-nineteenth century to the acceptance of asphalt as the preferred street surface in the early-twentieth century. A combination of medical professionals, local administrators and engineers listened to the street as a source of noise and understood that, to suppress this noise, they had to decrease friction. Within specific social circumstances, where the effects of noise on health was of particular concern, engineers developed technologies to counter the noises produced on the streets of cities. Early experiments had focused on wooden road surfacing as providing the most even surface and least friction between street and vehicle. However, the development of a natural pitch, together with the advent of the car and its rubber tyres, helped to make asphalt the most noiseless of paving materials.

Within the historiography that adheres to the belief that the impact of technology is socially constructed there is a general acceptance that ‘a technology cannot be explained

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as the “best way” to solve a problem. Instead, there are multiple factors that influence the development of a certain technology. By interpreting road surfacing as a partially sonic technology this section has demonstrated that its development occurred in relation to a specific listening culture as well as other technological developments in an urban context. Thus, sound played a significant role in the materiality of public spaces like streets and better understanding this connection will further historical investigation into the relationships that urban populations had with their environments.

Cars, their Acoustic Signals and the Construction of an Urban Car Culture

In Kenneth Grahame’s 1908 children’s book, *The Wind in the Willows*, one of the main characters, Mr. Toad, becomes infatuated with the ‘motor-car’ as the latest and fastest mode of transport available to him, providing a popular reference to the dynamic role of the car as a new feature of British social space. Grahame described how the story’s other protagonists, Ratty and Moley, first encountered Toad’s new obsession.

far behind them they heard a faint warning hum; like the drone of a distant bee. Glancing back, they saw a small cloud of dust, with a dark centre of energy, advancing on them at incredible speed, while from out the dust a faint ‘Poop-poop!’ wailed like an uneasy animal in pain. Hardly regarding it, they turned to resume their conversation, when in an instant (as it seemed) the peaceful scene was changed, and with a blast of wind and a whirl of sound that made them jump for the nearest ditch, It was on them! The ‘Poop-poop’ rang with a brazen shout in their ears, they had a moment’s glimpse of an interior of glittering plate-glass and rich morocco, and the magnificent motor-car, immense, breath-snatching, passionate, with its pilot tense and hugging his wheel, possessed all earth and air for the fraction of a second, flung an enveloping cloud of dust that blinded and enwrapped them utterly, and then dwindled to a speck in the far distance, changed back into a droning bee once more.

The car, then, was more than a new sight; it also changed modern soundscapes. Yet, while historians, sociologists and media scholars, such as Karin Bijsterveld, Michael Bull and Brandon LaBelle, have studied the sonic qualities of cars, they have done so from

the perspective of the driver, focusing on the interior of the car and a later period.\textsuperscript{52}

This section examines the early years of the automobile, roughly from 1896 to 1914, which historians often overlook, but on which a few studies have recently given more serious consideration.\textsuperscript{53} Within these years the audibility of the car was a major issue for its engineers and the local administrators in charge of the organisation of urban space. It is my contention that the sounds produced by the car before 1914 influenced the experience and organisation of urban spaces. Listening to the car’s sounds defeats the visuality most historians ascribe to the automobile and shows that its presence was more pervasive than previously understood.

The last section focused on the friction created by the wheels of vehicles on particular road surfaces. However, those vehicles made other sounds too, and in the case of the automobile the engine and the horn were the most notable acoustic signals. By listening to these sounds and by understanding how drivers used them and how local administrators listened to them in the context of everyday street life, this section


\textsuperscript{53} O’Connell uses the years before 1914 as a springboard into the 1920s and onwards when cars became more omnipresent, see: O’Connell, \textit{The Car in British Society: Class, Gender and Motoring}, 1896-1939 (Manchester, 1998). Similarly, the emergence of car culture and the eventual success of the Volkswagen Beetle is traced to the 1920s by Bernhard Rieger, see: Rieger, \textit{The People’s Car: A Global History of the Volkswagen Beetle} (London, 2013), 11-41. Another example is Rudy Koshar’s work which traces national identification with cars in Britain and Germany to the Interwar period, see: Koshar, ‘Cars and Nations: Anglo-German Perspectives on Automobility Between the Wars’ \textit{Theory, Culture & Society} 21 (2004), 121-144. Some of the historiography on American car culture has given significance to the pre-WW1 years, due to the Model T Ford, see: James J. Flink, \textit{America Adopts the Automobile, 1895-1910} (London, 1970); Christopher W. Wells, ‘The Road to the Model T: Culture, Road Conditions and Innovation at the Dawn of the American Motor Age’ (2007) [Available online] http://digitalcommons.macalester.edu/envifacpub/1. Or because of the effect rural communities had on more urbanised car cultures, see: David A. Kirsch, \textit{The Electric Vehicle and the Burden of History} (New Brunswick, NJ, 2000), 167-188; Kline and Pinch, ‘Users as Agents of Technological Change.’ The period plays a much more significant role in the studies by: Uwe Fraunholz, Uwe Fraunholz, \textit{Morrophobia: Anti-Automobiler Protest in Kaiserreich und Weimarer Republik} (Göttingen, 2002); Craig Horner, “Modest Motoring” and the Emergence of Automobility in the United Kingdom’ \textit{Transfers} 2 (2012), 56-75; Christoph Maria Merki, \textit{Der Holprige Siegeszug des Automobils 1895-1930: Zur Motorisierung des Straßenverkehrs in Frankreich, Deutschland und der Schweiz} (Wien, 2002).
challenges the way historians such as Peter Bailey and Karin Bijsterveld have qualified noise as having a negative impact on society. Medical professionals, local administrators and anti-noise campaigners listened to the car and its noisy engine as well as an excessive use of the horn as a disruption to an orderly city and life. Advocates of urban modernity, and these also included a range of medical professionals and intellectuals, understood the car as a signifier of progress. On both sides of this argument, these often fractured bourgeois social groups attempted to force their ideal of urban organisation onto the social order of the city and did so in distinct relation to how their environments sounded.

Legislation put in place at the end of the nineteenth century focused on the speed and sounds of motorised vehicles. In Britain, the Locomotives on Highways Act of 1896 gave more freedom to automobile drivers as it was no longer necessary 'that motor vehicles be preceded by a person on foot carrying a red flag.' In his influential book on the car, social historian Sean O'Connell took the 1896 Act as a starting point for the histories of the motor industry, because it removed speed restrictions and other regulations. The main problem with speed and sound in relation to the early automobiles was that it frightened both people and horses, while equally being the exact elements that made the car modern. That same dichotomy prevailed in The Wind in the

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54 Bijsterveld, Mechanical Sound; Picker, Victorian Soundscapes. The consideration of sound on an axis from noise to silence comes from soundscape scholar R. Murray Schafer, whose work has been instrumental in historical research on noise: Schafer, The Soundscape. Jaques Attali also discussed the idea of noise as negative and unwanted in his influential work, see: Attali, Noise: The Political Economy of Music, transl. Brian Massumi (Manchester, 1985 [1978]).


56 O’Connell, The Car in British Society, 1.

Willows in which the sounds of the car horn seduces Toad, but frightens his friends. To avoid cars from frightening other road users, the 1896 Act stated that, ‘every light locomotive shall carry a bell or other instrument capable of giving audible and sufficient warning of the approach or position of the carriage.’ Sound was thus not only a problem produced by the new motorised vehicle, but also a tool to inform people about its presence. The horn, or bell, allowed the driver of a vehicle to create an audible presence, signalling to others in the same environment of their ‘approach or position.’ In other words, there was a spatial element to the car’s introduction into the urban environment that required sound to signal location.

Understanding the car as a sonic presence within the urban environment broadens historians’ understanding of the organisation of public space. Sound was another semiotic system which people used to navigate the city and the horn became the signal that located motorised vehicles for the other users of the city’s streets. A police regulation issued in Düsseldorf in 1901 explained where car drivers needed to use their horn:

The driver has to give a clearly audible signal to approaching traffic and traffic to be overtaken, as well as to people who cross paths with the vehicle in order to make known that he is coming … In the same way, a signal needs to be given at street junctions and at the passing of bridges, gates and narrow streets, when turning into street corners, when coming out of or driving into premises located at public roads, and also at all unclear places and passages.

Thus, a driver needed to audibly signal at all places where their vehicle might encounter a person unaware of its presence due to a physical obstruction. In the cases where the car or other forms of motorised vehicle such as an omnibus or a truck, came from around a corner or from behind other traffic, the acoustic signal of the horn placed the
vehicle within reach of those able to hear the sound. Furthermore, the horn made the
car a presence without it necessarily being visual. Most of the examples the police
regulation presented were when cars could potentially be out of the visual range of
those about to encounter one.

The concept of an acoustic horizon allows us to better understand the role of sound in
defining the relationship between people and their environment. The term comes from
two scholars with an interest in the role of sound on the design of spaces, Barry Blesser
and Linda Ruth-Salter. In their book *Spaces Speak* they define acoustic horizon as ‘the
maximum distance between a listener and source of sound where the sonic event can
still be heard.’\(^{61}\) The horn extended the acoustic horizon in which horse drivers and
pedestrians heard a car or another motorised vehicle. It was not until 1925 that the
sound measuring units of decibel and phon were introduced, and in the early years of
motorised transport horses provided the standard for measuring noise.\(^{62}\) In the years
around 1900, horses still dominated the urban streets and it was through the ears and
reactions of these horses that local administrators measured when the sounds of a
motorised vehicle became noise.

In 1899, the *Regierungspräsident* in Düsseldorf requested his district and police
administrators to inform him about the impact of motorised vehicles. The *Landrat* in
Kleve wrote to the *Regierungspräsident* that ‘most horses shy away from motorised
vehicles because of their unusual noises.’\(^{63}\) Because there were so many horses,
unexpected behaviour by them could cause accidents. A negative reaction of a horse to
the sounds of a car defined those sounds as noise and it was up to the driver of the

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\(^{62}\) On the impact of the decibel and phon on anti-noise regulations, see: Bijsterveld, *Mechanical Sound*, 104-124.

\(^{63}\) *Der Landrat zu Cleve an den Herrn Regierungspräsident zu Düsseldorf*, 30 April 1899, BR 0007 9008, LNRWAB.
motorised vehicle to anticipate a horse’s behaviour. The *Landrat* in Neuss wrote to the *Regierungspräsident* that ‘when horses shy away from a motorised vehicle, the latter has to pull to a stop.’ To prevent the horse shying away from the noise produced by automobiles, drivers had to signal their approach by using their horn, which was also a noise that caused horses to rear. Broadening the acoustic horizon between the car and other traffic – such as horse-driven vehicles and pedestrians – hastened the car’s integration into the urban environment.

The focus on the horse as the reference point for understanding the impact of a new technology demonstrates the pervasiveness of the horse as a mode of transport. As historians Richard Birkefeld and Martina Jung have demonstrated, in Germany in 1907 two million horses were used for transport alone while there were around 27,000 cars in use. However, according to Bijsterveld, the noise problem related not to numbers of specific types of transport, but to the fact that ‘the density of traffic rapidly increased.’ Bijsterveld has described the horn as an ‘irregular and unexpected sound,’ adopting a different perspective to the one posited here that the horn expanded the acoustic horizon and became a positive addition to the urban soundscape. In this respect she interprets it as a noisy, negative addition. Local administrators in the *Regierungsbezirk* Düsseldorf seemed aware of the possible negative impact of the car horn. The police regulation mentioned before stated that while ‘all motorised vehicles need to be equipped with a horn and the warning signal produced needs to be clearly audible,’ drivers should do this ‘without troubling the general public through too loud or shrill

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64 Der Landrat zu Neuss an den Herrn Regierungspräsident zu Düsseldorf, 3 May 1899, BR 0007 9008, LNRWAB
67 Bijsterveld, ‘The Diabolical Symphony,’ 47.
noises. The horn made it possible for people to know of the approach of a motorised vehicle, but it could also be a nuisance if used for any other purpose than the expansion of the acoustic horizon. Bijsterveld based her analysis on complaints made by an urban elite looking for quietude, but understanding the car horn as an acoustic signal within the urban soundscape allows for a refining of the negative connotation Bijsterveld attributed to the car horn. Similarly, legislation aimed at early automobiles and their drivers showed how the car horn was perceived to be a positive sound, as long as motorists used it correctly.

Where Bijsterveld used anti-noise campaigners to judge how it was that sounds turned into noise, contemporary local administrators used the ears and reactions of horses to make those judgements. Unlike the focus on the human ear and the impact of noise on the nervous system in relation to the man-made street noises discussed in the previous chapter, the horse was deemed an appropriate measurement tool. As historians Clay McShane and Joel Tarr have shown, people in the late-nineteenth century treated horses within the remits of function and economy. Moreover, horse owners began to specifically train their horses to get used to the noises produced by automobiles. The Lancet reported that during a tour organised to celebrate the four-year anniversary of the Locomotives on Highways Act in 1900, ‘it was interesting … to notice that here and there timid horses were brought out by coachmen and grooms to face the procession in order to accustom them to the horseless vehicles.’ Such actions point towards an early acceptance of the car by a broad range of people which challenges the accepted notion that early motoring was only part of a car-owning elitist culture that was dominated by

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68 ‘Polizeiverordnung,’ Ambtsblatt der Königlichen Regierung zu Düsseldorf 30 (1901), §5, BR 0007 39959, LNRWAB.
69 Clay McShane and Joel A. Tarr, The Horse in the City: Living Machines in the Nineteenth century (Baltimore, MD, 2007). See also, Clay McShane, Down the Asphalt Path: The Automobile and the American City (Chichester, 1994), 41-56.
70 ‘Celebration of the Four Year Anniversary of the “Locomotives on Highways” Act,’ The Lancet, 17 November 1900.
the wealthy. Historian Craig Horner has shown that by the Edwardian period cars were not merely toys for the rich, but that the lower middle classes drove them as well, albeit outside the motor clubs populated by the upper middle class. Thus, the car became an established part of the urban street- and soundscape of the early-twentieth century and something to which other street users had to accustom themselves.

In the years around 1900 The Lancet supported the automobile mainly from the perspective of increased mobility for doctors, but retained its reservations about the impact of noises and fumes produced while driving on the health of the population. Both issues originated from the engine and were part of, and caused by, the technology that produced the car’s speed. Joachim Radkau, historian of Germany’s ‘nervous age,’ has investigated how new technologies accelerated transport and how that acceleration was a cause of neurasthenia. His research demonstrates that contemporary literature suggested increased speed was a cause for nervous disorders, but that in patient records ‘these factors appeared relatively seldom as direct factors of nervous diseases.’ Furthermore, Radkau has argued that by 1900 there were so many different technologies that sped up everyday life in one way or another that they became like ‘an endless stream, in which the individual, healthy or sick, had to swim along.’ The health concerns of The Lancet, while related to the car’s speed, did not focus on it specifically,

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71 For examples of this notion in the historiography, see: Alon Confino and Rudy Koshar, ‘Régimes of Consumer Culture: New Narratives in Twentieth-Century German History’ German History 19 (2001), 135-161 (156); O’Connell, Car and British Society, 11-42; Uwe Fraunholz, Motorphobia: Anti-Automobil Protest in Kaiserreich und Weimarer Republik (Göttingen, 2000); Rieger, The People’s Car, 11-41; Frank Steinbeck, Das Motorrad: Ein Deutscher Sonderweg in die Automobile Gesellschaft (Stuttgart, 2012).
72 Horner, “‘Modest Motoring.’” A similar argument, albeit less developed, can be found in: McShane, Down the Asphalt Path, 100-101. And for a similar argument about the German case, see: Merki, Der Holprige Siegeszug, 20, 124.
73 ‘Street Ambulance Service,’ The Lancet, 1 December 1906, 1542; ‘Motor-Cars for the General Practitioner,’ The Lancet, 17 November 1906, 1387-1390; ‘The Expense of a Medical Man’s Motor Car,’ The Lancet, 14 October 1899, 1027-1028.
75 Joachim Radkau, Das Zeitalter der Nervosität: Deutschland Zwischen Hitler und Bismarck (Munich, 1998), 199.
indicating that the medical literature in Britain and Germany had slightly different approaches.

The automobile was part of a greater ideology of progress, and medical professionals found in the car a useful instrument that improved their working life.\textsuperscript{76} Within Germany, the discourse around cars – and speed in general – and nervous disorders changed quickly in the early years of the twentieth century. Willy Hellpach, a nerve specialist, lauded the automobile for the possibilities it provided for peace, mainly through travel away from the city. However, he was still ‘waiting for the separation of the walkway from the roadway,’ hinting that cars and pedestrians clashed with each other on the urban streets.\textsuperscript{77} The automobile introduced a new element to everyday traffic and its speed and sounds required that individuals and government institutions adapt to it. Little was done to accommodate the car in its early years and this had an effect on the pedestrians with whom it shared the streets. The architectural historians Kathryn Morrison and John Minnis have shown that ‘little was done to help the Edwardian pedestrian cross the street safely.’\textsuperscript{78} Historian Richard Dennis made a similar argument about pedestrians on the London streets, who ‘had to pay more attention [because of the motorised vehicles] and learn to judge time and space more exactly.’\textsuperscript{79} However, contemporaries often described the pedestrian as the ‘master of the highway,’ a Times correspondent agreeing that,

\begin{quote}
 every good driver upon the road, whether of horses or of motor-cars should thoroughly grasp … [that the pedestrian] can pass and repass at his own sweet will [and] take up any position on the busiest road so long as he does not deliberately obstruct traffic.\textsuperscript{80}
\end{quote}

\textsuperscript{76} ‘The Expenses of a Medical Man’s Motor Car,’ The Lancet, 14 October 1899.
\textsuperscript{77} Willy Hellpach, \textit{Nervosität und Kultur} (Berlin, 1902), 213.
\textsuperscript{80} ‘Motor Cars and the Highway,’ The Times, 18 August 1908, 5.
The pedestrian was on the one hand a vulnerable actor on the street, susceptible to the noise, fumes and dust produced by the vehicles, both motorised and horse-drawn. On the other hand, the drivers of those vehicles had to pay attention not to avoid harming the pedestrian as he or she walked along the street and, more importantly, crossed it.

Because of their background as architectural historians, Morrison and Minnis focus on the impact of the car on the built environment and they conclude that ‘between 1895 and 1914 cars were rarely prioritised in urban improvement schemes’. In other words, adapting urban space to accommodate the car or any other motorised vehicle remained difficult prior to 1914 despite the fact that they formed an increasingly pervasive presence in the street. While local administrators and engineers experimented with a variety of road surfaces to contain motorised vehicles, another problem came from the sounds produced by the car itself. In the article in *The Lancet* on the anniversary of the Locomotives on Highways Act, the correspondent mentioned three different types of propulsion used for the cars taking part in the tour. ‘The greater number [of cars] … derived their motive power from petroleum spirit; a few were driven by electricity and a fair number by steam.’ The correspondent continued by stating that ‘the petroleum-driven motor cars are still noisy, yet earnest attempts have evidently been made to remove this reproach as well as the objectionable smell arising from the escape of unburnt oil.’ In order for petroleum powered vehicles to become a success, engineers had to develop an engine that caused as little nuisance as possible, both for the driver and the other road-users. It was these latter groups that gave direction to how the engine developed in the first decade of the twentieth century. Silence was not the first principle for engine designers, who in the first instance wanted to create the most

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81 Morrison and Minnis, *Carscapes*, 328.
82 ‘Celebration,’ *The Lancet*. A good study on why the electric car did not become as popular as the petroleum-driven car is: Chris Ivory and Audley Genus, ‘Symbolic Consumption, Signification and the “Lockout” of Electric Cars, 1885-1914’ *Business History* 52 (2010), 1107-1122.
83 ‘Celebration,’ *The Lancet*. 
A powerful engine. Consumers and others affected by the automobile modified the way that engineers, as well as advertisers and enthusiastic drivers, listened to the car.

A main part of making car engines run quieter was to make them more efficient by limiting the processes necessary to create power. The first step in the process of quieting down the car engine involved covering the engine to muffle the noise it generated. The major difference in creating a quieter engine, however, came with a change in the technology itself. The first engine to be marketed as ‘silent’ was the Daimler-Knight engine designed by the American Charles Knight and bought by the British based company Daimler in 1908. According to the early automobile magazine *Commercial Motor*, Knight had ‘aimed at the production of an engine that shall be: a) silent in its running; b) thermally efficient; c) built up of few parts; and d) compact in design.’

The author of the article stressed that the most interesting aspect of the Daimler-Knight engine was its silent running. Knight achieved ‘silence’ – of course, the engine could not be completely silenced – by taking out all the ‘jerkily-operated parts,’ which had eliminated ‘a large amount of the noise usually associated with the internal-combustion engine.’ Efficiency is a key theme within modernity and a desire for quietude from both consumers and legislators required engineers to develop efficient machines. Knight’s attempt to silence the engine shows how sound was a key element in the organisation of social and cultural life.

Other historians of sound, such as Jonathan Sterne in his work on sound reproduction, have similarly argued that, ‘sound, hearing and listening [were] foundational to modern modes of knowledge, culture and social organisation.’ The example of the car and its

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84 ‘The Daimler-Knight Engine,’ *Commercial Motor*, 1 October 1908, 15
85 ‘The Daimler-Knight Engine,’ *Commercial Motor*, 15.
internal combustion engine, and specifically the Daimler-Knight engine, demonstrates that silence was at the forefront of discussions among engineers, advertisers, production company executives as well as drivers in a bid to create a vehicle fit for the early-twentieth-century urban streets. The effect of the Knight engine, however, becomes much clearer when listened to in comparison to another, ‘non-silent’ engine. The latter engine can be heard on track 01 of the accompanying CD and was recorded by the owner of a classic Pope Hartford car in a soundproofed garage, which probably accentuated the engine’s sounds as the walls around it absorbed the sound instead of reflecting it. In the first seconds the starting of the engine is audible and by the eighteenth second the engine can be heard in full flow. The slightly rattling sound effect is the valves moving, while the overall sound comes across as loud and filled with many different noises, signalling the many processes going on inside the engine. There are people talking right into the microphone between 22” and 25” but the noise of the engine means they are barely audible. A ‘normal’ early-twentieth-century engine, then, was noisy enough to block out conversation in its proximity demonstrating where the desire to silence the car engine originated.

Listening to a recording of the Daimler-Knight engine reveals the lower overall sound produced by it (Track 02). The recording is of an engine outside of the vehicle meaning that the hood of a Daimler car from 1908 would have muffled it more effectively. From 1’25” to 1’38” the starting of the engine is audible. The sound levels are lower than those of the Pope-Hartford engine starting, but there are more erratic sounds, which would have possibly created greater disturbance than the more even sound produced by the starting of the Pope-Hartford. Listening to the running Knight engine, for example from 5’00” to 5’15”, reveals that the difference remains the same: overall, a lesser

production of sound, but more uneven. It is possible that fitted within the chassis of a car, the unevenness of the sound, partly coming from movements of the engine as it was free-standing, would have been less pronounced. Listening to the sound of the Knight engine in relation to another engine expands the methodology put forward by other historians of the car, sound and technology in general. Listening not only exemplifies, it also allows the historian to investigate an acoustic context, which informed the social, cultural and technological contexts in which most historians explore sound.

The sound of the Knight engine was quieter than previous internal combustion engines, but other engineers and car specialists challenged Knight’s claims in a meeting by the Royal Automobile Club in 1908. The comments made there demonstrate how factors outside of the actual sounds and the technology producing them informed listeners. The quietude of the Knight engine was mainly due to extra lubrication of the cylinders provided by internal sliding sleeves. Those sleeves were the main part of Knight’s invention in relation to his claim for a silent engine. However, one member of the Automobile Club challenged Knight by saying that it was the gearbox that created the most noise of an engine. 87 According to this critic, and others at the same meeting, the engine was not what had to be silenced about a car. All commentators, however, agreed that cars needed to be more silent than they were at present and an article in Commercial Motor implied that the commercial backgrounds of the speakers related to their various perspectives. The disagreements by different specialists of specific parts of the car all focused on silencing those parts and by 1913 The Manchester Guardian wrote that, ‘the British motorist’s desire for silence has almost amounted to a fad, and … made a deeper

87 ‘The Daimler-Knight Engine,’ Commercial Motor, 29 October 1908, 6.
impression on the motor trade of this country than any other demand of customers.\textsuperscript{88} The desire for quietude that existed within the same car-driving bourgeoisie, helped to create a discourse surrounding automobile construction that focused on ‘silence’ as a product and a marketable feature of both the engine and the car in general.

This section has used the example of the car in the late 1890s and the early 1900s to demonstrate that those involved in their production had concerns about the noise produced by technologies as they were introduced into society. Local administrators attempted to legislate against and control the noise produced by vehicles to prevent both physical and mental harm. Similarly, nerve specialists and psychiatrists warned against the potential harm the noise produced by cars could have on the brain’s functioning. However, the latter also championed the car as a technology providing those able to afford one with the possibility of respite from other noises. Engineers and production companies worked to the demands of a buying audience opposed to noise and these three aspects influenced the production of all aspects of the car. The emphasis on the sounds produced by cars develop the notion that cars became an accepted part of society in the early twentieth century. Furthermore, it challenges some of the ways historians have tended to understand noise as having a purely negative impact on society. The horn as an extension of the acoustic horizon impacted positively on the integration of the car into streets occupied in the main by pedestrians and horse-drawn vehicles. Finally, the investigation presented here has offered new ways for historians to approach the sounds of history. Overall, the prevalence of the sonic in discussions about the car between 1896 and 1914 demonstrates that sound was an important factor in the organisation of urban life in that period.

\textsuperscript{88} ‘Motoring and Flight: The Quietest Traffic,’ \textit{The Manchester Guardian}, 4 April 1913, 3.
Place, Health and the Sonic Impact of the Train Whistle

The train whistle not only impacted those travelling on the train, but also others within earshot of it. The literary critic Leo Marx, in his classic *The Machine in the Garden*, treated the train whistle as an example of his notion that technology invaded the American pastoral ideal.89 For Marx, the train whistle was a noise that fits the idea of noise as ‘sound out of place’ advanced by Peter Bailey.90 This idea stemmed from anthropologist Mary Douglas’ early work on pollution, in which she called dirt ‘matter out of place.’91 Understanding the train whistle as noise, however, requires a transformation in the perception of noise. Firstly, this is because the train whistle was not necessarily out of place. Its primary function was to warn others, from train drivers to horse drivers and from pedestrians to station personnel, of an oncoming train. Secondly, the train whistle was perceived differently by a range of actors, demonstrating how dissimilar social groups interpreted sound of a particular place in conflicting ways. For nerve specialists, the train whistle represented a strain to the nervous system, but for the train company directors the whistle was an important security signal. Meanwhile, for train passengers or those who lived or walked close to the sounding whistle it was a nuisance which could inflict serious bodily harm in the form of tinnitus, an ear condition that is a first step to deafness. In light of these divergent attitudes, it is clear that historians need to adopt a more varied approach to noise. This section offers this kind of holistic analysis, following the science, technology and society (STS) model by examining the reactions

of different social groups to a specific noise. Furthermore, this section focuses on place as it builds on the argument posited by historians and geographers that the urban fabric plays a vital role in the social and cultural organisation of the city.

The sound of the train whistle, unlike the sound produced by cars and on road surfaces, did not originate in the street as the train whistle was mostly sounded when crossing a viaduct, road or upon entering or leaving a station. This section explores a variety of archival material, from council records to medical tracts, to show how a belief in the potential of ‘sensory overload’ produced by new technologies acted as the key link in the way doctors, engineers, railway travellers and pedestrians listened to the train whistle. Furthermore, the idea of sensory overload became a trope in the work of many contemporary scholars, such as the sociologist Georg Simmel and the nerve specialist Willy Hellpach, and it has been used by historians such as Anson Rabinbach or Andreas Killen, who have examined this period. Significantly, the noise of the train whistle brought a sound into the street that did not originate there and thus merged different urban sites that historians often consider separately, continuing the theme of blurred acoustic spaces from the first chapter.

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95 Hurd does not consider the different ways in which the different public spaces she discusses relate to each other, see: Madeleine Hurd, ‘Class, Masculinity, Manners, and Mores: Public Space and Public Sphere in Nineteenth-Century Europe’ Social Science History, vol. 24, no. 1 (2000), pp. 75-110; Bailey discusses the space of the music hall, but does not consider how its sounds could often be heard in the streets outside: Peter Bailey, ‘Conspiracies of Meaning: Music Hall and the Knowingness of Popular
Historians have written extensively about the visuality of the train and its impact on society. Wolfgang Schivelbusch’s classic *The Railway Journey* emphasised how railway travel changed perceptions of space and time by increasing the speed of travel and decreasing the time it took to get from one place to another. The book focuses mainly on being inside a railway carriage, travelling from station to station and does not discuss the impact of the train on urban layout, apart from two brief analyses at the end of the book. First, Schivelbusch analyses Baron Haussmann’s reorganisation of Paris from the perspective of traffic flows, claiming that the ‘main thoroughfares can be perceived as complements to rail traffic. They either connect the terminals with the centre of the city, or with each other.’ While Schivelbusch analyses the impact of rail travel on the physical urban form, he does not consider the impact of the train on those people traversing the thoroughfares. The second point on which Schivelbusch departs from the lived experience inside the train carriage is where he discusses how the increased mobility offered by train travel induced department stores to offer ‘panoramic’ experiences where ‘the customer was kept in motion’ travelling ‘through the department store as a train passenger travelled through the landscape.’ Here, Schivelbusch suggests that the train was a symbolic representation of a specific change in the way people in the nineteenth century viewed their world. By focusing on one of the train’s acoustic signals, this section challenges the visual-centric approach of historians to trains.

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*Culture* *Past & Present* 144 (1994), 138-170; Ross explores how different media and communication technologies influenced German modernity, especially from the perspective of domestic space, however, he keeps the production and consumption spaces separate, while these came together through the sounds and images of the technologies: Corey Ross, *Media and the Making of Modern Germany: Mass Communications, Society and Politics from the Empire to the Third Reich* (Oxford, 2008).


99 Other historians who have started from a visual perspective are: Bailey, ‘Adventures in Space’; Nicholas Daly, ‘Blood on the Tracks: Sensation Drama, the Railway and the Dark Face of Modernity’ *Victorian Studies* 42 (1998/1999), 47-76.
Investigating the sonic impact of the train on the urban streets reveals how a deeper understanding can be developed of the organisation of public space and the role of technology in everyday life by considering them together.

Just as the car required a horn to announce its presence, so did the train. The first trains were equipped with a simple horn, but an accident in 1832 near Leicester called attention to the insufficient sound produced by the instrument. In his popular treatise from 1893, Clement E. Stretton, a civil engineer, wrote that ‘the engine driver [in the accident] had but the usual horn and could not attract attention.’ After the incident the owners and stakeholders of the Leicester and Swinnington Railway Company decided to have ‘a whistle fitted on the engine which steam can blow.’ An important issue for the current discussion is that the steam whistle came about as a result of a technology – the train locomotive – interacting with everyday users and its environment. Furthermore, the whistle became the first audible part of the train that had a specific purpose. By sounding the whistle the driver announced a train’s presence, which required of other users of the street that they adapted their movement accordingly. The whistle provided the train with a particular signal that aimed to create a safe passage through crossroads, across viaducts or upon entering or leaving a station. After the accident in 1832, railway owners, engineers and other stakeholders developed a system based around signals to prevent such accidents from happening again. The train whistle was just as important as these visual signals and was designed with the same purpose of safety in mind. However, unlike the visual signals, the whistle also met with a notably negative public response.

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In relation to the visual signals created to provide a safe railway journey, Chris Otter referred to the German physician Hermann von Helmholtz’s discussion of the importance of the harmony of colours and light in painting.\textsuperscript{101} For Helmholtz,

sensual pleasantness, the beneficial yet not languishing excitation of our nerves, the feeling of wellbeing corresponds to … those conditions that are the most favourable to the perception of the outside world, which allow for the finest distinction between discrimination and observation.\textsuperscript{102}

For Otter, Helmholtz presents a case that demonstrates how physiology was an important part of decisions made regarding lighting, not only in train signalling, but also, for example, in street lighting.\textsuperscript{103} Furthermore, Helmholtz wrote about a perfect state of sensory being which excited the nerves, but did not overexcite them. However, Helmholtz, for whom physiology was the starting point for the large variety of his theories, also wrote about sound, especially about the role the ear played in the way people made sense of their environment.\textsuperscript{104} Within his writings on sound Helmholtz focused on resonance as a key element that allowed people to connect to the world around them through their ears.\textsuperscript{105} As with visuality, audibility, for Helmholtz, could equally create just the perfect excitation of the nerves in the ear to effect a positive connection between listening subject and the world around them.

The sound of the whistle, however, had to be piercing, because other train drivers surrounded by the noises of the locomotive and the moving train had to be able to hear the sound. The sound of the train whistle often led to complaints, which stressed the over-excitation of the nerves. While there was a clear physiological reaction to the train whistle, the piercing quality of the whistle did not allow for discrimination and

\begin{itemize}
  \item \textsuperscript{101} Otter, \textit{The Victorian Eye}, 192.
  \item \textsuperscript{102} Hermann von Helmholtz, \textit{Populäre Wissenschaftliche Vorträge} 3\textsuperscript{rd} ed. (Berlin, 1876), 87.
  \item \textsuperscript{103} Otter, \textit{The Victorian Eye}, 182-196.
  \item \textsuperscript{105} Veit Erlmann, \textit{Reason and Resonance: A History of Modern Aurality} (New York, 2010), 218-270.
\end{itemize}
observation on the part of a passenger, driver or bystander. Citizens of Manchester had complained to the Corporation’s Nuisance Committee about the train whistle since the early years of the committee, with the first complaint noted in 1847.\textsuperscript{106} The response of the committee to that complaint remained the same throughout the years discussed here: they directed ‘the town clerk … to call the attention of the Directors of [in this case] the Manchester and Leeds Railway Company to the frequent accidents occasioned … by the too frequent use of the engine whistle.’\textsuperscript{107} It seems, then, that the railway companies did little to decrease the use of the whistle by the train drivers. The reason is most likely that the whistle was there to help prevent accidents, something that the committee implicitly acknowledged in the aforementioned quote as they pointed out that only a too frequent use of the whistle caused accidents.

What type of accidents the use of train whistles caused remains unspecified within the minutes of the Nuisance Committee. However, the accidents the Nuisance Committee referred to were unlikely to have involved colliding trains or collisions of trains and other vehicles, or even pedestrians, but probably referred to the psychological effects of railroad travel. As historian Nicholas Daly has shown, such ‘real’ accidents involved a greater sense of anxiety towards trains and railway travel: ‘By the 1860s the railway had been more or less assimilated into Victorian culture … the rapid naturalization of the train meant that original anxieties about its dangers quickly resurfaced with any minor incident.’\textsuperscript{108} The anxiety Daly refers to followed from what Schivelbusch defined as ‘the annihilation of time and space’ due to the speed with which it travelled from one place
to another.\(^\text{109}\) As such, the train presented the traveller, and the driver, with a ‘quantitative increase of impressions that the perceptual apparatus [had] to receive and to process.’\(^\text{110}\) All of the impressions referred to by Schivelbusch are visual as they concerned the gaze of the traveller unable to keep up with the speed with which the landscape sped past. Conversely, the train whistle, created to prevent collisions, became a cause for accidents in its use, not because of the anxiety that historians such as Daly and Schivelbusch have associated with railway travel, but because of a different type of anxiety – that of a specific and momentary sensory overload.

The train whistle impacted on the travellers inside the train. According to an article in \textit{The Lancet} from 1862, when ‘the whistle sounds its shrill alarm, a head is projected from nearly every window, and anxious eyes are on the look-out for signs of danger.’\(^\text{111}\) This quote comes from a report which resulted from an investigation carried out by a committee appointed by \textit{The Lancet} into the influence of railway travel on public health. Their focus was on strain on the eye from the quickly-passing landscapes, railway spine, which was a form of post-traumatic stress after an incident and the effect of speed on the body.\(^\text{112}\) Nonetheless, the report referred to the train whistle as a shrill sound, which has a connotation of having a negative impact on the ear. The result of the use of the whistle also created anxiety and signalled danger, thus presenting two more negative implications.

Twenty years after \textit{The Lancet} held its inquiry, Russell Reynolds, a physician at University College Hospital in London, published a similar report, which cautioned against the


\(^{110}\) Schivelbusch, \textit{The Railway Journey}, 57.


negative mental and sensory impact of railway travel. Reynolds still found speed to be the main cause of strain to body and brain, but gave more attention to the ear as he gave equal measure to ‘eyes, ears, muscles and nerves [exposed] to a constant succession of sights, sounds, postures, and efforts.”113 By the time Reynolds wrote his article nerve specialists had begun to publish more widely and nervous disorders and mental strain had become more common diagnoses for doctors.114 His article, then, can be read as a solidification of the medical perspective that railway travel caused strain and that sound was a major cause for it. For Reynolds, ‘a jarring noise’ accompanied railway travel:

The compound of continuous noise of wheels, and this conducted into the framework of the compartment; with the obligato [sic.] of whistle and of the brake dashing in occasionally, and always carrying some element of annoyance, surprise or shock … The eyes are strained, the ears are dinned, the muscles jostled hither and thither, and the nerves are worried by the attempt to maintain order.115

Throughout his article, Reynolds carefully maintained a sense of a combination of sensations, shifting more importance to the noises and the jostling of muscles and nerves. He described how the ears suffered prolonged noise on the train, which he equated with the strain on the eyes due to the quickly passing landscape. One reason for Reynolds’ attention to sound may simply be that he had a musical education, which his use of the term obligato hinted at – a referring to a passage on a musical score that is indispensable to the performance.116 That said, Reynolds’ book presents evidence that

116 In current spelling, musicians and composers write obligato, while in Reynolds’ time, it was spelled obligato.
suggest how taking a railway journey was a multi-sensorial experience and that the whistle brought a sense of anxiety and stress for those travelling aboard the train.

What Reynolds and the report written in *The Lancet* did not take into account, was that the train whistle also had an impact on pedestrians and those living close to train tracks, viaducts, stations and crossroads. The Nuisance Committee in Manchester received many complaints about the train whistle’s negative effects. One complaint particularly captured the combination of the nervous effects of the whistle on the human ear and the way sound linked different places. On 5 March 1873, the Committee discussed a letter received from one James Rens complaining about the railway arch on Garret Road (fig. 2.3). Rens’s complaint focused on the railway arch, which he wrote was in a ‘dangerous state.’ Rens had passed under the arch when

> two engines, having just stopped above were whistling and blowing off steam in a manner which could not fail to petrify any house in its vicinity, and it now appears to me a perfect miracle … that I was not killed.

He continued,

> As the evil above complained of may be easily remedied by putting a 9 foot boarding on each side of the arch, I beg you will kindly use your influence to induce the Railway Co to adopt some immediate means of putting an end to this danger.

The first part of the quote relates Rens’s complaint to the nervous impact and shock the train whistle effected as discussed in this section. The main difference is that Rens was not in the train, but on the street below it and it was the sound of the whistle that connected the usual sense of anxiety which many doctors, travellers and historians have placed on railway travel in relation to a broader urban public. The noise of the whistle ‘petrified’ Rens, which went further than the anxiety discussed in *The Lancet* and by Reynolds, and is also suggestive of an exaggerated form of what nerve specialists called

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117 On the general negative impact of the construction of railways for those Manchester inhabitants that were displaced because of it, see: John J. Parkinson-Bailey, *Manchester: An Architectural History* (Manchester, 2000), 47-55.

118 ‘Minutes,’ *Nuisance Committee*, 5 March 1873, GB127.Council Minutes/Nuisance Committee, MLA.

119 ‘Minutes,’ *Nuisance Committee*, 5 March 1873, GB127.Council Minutes/Nuisance Committee, MLA.
Fig. 2.3 Railway Arch at Garret Road, Ordnance Survey Map SJ89, 1891. Showing in blue Granby Row and in red Garret Road underneath the railway arch.

excitability – the basis for all nervous disorders. It may be then that Rens was particularly sensitive in his nature. However, the solution put forward by Rens hints at the specific acoustic properties of the railway arch that exacerbated the impact of the train whistle on those passing through the arch.

The acoustics of the railway arch created a specific sonic effect as it amplified the whistle’s sound under the arch. The shrill and high-pitched sound of the whistle bounced off the brick walls of the arch, creating a powerful resonance underneath it. Despite there being plenty of space in which the sound would escape into air, for a moment the sound resonates back and forth between the two walls and the arched roof,

the latter guiding the sound waves from left to right and vice versa. That arches, or vaulted ceilings, create extra resonance is clear from the structures of churches. Church designers have for centuries depended on vaulted ceilings to create specific elements of resonance. The historian Richard Cullen Rath has shown that there was a significant difference in the church design of different religions in the early modern period, based on either richness or clarity of tone. The higher the ceiling and the more arches, the greater the echoes a church produced. Likewise, the arch of the railway on Garret Road under which Rens passed was not very high, yet it would still have created resonance, thus amplifying the already loud and shrill sound of the train whistle.

Rens’s solution to the noise of the train whistle was also based on the acoustic resonance of sound. The nine-foot boarding that he suggested be attached to each side of the arch would prevent the sound of the train whistle from getting under the arch, pushing the sound waves upwards. The Nuisance Committee forwarded Rens’s recommendation of raising the boarding to the directors of Oxford Road Station, who complied with the request, stating that doing so would result ‘in no further cause for such complaints.’ It seems, then, that all parties involved in the processing of this complaint understood the nuisance and negative effect on the body that the sound of the train whistle presented. Equally, all parties seemed to agree that refraining from sounding the whistle was not an option and that controlling where the sound waves travelled was the best solution. Sounds emanating from one place could negatively influence another place. When this occurred, the Nuisance Committee, which was responsible for the tempering of noises in the city, and the station directors, responsible

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122 ‘Minutes,’ Nuisance Committee, 14 May 1873, GB127.Council Minutes/Nuisance Committee, MLA.
for the public image of the railway, decided to control the acoustic exchange between two places.

The train whistle presents a particular sound that had both a positive and a negative impact among different social groups. As a signal, it warned of approaching trains, but it was also a signal that created anxiety because it produced the possibility of accidents - both physical and psychical. Railway historians have mainly focused on the train whistle as impacting on the travellers in a train’s carriages, but its sound also brought the train into a wider urban environment, joining together spaces that historians have usually treated separately. As part of the discussion of the train whistle’s impact on the urban environment, this section has also challenged the common notion among historians of sound that noise exists at one end of a spectrum and silence at the other. Instead, the classification of a sound as noise was dependent on particular situations. When examining situations such as the one presented here of the railway arch, historians can use the STS model to improve their understanding of the different attitudes to a sound and its effects on different social groups. Furthermore, in trying to understand how sound functioned in a particular situation it can be useful to deconstruct the acoustics of a space in order to judge the effect of sound within it.

Conclusion

This chapter has expanded the social construction of technology model by showing that sound played a specific and important role in the development of technologies related to car, street and train around the turn of the twentieth century. It has demonstrated that historians interested the noises of urban societies can borrow from STS to show how different social groups had their own listening cultures and therefore had diverse
ideas about what constituted noise. The focus on sound presented in this chapter also expanded the STS model, as historians and sociologists who have used the model have tended to remain silent on the role of sound in the development of technologies. Moreover, the importance of place in urban histories can act as a guide for historians of technology to better understand the role of place in the meanings attached to technologies. The sounds and noises of technology resonated between different locations, forging connections between these different sites that complicate the way historians approach issues of space and place. One place could be audible, but not visible to another.

The distinction between seeing and hearing is important to historians writing about sound as it allows for a reappraisal of many of ideas about space, materiality and the development of technologies. However, the discussion of road surfacing presented here has shown that it is important for historians to understand the urban environment as a multi-sensorial one too, in which, for example, sounds and smells came together in the decision-making processes aimed at urban improvements. While it is important to understand different sensory issues in order to appreciate how different social groups attempted to organise urban space, it is equally important to develop the way historians think about the role of sound specifically. The section on the noises of the car has expanded the methodology for investigating sound by using recorded sounds. Such sources need contextualisation, but are valuable in placing the coded metaphors that are often used in written sources in a fuller acoustic context.

Crucially, what this chapter has demonstrated is that when sound became noise for different listening cultures, it was something that a variety of social groups wanted to control. It has broadened historians’ understanding of the relation between people, technology and the urban environment in the late-nineteenth and early-twentieth
century. Within the discourse around technologies and their sounds health played a significant role, an issue emphasised by the urban improvements to hygiene in the same period. Medical professionals and local administrators tried to shape an urban soundscape that was largely noise-free and which aided the health of the urban population instead of impeding it. In response to this sensitivity to noise, engineers focused on creating ‘silent’ technologies, unless the purpose of a specific technology was to create sound. Finally, the different users of the technologies discussed in this chapter came together and created communities based around the sounds they heard and operated. The next chapter will expand upon that notion by investigating the role of speech in the construction of community.
Chapter Three: Migrant Communities & Identity: The Impact of Speech, Listening & Silence on Processes of Integration

Introduction

Migrants used speech to share practices and customs that were essential to their identities but which conflicted with their host societies. It is through being listened to and understood that a migrant group established community and by focusing on speech specifically, the idea of community becomes about the listener as much as the speaker.

The linguist Dell Hymes defined two points which organise a speech community:

1) The organisation of linguistic features within a speech community is in terms of ways of speaking within a verbal repertoire.
2) Membership in a speech community consists in sharing one (or more) ways of speaking.1

Hymes’s points stress the importance of sound and speaking over that of language. A shared language is useful, often necessary, but it does not define the speech community, which happens through the spoken word and the voice.

This chapter uses Hymes’s concept of a speech community, but extends it into an acoustic community to emphasise the importance of sound and spatial context to both speaker and listener. For historian Bruce Smith, speech communities are ‘maintained not only by what its members say in common but by what they bear in common.’2

2 Bruce Smith, The Acoustic World of Early-Modern England: Attending the O-Factor (London, 1999), 46, emphasis in original. Other historians who have called for the use of speech communities are: Peter Burke, ‘Introduction’ in Burke and Roy Porter (eds.), The Social History of Language (Cambridge, 1987), 1-20; Peter Coates, ‘The Strange Stillness of the Past: Toward an Environmental History of Sound and Music’ Environmental History 10 (2005), 636-665. Of course, the role of the speech community was already implicit in histories on, for example, the role of language in class identities: Hugh Cunningham, The Language of Patriotism, 1750-1914 History Workshop Journal 12 (1981), 8-33; Gareth Stedman Jones, Languages of Class: Studies in English Working-Class History, 1832–1982 (New York, 1983); and in histories of
Historians have recently taken up the ideas of cultural theorists such as Michel de Certeau and Henri Lefebvre to emphasise the importance of common, mundane acts and objects to everyday life.\(^3\) This chapter uses speech and the communication it implies as a mundane act that influenced power relations between migrant communities and their host societies. As such it is sometimes speculative in nature as I draw significance from various sources that may only hold an echo of how speaker and listener interacted, or only recomposes one side of the narrative. That said, the chapter signifies that attention to the sonic element of communication in everyday interaction between immigrants and host society can be a valuable tool to write history from below.

Over the past decades historians have often written about late-nineteenth-century migration in the context of dispelling popular notions that immigration began in the 1950s.\(^4\) This chapter, however, sits more closely with the historiographies of the two case studies, Poles in the Ruhrgebiet and Jews in Manchester. Social historians have


documented both groups extensively and emphasised the often fractured nature of identity formation and integration processes. What this chapter demonstrates is that sound, and specifically speech, was pivotal to lines of fracture and cohesion. Speech, and how both migrants and host society offered a variety of different listening practices offers a specific means to express how migrants created community on the urban, and urbanising stage.

Musicologist Anahid Kassabian has recently shown that paying attention to how sounds constitute identities makes those identities less fixed, less individual and less predictable. Sounds have this effect, because they are ephemeral, inconstant and they change depending on the acoustic context in which they resonate. This chapter turns to speech as one of the most common acoustic signals in society to understand the complexity of migrant urban identity. It demonstrates how sound provides new insights in debates about experience, politics and community in everyday life because it allows for a discussion of subjectivity as something that is constantly connected to different nodes of meaning. Furthermore, the hearing subject defined the speech of the immigrant as noise if it disrupted their notion of social order. However, it was not just noise that was the problem in acoustic negotiations of identity. Silence was equally

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important and potentially daunting to a host society hoping to integrate an immigrant community.

Archival materials, such as police records, government papers and local council records, together with newspaper articles make up the mainstay of the sources used within this chapter. I analyse these sources for direct or indirect mention of the use of language and specifically the spoken word in relation to the speaking immigrant and the listening subject. Sound thus comes into and from the archive by virtue of the hearing, or not hearing, of a specific language in speech. Part of this chapter's argument derives from the role of silence, which it demonstrates was as important to the constitution of identity as much as any other expression, whether vocal or visual. Finally, I turn to town plans and photos to analyse some of the fluctuating audible boundaries of the acoustic community.

The first section of this chapter focuses on the importance of speech for the negotiation of identity between migrant community and host society. Speech was central to wider social issues that concerned Poles and Jews, such as integration into the host society, community formation and establishing identity. From speech, this section demonstrates the importance of sound to issues of identity and speculates how other historians might benefit by integrating speech and sound into broader considerations of self and subjectivity. The second section examines the importance of listening and especially the conditions in which listening took place. I suggest that both migrants and host society identified themselves, at least partially, through speech and that historians can use the issue of audibility to understand how identities flowed and mixed. Finally, the third section investigates the role of silence within an acoustic community. Historians have so far tended to focus on noise, or at least the audible aspects of history, whereas migrants could actively use silence to express their identity and resist power
structures. Overall, this chapter demonstrates the importance of sound to the construction of community, refining the way historians can approach the everyday power relations between different social groups.

Defining Migrants through their Sounds: Religion and Class Expressed in Speech

When migrants arrived in a new location, they tended to live close to each other, which historians agree caused both isolation from the dominant society and led to often vibrant small communities shaped around expressions of religion, leisure and work. Speech allowed migrants to communicate and settle into a rhythm of everyday life. The isolation partially occurred because the host society heard the differences between them and the migrants expressed in a foreign tongue and found it difficult to reconcile that with their own identity. What this section demonstrates is that when a host society defined certain practices and customs of a migrant community as unwanted, they classed their speech as noise too. In those moments, a migrant’s speech became an unwanted sound that expressed the differences between them and their host society.

Religion has played a major role in the forging of identities in both Britain and Germany. German unification went hand in hand with what is known as the Kulturkampf, an attempt by the new German government, after unification in 1871, to eradicate

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Catholicism, which was the predominant religion in the Polish-speaking eastern provinces of the Empire. In Britain, the religion of the state was the Church of England, while among the population, most were nonconformist and it was the Irish more than the Jews that were ‘Othered’ for much of the nineteenth century. Jews had an established presence in Britain since the late eighteenth century and despite occasional flourishes of anti-Semitism, they were free to found synagogues and by the 1880s there were Jewish MPs in parliament. While religion has played a large role in historical discussions of Jews in Britain and Poles in Germany, this section argues that the complex processes of negotiations of identity between migrant communities and host societies included sound. Moreover, the example of speech allows me to discuss some of the ruptures and unities related to migrants’ religious and class backgrounds that social historians have found difficult to approach.

Sources relating specifically to the emerging Jewish communities in Manchester are hard to come by, especially from a gentile perspective. However, one source comes through a form of social commentary written by one Tom Thorp in a magazine called *Odds and* 

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Ends. The St. Paul’s Literary and Educational Society and the Bennett Street Sunday School published the magazine. The school had set up the society as an outlet aimed at the education of adults. Odds and Ends featured influential Liberal and Socialist contributors, such as Charles Rowley and George Bernard Shaw, writing about subjects ranging from contemporary events to music and holidays. Little is known about Thorp, but from his article, entitled ‘Poor Foreigners,’ he appears to be a missionary of some sort. He writes about immigrants arriving in Manchester as if he meets them regularly and knows a few of his protagonists quite well. Of course, it is difficult to say how much Thorp embellished his article, but at least it gives an insight into how a magazine with a socialist agenda portrayed Jews and other immigrants.

Thorp wrote his article in 1871 and claimed that ‘poor foreigners are mostly Jews,’ which hints at him perhaps not considering the Irish, who have no mention in his article. Moreover, Thorp wrote that Jewish immigrants were ‘seldom communicative,’ something he thought was caused by, ‘an apprenticeship under despotism [which] is not conducive … to openness.’ The despotism Thorp referred to was the Pale of Settlement, a region of the Russian Empire where Jews were allowed to settle, and which was a part of attempts to remove Jews from Russia, an ideology that culminated in the May Laws of 1882 and the direct persecution of Jews. It was, then, normal for

15 Thorp, ‘Poor Foreigners,’ 165-166.
16 On the foundation of the Pale of Settlement, see: Richard Pipes, ‘Catherine II and the Jews: The Origins of the Pale of Settlement’ Soviet Jewish Affairs 5 (1975), 3-20. See also: Jonathan Frankel,
Jews arriving in Manchester from Eastern Europe to keep to themselves and avoid contact outside of their own community. Another reason Eastern European Jews were seldom communicative, at least with Englishmen like Thorp, was that they spoke Yiddish and no English. Upon arrival in a new country the sounds of Yiddish could provide a sense of security and a feeling of familiarity.

Thorp described how migrants found their feet upon arrival in a new city in relation to an immigrant he knew:

He landed in England … and did not know a word of English and had not a penny in his pocket. He had been accustomed to looking-glass silvering and barometer making, so he walked about until he came to a shop where they sold these articles, and to use his words “bothered the man so” by his language and his motions that he was glad to send a messenger with him to the only foreigner he knew.17

Even though it was not more than noise to the person he spoke to, this boy had used speech to find someone who did understand him. Jewish immigrants therefore ended up working in a small range of occupations, mostly in the sweating trades, as tailors, shoe or boot makers. By the late 1880s, there were national inquests into the issue of sweated labour as well as the issue of immigration and the two often overlapped.18 In a report to the Board of Trade on the sweating system in London’s East End, John

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17 Thorp, ‘Poor Foreigners,’ 171-172.
Burnet – the Board’s labour correspondent – wrote that: “[Jews] congregate together, whole blocks and whole buildings are recognised as theirs.” Within these sites Jews worked and lived together, and they had their shops, which conversely meant that their world, even within a larger urban environment, was spatially limited and restricted to a location where the speech community dominated.

Within Manchester, Eastern European Jews lived and worked mostly in an area just north of the city centre. The local press mainly got involved with what happened in this neighbourhood when it involved some form of social event, from a speech by the mayor to a strike. In a report in the *Manchester Times* from 1890 on the strike among Jewish tailors, the secretary of the Jewish Machinists, Tailors, and Pressers Union said the following in relation to those working in the tailoring trade in Manchester:

> All the men are Jews, of foreign birth or descent. Most of them can speak some English, but many cannot understand an Englishman. They speak Yiddish, and nearly all live in the neighbourhood of Cheetham and Strangeways.

The secretary captures the essence of the speech community in this quote: a group of people defined through a language and location. The strike briefly brought Jewish and British workers together in their fight for better pay. However, as historian David Feldman has shown, after the strike resulted in a minor pay increase, Jewish workers disagreed about working on Sundays with the British workers, withdrew from the brief union and remained reliant on their own networks of support.

The problem of Sunday work came with the Sabbath, which meant Jews wanted to work on the day of rest for the British. How this was an aural as much as a visual and religious problem becomes clear in the minutes of the Royal Commission on Alien

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19 *Second report from the Select Committee of the House of Lords on the Sweating System; together with the proceedings of the committee, minutes of evidence, and appendix;* 1888 (448), 569.
Immigration from 1903. The interviewee quoted here was a Mr Williams, member of the London County Council:

English Jews will associate far more, and Germans will, but these Russian Poles do not appear to budge an inch. A foreign Jew will take a house, and he moves in on a Sunday morning, which rather, of course, upsets all the British people there. Then his habits are different ... he will start a little factory in the yard, and carry on a hammering noise all night ... and in the evening the women and girls sit out on the pavement and make a joyful noise, I have no doubt ... on the Sunday the place is very different.22

Jewish immigrants, especially from Eastern Europe, produced sounds that the gentile population on the whole did not want to hear, specifically on a Sunday. In making these sounds, Jews claimed the space of the street and the time of rest for themselves. Jewish immigrants congregated in certain areas of Manchester and within those areas they reproduced their identity through their native tongue. Moreover, they also produced other sounds, and did so on days when the British wanted quietude. Jews actively constructed their speech community, but it was also a result of British listeners defining the community through the noises they heard as different and Jewish.

However, there was not just one Jewish community in Manchester and the primary mode of communication was not always Yiddish. Indeed, from Councillor Williams’ testimony presented to the Royal Commission, three types of Jews came up: The English, the German and the Russian Poles.23 All three groups had migrated from different geographic locations and had been in Britain for longer or shorter periods of time. Historian Bill Williams has called the English and German Jews the Anglo-Jewry, signifying homogeneity and an integration into British society, while keeping many religious customs and values.24 Part of what typified Williams’ Anglo-Jewry was that they spoke English. Eastern Europeans Jews arriving in Britain from the 1870s and

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1880s onwards spoke Yiddish and learned little English as they moved within their own speech community.

The proximity of different religious practices signified the clash between the settled Manchester Jewry and the new immigrants. Manchester’s Jewish quarter was Red Bank, just north of Victoria Station (see fig. 3.1), where most immigrants arrived in the city. In the centre of this quarter was the non-orthodox Manchester Reform Synagogue, which embodied the adaption of a section of the Manchester Jewry into British society. In its direct vicinity, however, were three chevrot, or makeshift places of orthodox worship. Bill Williams identified three main chevrot in Red Bank.25 Figure 3.2 shows how close to each other these places of worship were and the Chevrot Torah lay just behind the Reform Synagogue. Jewish culture infused the whole area of Red Bank, but the orthodoxy of the chevrot was hidden away in the yards of houses. The immediate vicinity of the Reform Synagogue was a symbol of Jewish-British transformation. However, Eastern European Jews occupied most of the houses and by speaking Yiddish made the streets sound orthodox. Visually, then, the Reform Synagogue dominated the identity-making process of a neighbourhood, but aurally the street had a Yiddish identity. The historical experience of particular localities thus changes when historians add sound to their visual and spatial analytical tools. Aurally and visually, certain sites could be very different and the complexities of different identities come to the fore when historians consider the soundscapes of such sites.

The speech community thus established itself around a spoken language and a specific location, where the language was, as Dell Hymes stressed, a way of speaking. Yiddish was not a singular language and consisted of gradations of cobbled together bits of

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Fig. 3.1 Red Bank, Ordnance Survey Map SJ79, 1895. Red Bank encircled in red.

Fig. 3.2 Chevroth in Red Bank, Ordnance Survey SJ89, 1892. Red: Chevroth Cracow; Blue: Chevroth Torah; Green: Chevroth Walkawishk.
German, Russian, Dutch and many other Germanic and Slavonic languages.\textsuperscript{26} To British ears the various dialects of Yiddish probably did not sound too different. While the Eastern European Jews attempted to keep their old customs alive through the establishment of \textit{chevraoth} based on their place of origin,\textsuperscript{27} within government communications in Royal Commissions and Select Committees Yiddish was constantly referred to as a patois or jargon.\textsuperscript{28} In other words, it was a noise that was not English.

Poles arriving in the Ruhrgebiet faced a similar issue. Historian Valentina-Maria Stefanski has shown that ‘the Polish migrant workers were Posener, Kujawen, Schlesier etc.’\textsuperscript{29} They, however, found each other in their wish for Polish pastoral care. The Bishop of Paderborn installed a Polish priest in 1883 who travelled around the industrial settlements of the Ruhrgebiet to read mass to his own speech community.\textsuperscript{30} However, it quickly became clear that the Catholic Church wanted to keep control of the Polish community by putting German clergymen at the head of the Polish Catholic societies. The Bishop sent back the Polish priest in 1889 after he had continuously requested new and more Polish speaking pastoral carers.\textsuperscript{31} Over these early years of mass Polish settlement in the Ruhrgebiet, the Ruhrpolen identity moved away from its religious foundations towards a more secular nature. A key aspect of this was a newspaper called \textit{Wiarus Polski} (Polish Veteran). Historian Christoph Kleßmann has


\textsuperscript{27} Williams, \textit{Manchester Jewry}, 271.

\textsuperscript{28} See, for example: Report from the Select Committee on Emigration and Immigration (foreigners); together with the proceedings of the committee, minutes of evidence, and appendix 1888 (305), 62; Royal Commission on Labour: Minutes of Evidence, Appendices (Group B), Vol. I. Docks, Wharves and Shipping 1892 (C.6795-VI), 188; Royal Commission on Alien Immigration. Minutes of evidence taken before the Royal Commission on Alien Immigration. Vol. II 1903 (CD.1742), 75.

\textsuperscript{29} Valentina-Maria Stefanski, \textit{Zum Prozeß der Emanzipation und Integration von Außenseitern: Polnische Migranten im Ruhrgebiet} (Bochum, 1984), 11.


\textsuperscript{31} Brandt, \textit{Die Polen}, 141-3.
demonstrated that the *Wiarus Polski* ‘contributed to the fact that the Poles, who lived in different places felt as one minority.’ The newspaper extended the reproduction of a Ruhrpolen identity expressed in the religious services held by pastoral carers, but equally allowed that identity to establish its own, non-religious, basis.

With the *Kulturkampf* having subsided, the German government began to challenge Poles on their nationalist and socialist ideals. Throughout the 1890s *Wiarus Polski* had increasingly become the voice of the Polish nationalist *Volkspartei*. In early 1903 the police charged the newspaper’s chief editor with a libel after an article had called it ‘our right’ to speak Polish. German authorities attempted to create an environment in which all members of society reproduced the German identity and that it could be heard at all times. Ruhrpolen, in expressing their own identity, created dissonance within that environment. The migrant speech community, then, posed a problem to their host society and in simply sounding different, they continuously articulated their aural, and by extension social and cultural, presence. Migrants asserted and reproduced their identities through speech and became subjects of contention between host society and migrant community. This illustrates the importance of speech and sound as an aspect of social experience which historians should pay more attention to. The next section explores where and when Yiddish and Polish became incompatible with the prevailing identities among the host society to demonstrate the importance of aural social interaction in questions of integration.

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33 *Wiarus Polski*, 30 January 1903, quoted in ‘Überwachung der Polen,’ 31 January 1903, LA 1310, StaB.
Migrant Resistance to Integration? Speech as Noise, or the Relation between Speaker and Listener

Bruce Smith reminds us that for a speech community to dominate the identity of a place it requires listeners. He wants historians to attend to ‘the listener-in-the-environment. [A soundscape] constitutes an ecological system, and like other such systems it can be balanced or unbalanced, viable or dysfunctional.’ For listeners who attached negative meanings to specific sounds, those sounds became noise. In the case of migrant communities, host societies in Britain and Germany attempted to find a balance that allowed immigrants to integrate into their cultures. Speech played an important part here, and while many historians have stressed the importance of language in relation to identities of class and gender, they often tend to focus on how it created an ‘Other’ as well as mostly focusing on the written form of language.35 Madeleine Hurd, for example, has demonstrated how men expressed and defined class and masculinity in nineteenth-century Europe in part through tone and language.36 Geographers and linguists have also emphasised the importance of speech to the reproduction of identity.37 For example, Yi Fu Tuan has intimated that speaking is empowerment and that when a specific location becomes infused with a certain type of speech that place becomes

34 Smith, The Acoustic World, 44.
36 Hurd, ‘Class, Masculinity, Manners and Mores,’ 86, 89, 91, 93.
associated with the identity of the speakers. This section will demonstrate how speaking Yiddish and Polish was a form of resistance, while stressing the complexity of processes of integration in the interaction between speaker and listener.

Musicologist Anahid Kassabian and historian Jonathan Sterne have criticised ‘sound studies’ for always assuming that listening is an attentive action. Instead they say that listening immerses people into their environment and that even if a person does not listen attentively, ‘listening … still produces affective responses.’ Here, I expand Kassabian’s and Sterne’s claims to include a form of inattentive listening that includes reports on sounds heard by others. Even if members of a host society did not listen directly to immigrants but for example through hearsay, they still attached meaning to those sounds. Historians can thus examine the interactions between host societies and immigrants by focusing specifically on how the attempts of host societies to force integration were defined by how they listened to immigrants. A focus on speech and how meaning was attached to it provides the complex depiction of the relational experiences between the host society and immigrant that historians agree existed but have had difficulty in illustrating.

The part of Manchester’s Jewry which had settled into life as artisans, merchants or industrialists spoke English, and they heard in Yiddish a low social status and a religious orthodoxy that could lead to anti-Semitism among the wider British population. The importance of English and the problem of Yiddish for more integrated Jews showed in an article in the widely read newspaper The Jewish Chronicle in 1891.

To anglicise the Russian immigrant is a paramount duty ... but it is hard for the teachers ... to have to find their efforts partly neutralised by the fearful patois which their children have to hear,

38 Tuan, ‘Language and the Making of Place,’ 685.
40 Kassabian, Ubiquitous Listening, xi.
and often speak, at home ... what is needed is some systematic apparatus for teaching English to adults and indeed for teaching them everything that is needed to make Englishmen of them.41

The article claims that to sound the same as the British was the first and biggest step for an immigrant towards integration. On the one hand, sounding English meant that the British could understand what Eastern European Jews said, whereas Yiddish could be discarded as noise. On the other hand, the English language allowed the newly arrived Jews to work in a wider range of professions.

However, both British and Jewish social and liberal reformers also campaigned for the rights of Jewish immigrant labourers.42 Their actions symbolised the difficult nature of the integration process, as they called for Yiddish-speaking factory inspectors to give more of a voice to those Jews working in poor conditions. Immigrants had to learn English, but their rights should not be disregarded when they could not. During a meeting of the Trades Union Congress in 1900, the Manchester and Leeds branches of the Jewish Tailors’ Society argued that Yiddish-speaking inspectors could bring to ‘attention the unsatisfactory observance of the Factory Acts in Jewish workshops.’43

Speech as communication was important and dependent on the listener and speaker sharing a language. For socialists, the Jewish labourer who only spoke Yiddish was a part of a wider class struggle. However, as historian Chris Waters has shown, by the turn of the twentieth century, ‘socialists began to turn away from their faith in the

41 ‘Russia and Abyssinia’ The Jewish Chronicle, 31 July 1891.
innate goodness of working-class desires.\textsuperscript{44} The need for Yiddish-speaking factory inspectors did not stem from the idea that Yiddish labourers were profoundly good, but that being able to sound out the problems of workplaces was important to uphold legislation put in place to protect workers.

In that sense, the possibility of Yiddish-speaking factory inspectors can be said to be a part of the first steps the British state took towards becoming what we now understand as a welfare society.\textsuperscript{45} Being able to listen to workers’ issues was one element that social reformers pushed for. However, the social connotation attached to calls for Yiddish-speaking factory inspectors was absent from requests for Yiddish-speaking policemen. The newly arrived immigrant Jews played a significant part in debates about the ‘alien question’ in Britain around the turn of the twentieth century.\textsuperscript{46} Immigrants lived close together and if an English policeman overheard them, he could not understand what they said. During a Royal Commission on immigration, the panel questioned Inspector Richard Hyder, stationed in Whitechapel in London, where the largest Jewish community of Britain lived. Hyder told the commission that within his division there was not one constable who spoke Yiddish. The commission then asked the inspector about some of the problems this caused: ‘They … not only use cheek, but abusive language, and, if there is three or four of them, you would stand no chance if you took

\textsuperscript{44} Waters, \textit{British Socialists}, 132.


action, because they could swear they did not do so, and they would be four to one.\textsuperscript{47}

Even though he could not understand what ‘they’ said specifically, he knew it was cheek and even abusive. As such, the inspector’s comment raises the necessity of sensitivity around listening in relation to tone, power and context.

Hyder and the constables in the Whitechapel district could not understand the Yiddish spoken by a section of the Jewish community. While linguistically Yiddish was noise to the constables in Whitechapel, Hyder felt that they could ascertain some of the meaning of what was said. Historian David Garrioch has discussed verbal insults in eighteenth-century Paris and argued that the content of the insults he found in police records reflected, ‘the principal fears and obsessions of eighteenth-century Parisians.’\textsuperscript{48} While one comment by an East London police inspector constitutes a small evidence base, in combination with Garrioch’s argument it hints at how not only the content of insults reflected specific fears, but also the interpretations by whoever heard them. The anxieties surrounding Jewish immigrants perhaps led policemen to hear insults when Jews directed Yiddish at them, whether their tone suggested it or not. Constables walking the streets have left very little evidence, making it difficult to know what exactly they heard and how they interpreted it. However, historians such as Patrick Joyce and Richard Bailey have discussed similar relational experiences in connection to dialect and stressed the importance of the context to interpretation.\textsuperscript{49} The context in which policemen heard Yiddish – on the street, perhaps in a situation where they felt

\textsuperscript{47} Royal Commission on Alien Immigration. Minutes of Evidence Taken before the Royal Commission on Alien Immigration, Vol. II (Cd. 1742), 254.


threatened – and their knowledge of Jews led them to hear cheek, whether they could understand what was spoken to them or not.

As the artist Salomé Voegelin has recently stated, ‘we share listening, not however, the heard. Our meeting point … is full of misunderstandings.’ In the situation described by Hyder, where a group of Jews speak in Yiddish to a constable, they all shared the experience of hearing the sounds of speech, but what the two parties took from those sounds, was perhaps very different. Speaking a language that was noise to some ears, became a micro-political act that undermined the authority of policemen. In the case of the Ruhrpolen speaking Polish, the act became even more political, as the Germans heard in it a challenge to their national identity. The Oberpräsident of Westfalen von Studt, for example, argued to his local authorities and to the Ministerium des Innern that all Polish societies were a political threat. Von Studt could make this argument because to him all Polish sounded nationalist, socialist, or both. He was unable to listen to and interpret what was being said at public meetings of Polish societies and could therefore define all Polish as noise and a threat to German identity.

Officials such as von Studt put in place legislation that prohibited Polish from being spoken in public. Local authorities, however, faced with monitoring meetings of Poles in their localities, felt that having Polish-speaking policemen was necessary to uphold such legislation. The context in which German-speaking policemen listened to meetings conducted in Polish was a debate about the official stature of the German language. Professor of constitutional law Philipp Zorn argued in the early 1900s that because there was no law stipulating that the Wilhelminian Reich had an official language, it was

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50 Salomé Voegelin, Listening to Noise and Silence: Towards a Philosophy of Sound Art (London, 2010), 90.
51 “Der Oberpräsident Westfalen am Minister des Innern” 31 October 1896, BR 0007 867, LNRWAB. For more on von Studt, see: McCook, Borders of Integration, 122-23; Kleßman, Polnische Bergarbeiter, 59.
implicit that it should be German. Local administrators took up Zorn’s argument to argue for the use of German in all official situations. The Amtmann in Baukau, near Bochum, referred to Zorn’s arguments directly, arguing that it allowed him ‘to take appropriate measures against Polish nationalist aspirations,’ which he did by arguing that:

The right to assembly is subordinated to the right to audit. The right to audit is simply a fundamental principle of the State; public assemblies can only be authorised via State ordinance; the Police is responsible for upholding the right to audit. It is not the responsibility of the police to send officers to the meetings who speak the language, but the responsibility of those calling the meeting to hold the meetings in the language known by the policeman present and this language is German.

The problem that the Amtmann puts forward here is one of communication and a responsibility for the audited party to communicate in such a way that a policeman could understand what they said. In other words, the Amtmann puts the listener above the speaker, placing power in their hands.

However, the practice of everyday life was that Ruhrpolen organised meetings in which they spoke Polish and local police authorities who audited such meetings requested Polish-speaking policemen if they did not have one at hand. The Amtmann in Weitmar, also near Bochum, requested a Polish-speaking policeman on 15 June 1904. His request was straightforward, stating that a meeting will take place in a public room of a pub and that during that meeting only Polish would be spoken. The Oberwachtmeister sends a policeman namen Plachta, stationed in Altenbochum. That same police officer was sent each time a Polish-speaking policeman was requested. The national desire to quell a Polish identity, which signified socialism and Catholicism, in favour of a German identity, by refusing to listen to Polish, was thus perhaps less pronounced on a local level.

53 *Der Amtmann zu Baukau an der Herrn Landrat zu Bochum*, 12 November 1901, LA 1312, StaB.
54 ‘Der Amtmann zu Weimar an der Herrn Landrat zu Bochum’ 15 June 1904, LA1312, StaB
55 See, for example: ‘Der Amtmann zu Herne an der Herrn Landrat in Bochum’ 22 July 1904, LA1312, StaB; ‘Der Bürgermeister zu Herne an der Herrn Landrat zu Bochum’ 9 December 1904, LA1312, StaB.
That said, consensus among historians who have written on Poles in the Ruhrgebiet is that speaking, hearing and reading Polish was particularly important to them and that German authorities actively tried to prevent and ban Polish from being spoken in public. The sound of Polish, then, became a significant issue in the relations between Ruhrpolen and German authorities. The actual, sounding, communication between the two groups happened on a very local level and there, there was a willingness to accommodate Poles as much as there was a willingness to resist the reproduction of a Ruhrpolen identity. Sometimes, policemen cut short meetings of Polish societies when the first word of Polish had been spoken. On 1 February 1902 a meeting of a Polish Sokol, or sports, society was terminated because Polish had been spoken. The Rheinisch-Westfälisches Tageblatt reported how the society had won a case in court after they had challenged the ban, on the grounds that it had come before the meeting had actually started. The article concluded by stating that the ruling meant the local ordinance was now worthless, but the timing of it in relation to the first requests in the archive for Polish-speaking policemen to audit meetings of Ruhrpolen in 1904, also hints at a change of tactic by local authorities. Instead of banning meetings where local authorities expected Polish would be spoken, they waited until the meeting started and upon the first sound of Polish, brought the meeting to an end.

The dynamic between Ruhrpolen and German authorities changed again in 1908, when the national government decreed a national ban on speaking Polish in public. Polish had officially become a form of noise, an unwanted sound that disrupted the German national identity. The power structures for Ruhrpolen were much stricter than the ones

56 For some of the measures taken by Prussian authorities, see: Kleßmann, Polnische Bergarbeiter, 67, 94-96; Kleßmann, ‘Comparative Immigrant History,’ 339-343; Lucassen, The Immigrant Threat, 66-67; McCook, The Borders of Integration, 56-68, 122-125, 138-140; Murphy, Guestworkers in the German Reich, 94-98.
57 ‘Der Polnische Versammlungssprache’ Rheinisch-Westfälisches Tageblatt, 10 July 1902.
58 The most comprehensive context of this piece of law is still: Murzynowska, Die Polnischen Erwerbsauswanderer, 148-154.
faced by Eastern European Jews in Manchester. Whereas more naturalised Jews associated a variety of negative things with Yiddish, from a degenerateness to a fear of escalating anti-Semitism, national authorities placed little value on its use. Speaking Yiddish was thus a form of resistance, but Jews hardly ever used it to purposefully resist specific power structures. The strongest such evidence offered in this section was the mocking of a policeman. Ruhrpolen, however, faced much stronger regulations and therefore were also much more conscious of the power of the sound of their speech. Polish, when spoken in public, undermined the authority of the German government, because they were so anxious to prevent its use. In response to the 1908 ban, Ruhrpolen equally came up with more extreme measures to resist the forces that prevented them from expressing their identity. The final section will now investigate how those measures perhaps present new ways to write histories from below.

*Listening to Silence, or the Conflict of Integration in Everyday Social Practice*

Historian Elke Hauschildt wrote an article in the late 1980s that synthesised much of the work previously done by historians on Poles that had migrated to western areas of Germany after 1871. In her article, she identifies the ‘unresolved tension between the preservation of cultural identity – which manifested itself in the retention of the Polish language, religion and customs – and assimilation’ as the main issue historians had written their histories around.\(^59\) The expression of cultural identity for Hauschildt and others was, at least partially, through speech. The focus of these historians was to

\(^{59}\) Elke Hauschildt, ‘Polish Migrant Culture in Imperial Germany’ *New German Critique* 48 (1989), 155-171 (157). The works she referred to were: Kleßmann, *Polnische Bergarbeiter*; Murphy, *Guest Workers in the German Reich*; Murzynowska, *Die Polnischen Einwanderer*; Stefanski, *Zum Prozess*, which still form the backbone of studies on Polish communities in Germany in the decades around 1900.
understand how Poles constructed subcultures within the Wilhelminian empire. While German local and government authorities were quite successful at forcing Poles to integrate into a national identity, measures such as the 1908 ban on speaking Polish in public also elicited more extreme forms of resistance from Polish groups. One of their methods was to impose silence on themselves. This section examines how Ruhrpolen used this method to resist the power structures placed upon them by German government authorities to demonstrate the power of silence in histories from below.

Historians interested in noise have emphasised how nineteenth-century middle-class individuals and groups had a strong desire for silence, which has led them to call attention to the noises that disrupted moments of quietude. Within a variety of academic disciplines surrounding language, silence has become a tool ‘for tackling diverse communicative phenomena.’ What this take on silence does is to move away from thinking about it as absence-of-sound and to start thinking about it as a presence. The linguist Richard Watts, for example, has shown in his analysis of verbal interaction that power is not only exercised in spoken language, but also in silence. The notion of silence as a presence furthermore builds on the idea put forward by Bourdieu that we interact in different linguistic markets – in which the word brings power – by including in those markets the silences that occur in any communication and which equally give power. Here, the self-imposed silence of Ruhrpolen happened in specific situations and I will examine how their silence impacted on the power relations with the German host society and gave them a form of power, albeit circumscribed.

After the 1908 law that banned Polish from being spoken in public, Poles who had set up societies to organize their social and cultural life had to speak German during their meetings or face police charges. There is not much evidence in the archives, but the early-twentieth-century political commentator Johann Bredt first hinted at silent meetings by Ruhrpolen in his 1909 thesis on ‘the Polish question,’ without going into detail. For Bredt, silent meetings were a logical step that followed the successful attempts of Ruhrpolen to establish a Polish-speaking priesthood who could offer them spiritual care in Polish. The silent meetings implied a consciousness among the Polish migrant community that they could force the hand of local authorities. Historians Stefanski and Kleßmann equally contend that Ruhrpolen consistently refused to speak German during meetings of their various societies. There seems to be at least one court case that dealt with the issues of silent meetings. It concerned a meeting of the Polish workers’ union. While the attendees did not speak a word, the auditing policeman still arrested the chairman, a man called Sosinski, because he had written down a resolution, had pointed at it and then taken a vote on it. The silent meeting thus raises two separate issues. First, the problem of power and how self-imposing silence became a strong expression of identity and provides historians with a way to write histories from below. Second, how German authorities ‘listened’ to silence in order to circumvent its force and how that places silence within broader historiographies of governmentality and everyday life, that have previously given little consideration to it.

64 Johannes Viktor Bredt, *Die Polenfrage im Ruhrgebiet* (Leipzig, 1909), 70.
Historians have related people keeping quiet to what sociologist Norbert Elias called the civilizing impulse. In that sense silence was about the control of emotions and sonic expressions of the body to convey status. Historians, then, already understood silence as an expression of identity, albeit one of elite social standing. Some historians working on sound, such as Sophia Rosenfeld and Mark Smith, have argued and demonstrated that silence also expresses power in different ways. Smith has shown how mid-nineteenth-century American plantation culture allowed slaves to control parts of everyday life by being silent because they required stealth to escape and organized eating rhythms by ringing bells, thus disturbing the silence of rest for their masters. Whereas slaves used silence as a form of secrecy in relation to their escapes from plantations, Ruhrpolen used silence as a form of non-participation in German national culture.

However, both silence as an act of secrecy and as a refusal to participate are forms of resistance. The 1908 ban on speaking Polish in public in Germany was an extreme measure and the response from Ruhrpolen was equally extreme, but still meant that Poles operated the affairs of their societies in public life. That meant that German police authorities could audit them. For the first years of the twentieth century, policemen had stopped meetings by Ruhrpolen as soon as they spoke their first word of

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Polish. One policeman reported in 1901 that a ‘meeting was opened using the Polish language, and when they did not follow my order to handle their affairs in German, I disbanded the meeting.’\(^70\) This particular policeman also reported on how those present at the meeting left, which they did calmly. From the moment that policemen began to audit and disband their meetings, Ruhrpolen had quietly complied, while not changing their customs. Holding entirely silent meetings was, in a way, a logical next step in the way Ruhrpolen responded to the power exerted over them by German government and police authorities.

Being silent actually allowed Ruhrpolen to conduct their affairs as they could vote on written statements by show of hands. The case against Sosinski expresses that the auditing policeman did not know whether to cut the meeting short as the report revealed that ‘a silent vote was repeated four times.’\(^71\) While before the silent meetings, policemen were able to disband a meeting after one word of Polish was spoken, silence presented different issues. As the court case shows, Sosinski based his defence on technical issues, such as that the law stated that a vote at a meeting consisted of spoken consent; the German word used was *Verhandlung*, which implied talking between different parties. The judges, however, found that any mode of settlement, including ‘silent voting’ was included as a *Verhandlung* in their consideration of the law. Many Ruhrpolen were well-organised within their societies and the idea of silent meetings was a clear tactic to prevent them from having to speak German. They succeeded in undermining the power of the auditing policemen, but the power of the court was too great.

\(^70\) ‘Anon an der Polizeiverwaltung Herne’ 25 November 1901, *Auflosung Polnischer Versammlungen*, LA 1312, StaB.

As historian Kleßmann has shown, the experiment of the silent meeting was short-lived, probably due to cases with a negative outcome such as the one against Sosinski and the worker’s union.72 The next step was that Ruhrpolen held their meetings outside of the public ear and stopped informing local authorities that they had organized a meeting. As such, Ruhrpolen removed their disruptive element from public life, while they still convened and spoke Polish. Throughout the first decade of the twentieth century the conflict of integration had played out between Poles and Germans, but they did not settle it. Instead, Poles left the reach of German surveillance avoiding the conflict altogether. As sociologist Richard Sennett has argued, this type of disorder underneath the surface, or out of earshot, was an essential part of modern society.73 By thinking about silences, self-imposed or not, historians can further work to recompose histories of disorderly elements which leave little archival traces.

Disorder, and more specifically the prevention of it, also plays a role in the literature on governmentality. As mentioned in previous chapters, historical notions of governmentality think about the city as a ‘web of visibilities.’74 Consequently, historians have examined changes to ways of seeing.75 Part of what this thesis tries to do is to emphasise how urban spaces were also aurally constructed. The issue of silence discussed here hints at a problem in the historiography on governmentality. When

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72 Kleßmann, Polnische Bergarbeiter, 90.
74 Nikolas Rose, Powers of Freedom: Reframing Political Thought (Cambridge, 1999), 73.
Ruhrpolen closed their meetings to the public eye and ear, they still reproduced their own identities. Similarly, when they held silent meetings, they resisted the coercive structures of governmentality. Moreover, they used visual signals as they refused to express themselves in German. The silent meetings, then, complicate the conception of the city as web of visibilities and require it to include sound, from silence to noise.

Sociologist Nikolas Rose claimed that the web of visibilities meant that all actions in public life were visible and regulated through ‘public codes and private embarrassments.’ The meeting of the Polish Workers’ Union chaired by Sosinski, however, demonstrates that Ruhrpolen purposively worked to undermine the public code of speaking German and actions taken against them only allowed them to strengthen their unity. If anything, the Ruhrpolen embarrassed the German policeman as he did not know whether to disband the meeting. Moreover, the attending officer reported that, ‘after about half an hour, the assembly quietly dispersed.’ The court report showed that the justices were aware of the problem of auditing a silent meeting and they pointed out that, ‘it is important that the auditing policeman has to be able to follow every aspect of a meeting. This is not possible when a meeting takes place in silence.’ Policemen present at meetings could not listen if none of the attendees spoke. Spoken Polish, or the acoustic codes used by Ruhrpolen to organise themselves, conflicted with their host society. That they moved their meetings out of the public ear, however, did not mean that techniques of governmentality had been successful. Instead, Ruhrpolen continued to resist them, albeit out of earshot, and their self-imposed silences not only demonstrate how governmentality had a specific aural element, but also that acoustic regimes existed outside of the sphere of audibility.

The sound of spoken Polish had become politicised and the Germans’ attempts to integrate Ruhrpolen into their society involved silencing the socialist and nationalist subordinate elements of that group. However, what they achieved when they actually silenced them created a different dynamic. Not only was speech politicised, but silence was too. The listening subject, in this case the auditing policeman, was an example of how everyday life consisted of mundane acts, which also had an impact on modern life more broadly speaking. Historian Joe Moran bases his idea of everyday life around routines of practice and speaking and listening were perhaps among the most routinely acted sounds of everyday life. The self-imposed silence of Ruhrpolen challenges historians to think about whose everyday life they write about. When historians think about sound, they first think about those that produced sound and then about those who heard sound. Because Ruhrpolen were actively silent, their silence became a presence and forces historians to think about its impact. This changes the way historians can approach both silence and listening.

Historians, archaeologists and ethnomusicologists have all acknowledged regimes of silence in relation to incarceration. During meetings of Ruhrpolen where they imposed silence on themselves, that silence was unwanted for the attending policeman who


80 Moran discusses a broad variety of routines, from routines of commuting to routines surrounding sitcoms: Moran, *Reading the Everyday*, 29-60.

became unable to perform his job. What this chapter has tried to demonstrate is that attending to speaking and the sound of speech draws in the listener and forces historians to consider forms of communication. The example of the silent meetings indicates that within the speaker-listener relationship, communication can be broader than just sound. When German authorities banned Ruhrpolen from speaking and singing Polish, they found they still needed written Polish and visual signals to communicate. Because of the visual aspect of the silent meetings of Ruhrpolen, they add a new layer to the power relations that historians of everyday life, who have looked at ephemeral objects such as the pamphlets used during meetings by silent Ruhrpolen, have uncovered. Furthermore, it asks of those histories to think about how power shifted between two groups, even if only momentarily and in specific situations.

**Conclusion**

This chapter has examined speech as one of the most common sounds used to reproduce migrant identity and as a site at which migrant communities and host societies contested power. It has demonstrated that speech played a significant part in the relational experiences of migrants and that listening was one way in which a host society determined whether a group of immigrants had integrated. The speech, or acoustic, community allowed Eastern European Jews and Poles to disturb the social order of everyday life as more naturalised Jews, the gentile British and Germans perceived it. As such, social practices such as pastoral care, work or society life provided a focus for this chapter and placed it within a much broader historiography of everyday life. However, it also extended this historiography to not just think about material
culture and informal economies, but to include sound and the way it specifically allows historians to include fluid identities and fractious relational experiences.

Elements of this chapter were somewhat speculative, in part due to the difficulty of apprehending listening experiences through the historical record, as it attempted to demonstrate the significance of communication through sound between migrant communities and their host societies. Eastern European Jews in Manchester never seemed to actively resist speaking English, but their housing and work situations made it easy for them to reproduce Yiddish identities. More integrated Jews, who had lived in Manchester for several generations, feared that the sounds of Yiddish would arouse anti-Semitic feelings among the British population. For more naturalised Jews speaking English was essential to integrating into everyday life and the sounds of Yiddish were particularly felt to be disruptive to their carefully negotiated social order. Ruhrpolen, unlike Eastern European Jews, consciously resisted integration through speaking Polish. Their efforts to reproduce their identities in sound led to more official repercussions in the form of legislation and arrests than was the case for Eastern European Jews. Equally, such repercussions forced Ruhrpolen to resort to more extreme measures of resistance. Because they were quite well organised – in the very middle-class German way of associational life – they were able to negotiate and subvert hostile legislation relatively successfully.

Both Poles and Jews used their religious backgrounds to form community and the expression of religion happened in speech as much as through visual markers such as places of worship or pamphlets. The speech community defined itself through their sounds and those sounds related to everyday practices, such as religion, but also work and leisure. This chapter has emphasised the importance of context, whether related to tone or location. Especially the spatial context has the potential to develop more –
something the next chapter will aim to do – as the relative proximity of living and work situations meant that acoustic barriers as well as physical and psychical ones defined communities. Much like the previous chapters have demonstrated how attending to sound creates spaces with blurred acoustic horizons, so the sounds that defined the relational experiences of migrant communities allow the fractious nature of identities to come through. Sound, then, emerges as a good source to discuss the flow of identities that historians now agree differentiated from moment to moment and location to location.

Finally, this chapter examined the self-imposed silence of Ruhrpolen to demonstrate how historical discussions of sound need to incorporate the whole spectrum of sound, from silence to noise. There were different types of silence, just like there were different types of noise. The silence of the Ruhrpolen was a clear tactic to resist the power structures of their everyday life. The moments of disorder their actions created perhaps had little significance in the broader struggle between Poles and Germans. However, it expressed how important it was for Ruhrpolen to sound out their identity. Furthermore, the example questions and complicates popular historical approaches underpinned by considerations of governmentality and everyday life. Not all forms of disorder were noisy and not all forms of resistance disappeared as soon as they were out of earshot. Likewise, the quite mundane act of keeping silent articulated some of the myriad ways in which politics played out in everyday life. Speech, or the absence of it, constituted identity and helped to construct and solidify communities.
Chapter Four: The Power Structures of Workplace Communities: Sound, Sense of self & Rhythm

Introduction

The physician Thomas Barr wrote in 1886 on the problem that is now known as noise-induced hearing loss that, ‘it is familiarly known that boilermakers and others who work amid very noisy surroundings are extremely liable to dulness (sic) of hearing.’ Barr worked in Glasgow but what he called ‘boilermaker’s disease’ held true for labourers in a variety of noisy workplaces, including mills and mines; exposure to repeated loud noises damaged the hearing. However, little was done to prevent hearing loss before the 1960s. This chapter argues that one reason for this lack of legislation was that labourers could construct community and work effectively within noisy environments and that their internalisation of work rhythms was subsequently taken up by labour reformers whereupon workers lost further control over their bodies.

Throughout the preceding chapters, I have introduced several concepts in relation to sound. Here, I develop some of these concepts further, most importantly the idea of an acoustic community. Following the work done by R. Murray Schafer and Barry Truax at the World Soundscape Project, soundscape scholars in the 1970s and 80s defined ‘the

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acoustic community … as any soundscape in which acoustic information plays a
pervasive role in the lives of the inhabitants.3 This signifies the importance of sound as
a foundation of a system of relationships. Truax stressed the importance of the
exchange of information and for him, ‘noise is the chief enemy of the acoustic
community.’4 So far, this thesis has shown that noise did not always have negative
connotations. This chapter furthers this argument by establishing that workers used
sounds within the workplace to their benefit. It demonstrates how the acoustic qualities
of the physical environment affected the sounds that facilitated the construction of
community.

Historians and other scholars focus their attention on the listener, talking about
different actors experiencing sound in a variety of settings.5 Because of the ephemeral
quality of sound, scholars have had more difficulty examining how exactly sound
affected the relationship between people and their environment. This chapter takes up
the problem of how sound influenced the power relations between workers and
employers both to affirm how control of sound meant power, but also to bring out the
acoustic complexity of soundscapes. It questions how workers made sense of their
soundscape to demonstrate that sound was an important instrument for the expression
of workers’ sense of self, of codes of masculinity and for the construction of
community.

Project, see: Helmut Kallmann et al, ‘World Soundscape Project’, in Helmut Kallmann, Gilles Potvin and
4 Truax, Acoustic Communication, 66.
5 A look at some of the introductions of recent book and journal collections bringing together sound
scholars reveals this focus: Michael Bull and Les Back, ‘Introduction: Into Sound’ in Bull and Back, The
Auditory Culture Reader (Oxford, 2003), 1-18; Kara Keeling and Josh Kun, ‘Introduction: Listening to
Keys to the World of Sound’ in Pinch and Bijsterveld, The Oxford Handbook of Sound Studies (Oxford,
2012), 3-36; Mark M. Smith, ‘Introduction: Onwards to Audible Pasts’ in Smith, Hearing History: A Reader
(Athens, GA, 2004), ix-xiii.
The Anglophone historiography on community in the workplace largely builds on E.P. Thompson’s essay on time-discipline.\(^6\) Thompson discussed how workers in the early-nineteenth century were used to a rhythm of everyday life based on an understanding of time derived from nature and had to adapt to a rhythm based on the hours and discipline of factory work. One of Thompson’s arguments was that workers internalised their work-discipline, creating agency in a situation where they had little power to effect change to their conditions. German Alltagshistoriker Alf Lüdtke equally emphasised the role of agency in workplace relationships in his studies on factory work in late-nineteenth-century Germany.\(^7\)

Lüdtke used the term *Eigensinn*, meaning sense of self or self-will, to explain that workers who participated in horseplay expressed micro-political acts.\(^8\) The notion of micropolitics in this context means the subversion, however slight, of the power structures imposed on workers. The word *Eigensinn* derives from *Eigensinnig*, which translates as independent or stubborn. For Lüdtke, it was the stubbornness of workers which lead them to the micro-political, small-scale acts of resistance. This, in turn, helped them to maintain their sense of self. Lüdtke is less widely read in English-speaking academia than Thompson, but the ideas and concepts of both historians allow

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\(^8\) The more common word *Eigensinnig* means independent or stubborn.
the listening subject to be drawn in to the moments where workers and employers negotiated class, power and identity. This chapter addresses the issues raised by Thompson and Lüdtke to reinvigorate debates on workers’ agency as sense of self and to strengthen the historical importance of sound by demonstrating how it underpinned workplace relations.

To get at the sounds of the workplace and workers’ internalisation of them this chapter analyses two defining industrial workplaces: the textile mills in Greater Manchester and the mines in the Ruhrgebiet. I use recorded sounds from the North West Sound Archive and the sound archives collected by musician Richard Ortmann.9 I also use factory plans to establish the physical attributes of the acoustic environments of mine and mill. In doing so, I expand the way in which historians such Nicole Rudolph, who has analysed dwellings, and sociologists such as Thomas Gieryn, who has analysed workplaces, have used building plans.10 Personal testimonies allow me to draw out how workers experienced their soundscapes.11 Finally, I use several treatises on factory work, fatigue and rhythm, which were influenced by how workers adapted to their acoustic environment.

The first section examines the card room, which was one of the noisiest workplaces in the mill to demonstrate that sound distinctly influenced the micro-political acts of

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It analyses the acoustic context of the card room and establishes which acoustic signals workers could use to make sure their machines worked while they interacted with others in the same space. Finally, it shows that the actions of workers in the workplace affected their identities outside of it as well. The second section turns to the mines of the Ruhrgebiet and contends that miners adapted to the acoustics of the mine shaft and the sounds that organised their shift work by using different modes of listening in different situations. Furthermore, by thinking about how and when miners produced sound and how they listened this section explores how miners expressed their masculinity in conversation and jokes more than through hard work and, for example, fighting. The third section turns to the labour reformers who heard in the rhythms of the workplace a possible tool to improve workers’ efficiency. Historians rarely use these texts, but they demonstrate that labour reformers used acoustic communities as the basis for improving efficiency, effectively attempting to undermine workers’ sense of self. Overall, this chapter develops the methodologies available to historians interested in sound, brings new perspectives to accepted historical understandings of labour history and provides a foundation for the historical significance of soundscapes.

Working in the Card Room: Acoustic Signals, Lip-Reading and Subverting Work-Discipline

Listening to history means to draw sound from texts, ranging from official government records to newspapers, autobiographies and literature. It requires a sensitivity for the way people described sounds and the metaphors they used for them, constructing a social and cultural meaning of sound from language. This type of research tells us very

12 Three defining works are: Karin Bijsterveld, Mechanical Sound: Technology, Culture and Public Problems of Noise in the Twentieth Century (London, 2008); Smith, Listening to Nineteenth century America; Sterne, The
little about sound, which affected the relationship between people and their environment just as much as the social meaning of sound. To build on the existing methodologies for historians interested in sound, I analyse several recordings, either contemporary or more recent, to further our historical understanding of how sounds helped to structure everyday life. Within this section, I use recorded sounds, together with acoustic theory, to recompose the soundscapes of two different types of workplace: the cotton mill and the mine. Both cotton and coal industries were significant in Manchester and the Ruhrgebiet at the turn of the twentieth century.

This section demonstrates the similarities of workers’ experiences of their workplace environment as it explores the sounds common to factory and mine regardless of national or regional boundaries. The machine sounds and the man-made sounds played a significant role in the construction of community and the expression of workers’ sense of self. The material culture of specific sites will help to define the acoustic properties of workplaces as how sounds sounded was location-dependent. Several historians have shown how space influenced the production of sounds and how sound structured the experience of place. Art historian Niall Atkinson, for example, has examined how the position of civic and church bell towers in Renaissance Florence allowed Florentines to construct and maintain ‘a range of urban collective identities that provided the basis on which civic bonds could be formed.’ Atkinson has analysed where the bells stood within the city and when they were sounded in relation to each other to recompose the way that the sacred and profane transgressed each other’s boundaries. He constructed

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13 Examples of scholars who have used spatial contexts to understand the impact of sound on a variety of issues are: Carolyn Birdsall, Nazi Soundscapes: Sound, Technology and Urban Space in Germany, 1933-1945 (Amsterdam, 2012); Jacob Kreutzfeldt, ‘Street Cries and the Urban Refrain: A Methodological Investigation of Street Cries’ SoundEffects 2 (2012), 61-80; Jean-Paul Thibaud, ‘The Sonic Composition of the City’, in Bull and Back, The Auditory Culture Reader (2003), 329-341.

his ‘composition’ from a perspective above the city, using maps and aerial photographs. To understand how people experienced urban acoustic regimes it is necessary to question how people listened cognitively.

Of the two workplaces that I focus on this chapter, the card room in the textile mill was the loudest. The mineshaft was less noisy, but was also oppressive as the sounds produced there resonated off the walls of the shaft, without being able to escape into air. I deal with the card room first, which was the place in the mill where the workers and their machines cleaned the cotton and created the first slivers or bundles of cotton fibre, and rovings or twisted slivers. The sounds and noises of the machines established a soundscape within the confines of the card room. Most card rooms in the mills of the late-nineteenth century were built in the same fashion, with only small differences in the way the shop floor was laid out.15 Two examples illustrate the diversity of sounds that made up the soundscape of the shop floor. In the card room of Swindells’ Mill in Bollington (fig. 4.1) the carding engines were found in the shed on the right of the plan and separated from the other machines, which were mostly roving machines, by a partition. In Minerva Mill in Ashton-Under-Lyne (fig. 4.2) the shed was used for the process of scutching or cleaning the cotton before it could go into the carding engines, while those machines were placed on one side of the main area. I will only discuss the sound of a single carding engine, but the plans of card rooms show that this machine’s sound was not heard in isolation. I will attempt to place the sounds I discuss within the context of the cacophony in which workers heard them.

Fig. 4.1 Card Room at Swindells' Mill in Bollington. Source: MS 0631-180, MOSI. Author's photo.

Fig. 4.2 The Card Room at Minerva Mill, Ashton-under-Lyne. Source: Nasmith, *Recent Cotton Mill Construction*, 111.
The sound of a carding engine consisted of the hum of the leather driving strap and the rhythm of the carding rollers. Listening to the recording from the North West Sound archive (Track 03), the repetitive motion of the machine is immediately audible. Together with the visual appearance of the machine (fig. 4.3), it is possible to imagine the sound of the turning motion of the carding engine. The metallic sound that is audible throughout the recording - and which gives the sound an almost musical base falling in a 4/4 beat – is probably the shoes, which held the roller and clearer pedestals and slotted into flanges, thus cleaning and disentangling the cotton. It was this sound which gave the carding engine its most clearly defined rhythm. The other sounds you can hear on the train were less clearly defined and therefore probably groupings of different processes within the machine. Understanding the qualities of the sound of the carding engine like this helps to understand what the mill worker heard, which in turn constituted an important part of their sensual experience of the workplace.

To further complicate and understand the significance of workers’ sensual experiences, historians can turn to cognitive scientists, who have worked on how our brains process sound. Psychologist Albert Bregman pioneered what he called ‘auditory scene analysis,’ a method which focuses on how our brain groups sounds together. This happens through the level of energy, related to volume, pitch and loudness and how that energy is distributed over time, related to timbre and rhythm. It is easiest to explain what Bregman described through an analogy. If we hear a symphony orchestra play a piece of music we usually hear all the violins as one group of sounds and not each violin separately. The reason for this is that each violin produces similar vibrations, timbres, and when these hit our eardrum our brains recognise all the different vibrations as, for

example, one particular note. Similarly, we can hear the orchestra as ‘one,’ because the
different vibrations of the instruments ‘belong’ together as a piece of music made up of
different notes, chords and with a particular rhythm and melody, etc. Bregman
describes all of these different groups of sound, the violins, the bassoons, the orchestra
as a whole, as auditory streams. In his own words, ‘the word “stream” stands for a
perceptual representation,’ which occurs in our brain, ‘and the phrase “acoustic event”
or the word “sound” for the physical cause.’\textsuperscript{17} An auditory stream, then, is an event in
which multiple happenings occur, whereas a sound is a singular object which can be
defined through its volume, pitch etc. Whereas soundscape implies a synchronised
collection of sounds, auditory stream analysis allows for the asynchronicity of sounds in
an environment. I do not want to claim that the soundscape of the textile mill or mine
in the late-nineteenth century had the same sonic organisation as a symphony orchestra,

\textsuperscript{17} Bregman, Auditory Scene Analysis, 10.
but auditory stream analysis does help to understand how workers made sense of their work environments through sound.

The recording on track 03 is of one carding engine. Working, for example, in the card room of Minerva Mill (fig. 4.2) meant there were 95 carding engines filling the air with sound, dust and heat as well as other sounds originating from different sources and locations. Working with the carding engines meant that workers had to be able to distinguish between the machines they attended and the ones they did not. The metallic sound heard on the recording may have been an acoustic signal which helped workers make sense of their soundscape as its rhythmic continuity meant the machine worked properly. However, the density of the card room’s soundscape made it difficult for workers to communicate through their own sounds. Instead, mill workers expressed their sense of self and of their workplace community through lip-reading, sometimes called ‘mee-mawing’ probably because the shape of the mouth is so expressive in those two sounds. The practice of lip-reading often gets mentioned in local and popular histories as well as in the context of museums presenting textile machinery of the period, but there is little critical discussion of it.\(^\text{18}\) It is difficult, however, to find evidence of the practice stretching back to the nineteenth century, while personal testimonies of the twentieth century provide plenty of evidence for it.\(^\text{19}\) However, the practice of lip-reading allows me to make connections between identities constructed in the workplace and outside of it. Furthermore, it demonstrates that workers adapted to their soundscapes through silent expressions as much as audible ones.


While the noise of the card room made it difficult to communicate through sound, recent work by neurologists has demonstrated that the human ear is particularly sensitive to temporal differences of sound waves, even to the millisecond, adding to the significance of acoustic signals such as the metallic sound of the carding engine. Historians can furthermore examine the significance of sound and rhythm through the acoustics of a specific site. Thinking about acoustics creates an understanding of how sounds ‘behaved’ within a particular space. Sounds resonated off walls, ceilings, floors, etc. but not all surfaces merely reflected sound waves back into the room. The workers’ bodies and their clothing, for example, presented a large surface that absorbed sound.

Research into the human body’s ability to absorb sound came from mid-twentieth century interest into the effect of the body’s vibration on hearing loss, an issue I will explore later in this chapter. Plans for New Bengal Mill in Manchester (fig. 4.4 and 4.5) show that the main surfaces in the card room were the wood-board floors, the concrete ceilings and the glass windows. The acoustic tool necessary to understand how sound interacted with these surfaces is the absorption coefficient, which measures whether a specific material reflects or absorbs high- or low-pitched sound waves. Historians of


Fig. 4.4 Details sections of floors at New Bengal Mill, Ancoats. Source: MS 0631/34, MOSI. Author’s photo.
Fig. 4.5 Details Sections of walls at New Bengal Mill, Ancoats. Source: MS 0631/34, MOSI. Author’s photo.
sound find it difficult to understand the objective value of sound and instead focus on the social construction of sound. Sound engineers use the absorption coefficient to establish how a sound will respond in an environment. Historians, then, can use the absorption coefficient to approximately determine how sounds behaved in a specific space and how that affected how workers could adapt to their soundscape and potentially produce micro-political acts of resistance within the power structures of the workplace.

Table 1 shows the different absorption coefficients of the concrete, glass and wood surfaces in the card room. The concrete ceilings reflected both higher pitched and lower pitched sounds. The wooden floors and especially the glass windows absorbed the lower pitched sounds while both reflected the higher pitched ones. Going back to the recording of the carding engine on track 03, we can hear that the metallic sound in the former is a higher pitched sound, which would thus reflect back into the room off the floor, ceiling and windows, strengthening it as a possible acoustic signal. The metallic sound, then, was a strong indicator of whether the machine worked properly. A breakdown would interrupt the rhythm and presented physical danger to workers.

Within the mills of the late-nineteenth century leather straps connected to a driving shaft running along the ceiling powered the engines in the card rooms. Jane Oakley worked in a Lancashire mill in the 1920s and recalled her experiences for the Millennium Memory Bank oral history project of the BBC. Oakley never had any accidents navigating her way through the different machines and their driving engines.

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25 Nasmith, *Recent Cotton Mill Construction*, 255-269; Williams, *Cotton Mills*. The system is visible at the Museum of Science and Industry in Manchester

Material | Absorption Coefficient: 125hz | Absorption coefficient: 4000hz
--- | --- | ---
Glass | 0.35 | 0.04
Concrete | 0.01 | 0.02
Wood | 0.15 | 0.07


However, she had a relative who was blinded by a broken leather strap. The element of possible physical harm meant that workers benefited from registering any disruption to the rhythm of their soundscape.

Proximity to machines that workers were responsible for was important to keep an ear on its rhythms and the noise meant that communication between two workers was therefore silent. Oakley recalled how ‘you could not talk to anybody, you had to watch mouth, lip-reading because of noise.’ The practice of lip-reading was not just a useful tool for communication but also offered a way to subvert the power relations of the mill as workers enveloped a way to communicate which was difficult to monitor for overseers. Geographer Emma Wainwright examined working women’s resistance in a Scottish jute mill. She found that, ‘workers were able to manipulate and take advantage of the working environment, imbuing it with their own meaning and conversation.’ They internalised, at least partially, the power structures that they worked in through a sign language that allowed them to express their sense of self in communication with others. Workers did not fully resist the power structures they worked in but they could adapt to them through their acoustic community.

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28 Oakley, MMB, C900/05547, track 07.
29 Wainwright, ‘Detailing Spaces,’ 695.
Moreover, lip-reading became a firm part of the identity of the mill workers, especially the women who predominantly occupied the machines in the card room.\(^{30}\) The parents of Geraldine Monk, a poet who grew up in Blackburn just north of Manchester in the mid-twentieth century, both spoke differently:

Generally speaking women spoke more slowly and deliberately than men because they spent their days word-miming and lip-reading in the deaf-out of the weaving sheds. It meant there were two types of Lancashire accent co-existing under the same roof: one [her mother’s] a slow exaggerated enunciation, the other [her father’s] much faster and elliptical.\(^{31}\)

The community established on the work floor in the mill continued outside of it, where the internalised rhythms and acoustic inflections endured in workers’ identities. In his study of factory time discipline, Thompson spoke of the internalisation of work rhythms but did so within a moral framework, ‘as those moralists who had accepted this new discipline for themselves enjoined it upon the working people.’\(^{32}\) The evidence presented here in the form of acoustic analysis and personal testimony demonstrates that there was perhaps less of a moral bearing on workers’ adaptation to their work environments. Instead workers adapted to their soundscape mainly out of necessity and as a coping mechanism. This is not to say that there was no moral code imparted on the work rhythm at all, but as Thompson argued this came more from psychologists, economists and the development of ideals of efficiency than from workers themselves, an issue I develop further in the third section.


\(^{32}\) Thompson, Time, Work-Discipline and Industrial Capitalism, 87.
In using auditory stream analysis and by taking into account the acoustic context of the workplace, this section has presented the workplace of the card room as a site with a specific acoustic regime. Within that regime, workers adapted and used sounds that at first listen were oppressive because of their sheer volume to express their sense of self. Through expressions such as lip-reading, workers developed a mode of communication that allowed them to make sense of their environment by being with their fellow workers. Such actions undermined the acoustic regime as workers adapted to the sounds around them, giving them a mode of communication that overseers could not follow. Moreover, the actions involved in adapting to the workplace soundscape resonated outside of the workplace as lip-reading changed the way some workers spoke. In the next section, I turn to the Ruhrgebiet to examine how miners made sound and listened for sound to adapt to their sonic environment and the acoustic regime they worked in.

Listening, Sense of self and Masculinity in the Mines of the Ruhrgebiet

Within both Alltagsgeschichte and social history, historians have argued that workers were capable of expressing varying degrees of agency in the face of oppressing power structures.\(^{33}\) Lüdtke’s work has demonstrated that labourers expressed a sense of self or

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Eigensinn through such activities as horseplay. How workers managed to disconnect from the structures of factory or mine work has remained more obscure. This section demonstrates how listening and making sound allowed workers to communicate a sense of self within their workplace. An important issue in the discussions within this section is that of masculinity. Recently, historians have understood masculinity as an attribute that is both ‘a matter of social and cultural construction … [and] an aspect of personality’ evidencing a need for contextualisation in discussions of masculinity. This section builds on that notion by demonstrating that miners constructed their community by adhering to their own mores of masculinity, which they expressed acoustically, within the time discipline imposed on them.

How miners listened to each other and to the sounds of time discipline plays a significant role in this section. To examine the listening practices of miners I turn to the three levels of listening composer Barry Truax presented in his book on acoustic communication. He called the first level ‘listening-in-search,’ which involves the listener in ‘a conscious search of the environment for clues.’ The second level is ‘listening-in-readiness,’ which involves a less conscious effort on the part of the listener. For this type of listening to thrive, it is necessary to have a sonic environment where ‘the desired signal may be separated from any competing noise.’ The third level of listening Truax

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34 Lüdtke, ‘Cash, Coffee-Breaks, Horseplay.’  
36 Truax, Acoustic Communication, 22.  
37 Truax, Acoustic Communication, 23.
has described is ‘background listening.’ Listeners hear sounds at this level when ‘they are a usual occurrence, and therefore expected and predictable. They may be singled out for attention if the need should arise.’ Bregman developed auditory scene analysis around the notion that people are always listening-in-search. However, I argue here that background listening played an important role in making sense of the auditory stream of the mine that workers had to deal with. Furthermore, this section examines how miners made sound and listened for sounds to express their sense of self within the power structures they worked in.

The acoustic context in which miners worked characterised their listening practices. The soundscape of the mine shaft was less noisy than that of the card room, because there were fewer machines. That said, the enclosed space of the mine shaft meant that sound reflected back from every direction without being able to escape into air. Within the mines, the sound of the Signalglocke or bell was an important acoustic signal that historian Uta Schmidt has described as the sound that, ‘determined the work rhythm.’ That work rhythms existed and that employers influenced them through sonic and visual signals has been extensively researched by historians, E.P. Thompson being one of them. However, they focused more on issues surrounding time and less on how specific acoustic signals functioned and how they had qualities that allowed labourers to internalise work rhythms. The role of the Signalglocke was to call for the start and end of a shift and popular songs at the time reveal the social meaning of the sound of the bells. One example is the song Glockentöne, taken from one of the countless songbooks published for mine and factory workers in the period:

38 Truax, Acoustic Communication, 25.
From the pithead building the bells are ringing,  
the lads are moving through the valley.  
The sounds, they call for the day’s work.41

The word ‘call’ or *rufen* in the German, signifies that the sound of the bells had one specific meaning and then workers heard it, they knew their shift had either started or ended.

The *Signalglocke* not only determined the work rhythm by calling for the start and end of work shifts. Within the mine there were bells that called out the movement of the *Förderkörbe* or lifts. Musician Richard Ortmann captured the sound of a *Signalglocke* in 1987 in Zeche Zollern in Dortmund for his sound archive of the Ruhrgebiet. Listening to Track 04, the most prominent sounds are a ringing sound, which signals the closing of the doors and the imminent movement of the lift, and the talking people. The double bell sound, heard for the first time after three seconds is the *Signalglocke*. The sound rang down through the mine shaft informing workers on different levels of the shaft whether the lift hung still, moved up or down and at which level it was. The *Signalglocke* thus ordered movement in and out of the mine as well as between different shafts. The more elaborate the mine, the broader the range of possible combinations of sounds required to order this movement. At each point of entry for a lift there was an *Anschlagtafel* or ‘signal board,’ which explained the meaning of each possible combination of sounds.

Fig. 4.6 shows a simple *Anschlagtafel* with three different combinations, whereas fig. 4.7 shows a more elaborate list. The more elaborate the possible combinations of sounds,

Fig. 4.6 Anschlagtafel at Bergisches Museum für Bergbau, Handwerk und Gewerbe, Burggraben 9-21. Photographer: Frank Vincentz.

Fig. 4.7 Anschlagtafel at Zeche Zollern Schacht II. Source: Schmidt, 'Der Bergmann,' 132.
the more attention workers had to pay to understand whether it was safe for them to enter the lift.

Historians such as Leighton James or Dennis Sweeney have recently focused on the miners in the Ruhrgebiet as a politically and socially disparate community.\(^{42}\) This paper shifts the focus from the politics of the miners to their workplace communities by examining the acoustic signals of the mine together with personal testimonies. One example of personal testimony comes from a *Heimatbuch* compiled by Karl Leich, a pastor in Bochum in the early-twentieth century.\(^{43}\) There were many books of the sort published by Leich, aimed at invoking a miners community connected by experience and specified by regionality, issues captured by the term *Heimat*.\(^{44}\) For one section of the book Leich interviewed a former miner called Augustus Düsterloh about his experiences as a miner in the 1880s. What exactly Leich’s aim was with the interview is difficult to say, but the whole book has Leich pushed the interview in a specific direction. One of Düsterloh’s stories is about the *Signalglöcke*. ‘You would not consider, when the bell struck, to drop your pickaxe immediately, instead it was a matter of honour that you finished [hewing] your section.’\(^{45}\) This micro-political act of briefly ignoring the time-discipline impressed through the sound of the bell came from a feeling of pride Düsterloh felt in his work. The act thus came from a code of masculinity that obliged miners to leave their section of the mine in a proper way for


\(^{43}\) Karl Leich, *Glück Auf! Ein Heimatbuch für Bergleute* (Witten, 1925).


\(^{45}\) Leich, *Glück Auf*, 25.
the next shift. An issue that was more important than strictly obeying the time discipline set out through the sounds of the bell.

Historian Madeleine Hurd has demonstrated that honour in work played a significant role in the mores of masculinity that workers’ unions and organisations used to ‘force society to acknowledge [workers’] citizenship.’\footnote{Hurd, ‘Class, Masculinity, Manners and Mores,’ 80-86.} The feeling of honour Düsterloh mentioned supports the idea that masculinity was very much a social construction as interaction underpinned the code of honour. Such interaction was, at least partly, aural. When miners did leave their work at the sound of the bell, Düsterloh said that the other miners, ‘shouted all kinds of names at them.’\footnote{Leich, \textit{Glück Auf!}, 25.} He stressed that this was all done in a spirit of camaraderie, which fits the overall feeling of nostalgia in Düsterloh’s reminiscences and the tone of Leich’s book. However, it also accentuates the community that existed among miners, who expressed their sense of self through collective action, aware that they shared the burden of work together. In his work on the \textit{Eigensinn} of workers in the factories all around Germany, Lüdtke stressed the importance of what he called a ‘being-with-the-others.’\footnote{Lüdtke, ‘Cash, Coffee-Breaks, Horseplay,’ 80.} The collective nature of ignoring, however briefly, the time-discipline of the mine and the vocal retribution aimed at those that abided by it, demonstrates that miners actively constructed their community acoustically, both by listening and by making sound.

A piece of personal testimony that provides a counterpoint to Düsterloh’s possibly romanticised memories comes from Max Lotz, a socially and politically aware miner, who wrote an essay at the request of sociologist Adolph Levenstein. Levenstein followed the methods set out by Max Weber to conduct a survey among workers

\footnote{Hurd, ‘Class, Masculinity, Manners and Mores,’ 80-86.}
\footnote{Leich, \textit{Glück Auf!}, 25.}
\footnote{Lüdtke, ‘Cash, Coffee-Breaks, Horseplay,’ 80.}
connected to the German Social Democratic Party (SPD). He sent out 8000 questionnaires and published the results of his survey in 1912 as Die Arbeiterfrage or ‘The Worker’s Question.’ Levenstein’s aim was, ‘to collect information about the relationship between modern factory technology and the psychic “inner life” of the (male) industrial worker.’ Die Arbeiterfrage presents historians that follow the work of Roper, Hurd and others with a wealth of material to explore codes of masculinity as a part of the emotional make-up of men. However, for the purposes of this chapter I discuss the essay by Lotz, who was one of the miners Levenstein asked to write independent pieces on a variety of subjects after the initial questionnaire.

Lotz wrote his essay in 1908 and described a day in his working life. There were several notable changes to Düsterloh’s soundscape of the 1880s, mainly because of technological developments. Where bell-ringing woke up Düsterloh, an alarm clock woke up Lotz, who was followed out of bed by his wife when ‘the steam whistle from the nearby mine screamed in their ears.’ Lotz’s use of the verb ‘scream’ gave the whistle a negative connotation and provides the first indication that he wrote his essay with a clear agenda against the power structures in place at the mine he worked in.


51 Sweeney, ‘Cultural Practice,’ 174. For a historical perspective on the experience of female workers, see: Canning, Languages of Labor and Gender.

52 Levenstein published several books made up with the writings of workers he contacted first through his questionnaire: Adolph Levenstein (ed.), Friedrich Nietzsche im Urteil der Arbeiterklasse (Leipzig, 1914); Levenstein (ed.), Arbeiterphilosophen und -Dichter (Berlin, 1909); Levenstein (ed.), proletarischer Jugendjahre (Berlin, 1909); and Levenstein (ed.), Aus der Tiefe: Arbeiterbriefe, Beiträge zur Seelen-Analyse Moderner Arbeiter (Berlin, 1909). Lotz’s essay comes from the last publication.

While the sound that woke Lotz up had changed, the time-discipline of industrial work still controlled his everyday rhythms. Moreover, the Signalglocke still operated in the same way as Lotz made clear in his description of getting down into the mine:

With a clang, the operator closes the safety door behind me that has to be attached to each level when people are being carried. Only when the electric signal from the bottom of the elevator shaft comes on can the operator above ground signal to the engine room. Three warning bells are sounded which mean “going down.”

For the miners the ‘clang’ of the closing doors meant they were in the hands of the lift operators who only had aural contact with each other. Acoustic signals defined the whole process of going up and down in the mine shaft and workers were aware of their significance.

Moreover, the workers respected the acoustic signals of the lift to such an extent they were silent inside the steel cages. As Lotz described it, ‘almost as though by unconscious agreement, everyone is silent on the trips up and down.’ The miners, came together in these silent moments, which could result in accidents if the communication between different operators broke down. False signals caused an accident in the ‘Glückauf Tiefbau’ mine in Dortmund in 1878: ‘After the given signals the operator believed that there were no people in the lift, while five workers were about to ride up. They went down to the bottom at full power and sustained significant injuries.’ It was probably such accidents that were on Lotz’s mind during ‘the one- or two-minute trip’ down or up the mine shaft. Social historian Eric Weitz has argued that ‘cohesiveness was ultimately a function of the dangers inherent in mining work, which necessitated mutual dependence.’ Once inside the lift, the miners’ safety was out

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54 Lotz, ‘A Day in the Mine,’ 324.
56 Dortmunder Zeitung, 30 January 1878.
57 Lotz, ‘A Day in the Mine,’ 324.
58 Eric D. Weitz, ‘Class Formation and Labor Protest in the Mining Communities of Southern Illinois and the Ruhr, 1890-1925’ Labor History 27 (1985), 85-105 (96). See also: Abrams, Workers’ Culture, 114-117; Klaus Tenfelde, Sozialgeschichte der Bergarbeiterchaft an der Ruhr im 19. Jahrhundert (Bonn, 1979); Peter Way,
of their own hands and instead of vocally expressing their community, they quietly adhered to the discipline necessary for a safe journey. Workers constructed their community as an extension of their sense of self through a variety of channels, dangers being one of them.

The acoustic expressions of miners’ sense of self and their community depended on the material context in which those expressions sounded. Inside a mine, the enclosed space meant that sound reflected back from each direction without being able to escape in air. Recent research has determined that the absorption coefficient of the wall and floor areas within coal mines meant that they absorbed low-pitched and partially reflected high-pitched sounds (Table 2). Listening to the sound of the *Signalglocke* on Track 04, we hear that it had a high pitch, which meant that its sound resonated deep into the mine. During moments of danger, miners stayed quiet so as not to disrupt the acoustic signals around them. However, miners not only constructed their community around danger, but also through jokes and jest, actions that created a hubbub throughout the mine shaft. Lotz described that as soon as he and his fellow miners got out of the lift they joined, ‘the hum of the voices from hundreds of raw throats,’ a sound he classed as ‘deafening.’ The low-pitched male voices resonated off the walls and even though those walls absorbed some of the sound waves, the sheer number of voices meant the collective sound echoed through the shaft. Within an environment filled with the background noise of voices miners had to listen for those sounds others expected them to interact with, from a conversation to a joke.

Lotz explained that it was possible to have specific conversations within the background noise as when he reached the level where he worked, he sat down with his

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second hewer to wait for their apprentice. They talked ‘about nothing in particular replying now and then to words or questions from fellow workers [they] knew.’

Besides listening to each other, they were also receptive to words spoken to them outside of their own conversation. Psychologists call this type of listening ‘the cocktail party effect,’ which is a process of assignment that happens in the brain to make sense of noisy auditory streams entering the ear. Neville Moray introduced the concept to explain how people are capable of focusing their attention on one conversation at a busy while surrounded by many other voices.

Moreover, Bregman has demonstrated that humans are capable of following specific conversations in busy, noisy places because the brain groups specific sounds together that it recognises, such as the sounds of voices that one knows. On the one hand, the miners listened-in-search as they actively listened for the voices of their fellow workers. On the other hand, they performed background listening for the sounds that were there to discipline them while they worked. For example, Lotz explained that miners only listened for the sound of the coal trolleys coming through the shaft if they had to wait for an empty one to load, not noticing the sound at other moments. That miners used different listening modes reinforces Lüdtke’s notion that workers expressed their sense of self in relation to each other. By vocally asserting themselves and by listening for

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60 Lotz, ‘A Day in the Mine,’ 325
62 Bregman, Auditory Scene Analysis, 478-491
familiar voices, miners placed their experiences within the sonic environment of the mine. Jest or simple conversation was a statement of miners’ sense of self aimed at coping with the rhythms of work-discipline and at expressing a togetherness and certain feelings of pride that the miners took in their work.

Labour Reform: Rhythm in Psychology and Economy and Restructuring the Acoustic Regime

The work of German and British social reformers in the late-nineteenth and early-twentieth century is well-documented. While many of these reformers called for changes to the working conditions of labourers, several labour reformers based their ideas on the internalisation of work rhythms and placed a strong focus on the body of the worker, a notion that gained popularity in the early decades of the twentieth century. The focus of industrial rhythms in labour reform also fitted into the discourse

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surrounding nervous disorders, which had an equally strong focus on the body and which flourished at the turn of the twentieth century.\(^{66}\) This section presents two examples, the first a psychologist called Hugo Münsterberg and the second an economist called Karl Bücher, both of whom were well-regarded in their respective fields.\(^{67}\) Both of these men’s work demonstrates that labour reformers dismissed the idea of a moral framework that E.P. Thompson found underlined the internalisation of work rhythms in favour of productivity. Labour reformers such as Münsterberg and Bücher increased the efficiency of workers by adjusting the mechanisms of listening and sound-making that those workers used to cope with the acoustic environment of the workplace. In other words, they used the rhythms labourers had naturally adapted to as a technology of labour manipulation.

Both Münsterberg and Bücher stressed that synchronizing the internal rhythms of the body with the rhythms of the workplace would maximise production. In their drive to manipulate labour and attain industrial efficiency, both men stood in relation to what we now know as Taylorism. Frederick Taylor devised what he called ‘scientific management’ or a rational process of economic efficiency based around eliminating waste and enforcing a work ethic.\(^{68}\) Münsterberg wanted his industrial psychology to

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work alongside scientific management as he placed his ‘psychotechnical interest at the service of economic tasks.’ Rhythm was the key notion in this industrial psychology and Münsterberg argued that the rhythmical movement of machines and tools was ‘nothing but an imitation of the rhythmical movements of man.’ However, he continued, ‘the later improvements of the machine have frequently destroyed that original rhythm of man’s movement.’ These developments were felt in the cotton mills in the Ruhrgebiet and Manchester mainly through the high noise level produced by the machines. Each machine had a rhythm specific to it, yet they still required human activity. However, it was the body that had to adapt to them; instead of the machines being adapted to what Münsterberg described as ‘rhythmical muscle activity.’ Similar changes took place and a good example is the switch from the pickaxe to the pneumatic hammer from the 1910s onwards, which was a tool that forced its rhythm on the body.

Münsterberg found that enforced rhythms were so different from bodily rhythms that they created ‘incessant inner struggle,’ which consequently meant that ‘quick exhaustion [was] unavoidable.’ This emphasis on exhaustion resonates with work done by nerve specialists around the same time as they stressed the importance of fatigue in relation to nervous disorders. Leading German psychologist Willy Hellpach argued that the first

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69 Hugo Münsterberg, Psychology and Industrial Efficiency (Cambridge, 1913), 141.
70 Münsterberg, Psychology, 163.
71 Münsterberg, Psychology, 163.
72 The pneumatic hammer was patented by Firma Flottmann from Bochum in 1904 and became increasingly popular among mine owners after 1910. Information taken from the permanent exhibition in the Ruhrmuseum in Essen. Max Lotz described how in 1908 he knew of some mines working with pneumatic drills, but he and his co-workers still used pickaxes, see: Lotz, ‘A Day in the Mine,’ 323.
73 Münsterberg, Psychology, 211.
74 Examples are: Willy Hellpach, Nervosität und Kultur (Berlin, 1902), 87-103; Emil Kraepelin, Psychiatrie: Ein Lehrbuch für Studirende und Ärzte (Leipzig, 1896), 19-29; Angelo Mosso, Die Ermüdung, transl. from the Italian by J. Glinzer (Leipzig, 1892). For historical perspectives on the issue of fatigue and exhaustion,
symptom of neurasthenia during work was, ‘to be overcome by a feeling of weakness, of fatigue.’ Historian Anson Rabinbach has examined the issues of exhaustion, fatigue and efficiency in relation to developments in medical discourses. Psychologists such as Münsterberg and Hellpach demonstrated that ‘fatigue differed from individual to individual’ and that ‘fatigue was an objective phenomenon with laws directly related to the laws of energy.’ To organise the rhythms of labour was the solution Münsterberg and other psychologists put forward. In his own experiments, for example, Münsterberg found that workers were most efficient when they started work in the morning or after their break. He subsequently advocated an increased number of breaks to maximise efficiency.

The suggestions made by Münsterberg and others around 1900 on the one hand tightened the discipline imposed on workers and on the other hand aided their well-being as they, theoretically, became less overworked. While Münsterberg firmly placed his psychology in the aid of economic development, his emphasis on rhythm also found support from other labour reformers who had a more socially progressive ideal. Josephine Goldmark was an American who mainly wrote on child labour and women’s work. She had a significant influence on legislation brought in to bring down working hours. One of her publications focused specifically on how fatigue had a negative


75 Hellpach, Nervosität und Kultur, 88.
77 Münsterberg, Psychology, 206-220.
78 Gregory Clark explains the significance of the discrepancy between what was good for the economic development of industrial work and improvements to working conditions in much more detail, see: Clark, ‘Factory Discipline’ The Journal of Economic History 54 (1994), 128-163. This discrepancy is still a topic for discussion in discussions on labour efficiency today, see: Supreet Kaur, Michael Kremer and Sendhil Mullainathan, ‘Self-Control and the Development of Work Arrangements’ The American Economic Review 100 (2010), 624-628.
influence on worker efficiency. A cause Goldmark mentioned for fatigue was that 'the
individual’s natural … rhythmic tendency must be wholly subordinated to the machine’s
more rapid mechanical rhythm.' For Goldmark, a labourer could not adapt to the
rhythms of machines unless they could regularly take breaks from their work. Moreover,
she felt that workers were unable to find space and time to express a sense of self amid
‘the roar and vibration of machinery, [which] tends further to distract any sense of
rhythm on the part of workers.’ While the previous sections have demonstrated that
machines did have rhythmic qualities of their own, the internalisation of such rhythms
became impossible if the noise of workplaces damaged the function of hearing.

Historian Karin Bijsterveld has shown that deafness and hearing loss occurred in the
industrial worlds of the Netherlands and Germany in the late-nineteenth century but
that it was not perceived as a problem outside of a few medical journals. While hearing
loss became more of a social issue in the 1910s, ear protection only gained traction
among both employers and employees from the late-1960s when it became mandatory
in most Western European countries for workers to protect their hearing in noisy work
situations. Within Britain there was seemingly little official attention to deafness and
hearing loss as an occupational disease around 1900. There is, for example, no
discussion of the issue in The Lancet in this period, nor does it get mentioned in the
Annual Reports of the Chief Inspector of Factories and Workshops.

However, scholar of occupational health Allard Dembe has argued strongly that noise-
induced hearing loss ‘was present in different industries during the past hundred and

\[\text{Green Bag 15 (2011), 9-15; Shelton Stromquist, Reinventing “The People”: The Progressive Movement, the Class
Problem and the Origins of Modern Liberalism (Champaign, IL, 2006), 119-123.}\]
\[\text{Goldmark, Fatigue and Efficiency: A Study in Industry (New York, 1912), 79-80.}\]
\[\text{Bijsterveld, ‘Listening to Machines.’}\]
\[\text{Bijsterveld, ‘Listening to Machines’; Dembe, Occupation and Disease, 162-178; Braun, ‘Turning a Deaf
Ear?’}\]
fifty years, both in Europe and the United States. One group that received attention from policy makers in early-twentieth-century Britain were boilermakers. The nature of boiler-making required one person, often young boys, to be inside a boiler holding the rivets in place while other workers hammered them in. Glaswegian physician Thomas Barr studied the problem of hearing loss among boilermakers and found that all of his subjects had suffered it. In other words, the problem existed in any workplace with high levels of noise even if workers, employers and legislators seemed to mostly ignore the problem until the mid-twentieth century. When hearing loss became a policy issue in Britain in the early 1900s, it was because of the question of workers’ compensation. The growing influence of social reformers and the emergence of the welfare state meant that calls for attention to hearing loss with industrial workers slowly became an issue for policy makers too. In 1907, the Departmental Committee on Compensation for Industrial Diseases called the physician Alexander Scott to testify on the issue of hearing loss among boiler makers. Scott also worked in Glasgow and was involved with a largely industrial population. After establishing that the boiler makers became deaf from their work the committee asked Scott whether he thought hearing loss was a subject for compensation. Scott replied negatively, reasoning that, ‘it [did] not interfere with their work or their

84 Dembe, Occupation and Disease, 223.
85 Dembe, Occupation and Disease, 167. On the effect of noise on boys frequently working inside boilers, see: D.J. Glibert, ‘Influence of Industrial Noises’ Journal of Industrial Hygiene 3 (1921), 264-75, 265.
88 On the increasing number of complaints made to and by factory inspectors up to the early-twentieth century, see: B.L. Hutchins and A.H. Spencer, A History of Factory Legislation (London, 1911).
power of work.'89 Furthermore, when asked whether it was possible to prevent hearing loss, Scott replied, ‘yes, but they will not do it.’90 The problem of hearing loss existed and could be medically ascertained. However, there is little evidence to suggest that workers did something about it and seemingly little effort from employers to prevent it. Moreover, the inquiry with Scott quickly turned to the issue of neurosis and the doctor said that those problems were more to do with visual distortions than sonic vibrations.91 In other words, noise and the consequences of workers’ sustained exposure to it was not an issue taken up outside of the medical world and even there received relatively little attention.

Goldmark’s mentioning of the noise work environments of industrial workers was more exception than rule among labour reformers. Consistent with that rule Karl Bücher showed no concern with noise in his 1896 publication Arbeit und Rhythmus or ‘Work and Rhythm.’92 Instead, he concerned himself with the problem that machine rhythms were too different from the natural rhythms of humans; an idea that Goldmark had borrowed from his work. Bücher started from the idea that work-rhythms should be dependent on the muscles and that the natural rhythm ideally had to constitute the work rhythm. As such, Bücher’s ideals sat closer to Münsterberg’s scientific management than Goldmark’s social reform. To support the work rhythm and to obtain optimal efficiency, Bücher wanted workers to combine the work rhythm with a tonal rhythm, preferably singing or drumming.93 Where Münsterberg started from the idea that the workers’ body could adapt to machine work with the necessary rest, Bücher thought the body had its rhythmical limitations. The machines in Bücher’s time – even into the 1920s by

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89 Departmental Committee on Compensation for Industrial Diseases. Report of the Departmental Committee on Compensation for Industrial Diseases. Minutes of evidence, appendices, and index 1907 [Cd. 3496], 146.
90 Departmental Committee on Compensation for Industrial Diseases, 146.
91 Departmental Committee on Compensation for Industrial Diseases, 147.
92 Karl Bücher, Arbeit und Rhythmus 2nd Ed. (1899).
93 Bücher, Arbeit und Rhythmus, 24-40.
the time of the sixth edition of his book – were still rhythmical, but all that he sensed from them was, ‘a confusing, ear-stunning noise in which one can still hear a rhythm, but no longer perceive it bodily.’94 The strong focus on the body places the issue of rhythm and the emphasis labour reformers placed on it within the broader history of an early-twentieth-century culture that attempted to overcome various modern issues, such as neurasthenia but also economic and social developments.

The labour reform movement pushed for better working rhythms, either from the perspective of efficiency or social justice. In 1844, Friedrich Engels noted that one of the rules he observed in factories was that, ‘every operative detected speaking to another, singing or whistling, will be fined 6d.’95 For mill owners, distracted workers were not productive workers. Rules such as the one presented by Engels also imply that mill owners wanted to prevent the kind of jest and communication which was so important to the expression of workers’ sense of self. Labour reformers in the decades around 1900, however, showed a clear interest in utilising the rhythmic nature of factory and mine work. Anthropologist Gerd Rittler summed Bücher’s argument up as ‘work that is performed rhythmically enables the worker to keep up monotonous activities for a long time.’96 Monotony was an issue for labour reformers. On the one hand it improved efficiency and Taylor built his ideas around scientific management and

standardisation around it. On the other hand, the repetitive nature of industrial labour
and the operation of machines created rhythms that workers could utilise to adapt to
and subvert the discipline impressed upon them and express a sense of self through
communication.

Bücher, Münsterberg and other labour reformers understood the acoustic communities
of the workplace to be essential to the industrial processes of production. Moreover, the
role of acoustic communities increased when employers incorporated the ideas of both
labour and social reform even if this was still done from a perspective of economic
benefit. The Cope’s Tobacco Factory in Liverpool was famous for its owner’s liberal
attitudes to the responsibilities they held for their workers as well as their marketing
strategies.97 When the novelist Joseph Hatton wrote about his visit to Cope’s in 1892 he
described how important rhythm, singing and sounds were. One of the girls making
cigarettes ‘chats quietly to her neighbour or hums a tune, or sings a snatch of a song
which others take up for a moment.’98 These girls worked together and constructed a
community through their voices, creating a combination of work and tonal rhythm that
Bücher would promote a few years later. Within noisier workplaces it was more difficult
for workers to attain a balance between tonal and work rhythms. However, labourers in
noisy environments could possibly draw on other tactics, such as lip-reading.
Considering how universal the practice of communal singing was if the work activity
allowed it, singing or humming to oneself cannot be disregarded as an option to
combine tonal and machine rhythms either.99 Instead of vocalising outwards, workers

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97 Matthew H. Hilton, Smoking in British Popular Culture, 1800-2000: Perfect Pleasures (Manchester, 2000), 44-
47; A.V. Seaton, ‘Cope’s and the Promotion of Tobacco in Victorian England’ European Journal of
99 On communal singing at work roughly in the period discussed here, see: Archie Green, Only a Miner:
Studies in Recorded Coal-Mining Song (Champaign, IL, 1972); Bruce Jackson, Wake Up Dead Man: Hard
Labour and Southern Blues (London, 1999); Marek Korczyński, ‘Music at Work: Towards a Historical
Overview’ Folk Music Journal 8 (2003), 313-334; Michael Pickering, Emma Robertson and Marek
could still vocalise inwards and perhaps even share a song visually through the din of their workplace.

During his visit to Cope’s, Hatton was surprised by the fact that ‘the works are peculiarly free from Notices that you must this or you may not do that; Affiches announcing fines for this and fines for the other.’ He continued by writing down the observations of his friend who showed him round the factory: ‘we find that the unwritten law is strong enough to maintain a proper and healthy discipline.’ The soundscape in Cope’s allowed workers to internalise work rhythms in combination with the tonal rhythms of singing. Furthermore, the Cope brothers also employed a system of factory discipline that was less coercive than in many other factories. The unwritten laws in Cope’s relied on the internalisation of discipline. Similarly, production relied on the ability to internalise work rhythms and once this happened it was possible for workers to detach from it and perform other tasks that involved listening or producing sound to interact with others in the workplace. Workers’ ears and bodies were all active within the psycho-physical process of work. Labour reformers around 1900 began to understand that the mental and physical state of workers was as important as the organisation of machines and time-discipline to economic efficiency.

The body and the machine came together through rhythm and as such the discourse of


100 Hatton, ‘A Day in a Tobacco Factory,’ 44.
101 Hatton, ‘A Day in a Tobacco Factory,’ 45. Hatton’s friend was probably one of the Cope brothers running the factory as they kept close ties with a large literary community, see: Seaton, ‘Cope’s and the Promotion of Tobacco,’ 14-16. Hatton was not alone in singing his praises about Cope’s, see: ‘Local Industries’ Liverpool Review, 20 March 1886; ‘Local Hives of Industry’ Liverpool Citizen, 21 January 1891; ‘Cope Bros and Co Limited’ The Times, 23 August 1904.
labour reform in this period holds a significance to discussions of sound in the workplace. To achieve optimal psychological efficiency from workers, labour reformers drew upon the specifically acoustic communities that workers had developed in workplaces throughout the nineteenth century. While this led to some improvements in working conditions, actually protecting workers from the dangers of the noise present in many industrial workplaces was, as Bijsterveld, Dembe and other have shown, a long way off. In other words, the bodies of workers became more and more central to ideals of industrial efficiency as the notion of rhythm gained importance. Increasingly, workers lost control over their bodies as ideas about labour reform took hold and impressed workers into strict rhythms of production.

Conclusion

This chapter has demonstrated that while workplaces were often noisy affairs, workers could use their ears to make some sense of dense soundscapes and establish a sense of self in communication. While industrial time-discipline forced workers into specific rhythms aimed at controlling them, they could use the sound and rhythms of the machines they worked with to adapt to that discipline and allow for moments of interaction among each other. Industrialists perceived such moments as a lack of productivity, but through such silent communication as lip-reading workers found a way to avoid control. Moreover, miners used different modes of listening when they communicated with each other or when they heard the sounds that structured their work days. Each time workers found the time and space to communicate or when they adapted to their soundscape by listening for or briefly ignoring acoustic signals they created micro-political acts of resistance. Those acts were often seemingly
inconsequential. However, they constituted a significant part of workers’ everyday experience, which they constructed aurally as much as visually.

By combining examinations of the acoustic contexts of specific workplaces with personal testimonies of workers this chapter revisited established ideas of social and labour history as well as Alltagsgeschichte about the workplace and workers’ communities. This chapter built on that large historiography by expressing that what workers heard and how they listened to sounds and rhythms became an important part of who they were. Moreover, personal testimonies offered a way to bring subjects into their acoustic environments, demonstrating how the body was central to everyday experiences of work. Concepts such as Lüdtke’s Eigensinn and notions such as Thompson’s internalisation of work discipline were particularly aural in their nature. Workers’ own audibility allowed them to create communities, while their ears allowed them to hear the time-discipline of their work in the background of that community. Furthermore, the focus on sound and listening in this chapter demonstrated that workers, at least in the mines, based their male sociability and codes of masculinity on chatting, joking and convivial interaction. As such, the chapter has followed the current historical trend that assumes that masculinity was a social construct. The warm relations miners had with each other, and which they expressed aurally, brings further nuance to the way historians consider how men negotiated their identities.

Rhythm was an important factor in the way workers adapted to their acoustic environments and found ways to shift their focus away from work and onto social interaction. Around the turn of the twentieth century labour reformers heard in those rhythms ways to make workers more efficient. In a way, psychologists and economists took the acoustic community of the workplace established by workers to express their sense of self to effect more efficiency from those workers. However, the issue of noise
was problematic as it disrupted rhythms and also physically injured workers. Increased attention to the acoustic environment from doctors and labour reformers did not lead to increased protection for workers’ hearing, demonstrating that workers’ bodies essentially held very little value. Doctors, labour reformers and psychologists placed physical issues of fatigue and exhaustion central to the inefficiency of the workplace. Rhythm thus became part of the process of modernisation and a technique of production. As such, rhythm opens up new ways to understand how the body occupied a central position in the decades around 1900.

This chapter has also demonstrated how the methodologies historians use to discuss the social and cultural influence of sound on the construction of communities need to be expanded to include analyses of the acoustic environments in which subjects heard sound. The approach historians have used so far has focused on the social meaning of sound and less on how sound actually affected how people created community. The example of the industrial workplace is pertinent because it presents an important part of the lives of a large group who historians understand to have struggled in power relations in which they only had little agency. The acoustic community played a part in allowing workers to express their sense of self within an oppressive working environment. Overall, this chapter has examined the role of sound in workplace communities to demonstrate that concerns and discussions about sound and rhythm proliferated in the late-nineteenth and early-twentieth century. In social, labour and cultural history sound can be used to make connections between the power relations of the workplace, male sociability and the value of the workers’ body.
Conclusion: Sound History

This thesis has emphasised the importance of sound to urban everyday life. It has demonstrated that sound places the historical subject at the centre of their environment. It has developed new methodologies to both uncover sound from the archive and to use those sounds in historical analysis. The thesis has shown that it is important to explore how sound created community and conflict within spatially and aurally defined locations. Communities defined themselves through the sounds they heard and produced, and that process depended on the acoustic qualities of their environments. Throughout, this thesis has sought to specify how sound influenced the relations between people and their environment. As such it has contributed to a number of historical debates as it challenged the dominance of visual tools to understand the role of place in urban history, the street in popular culture and the social construction of technology. Furthermore, this thesis demonstrated the importance of sound to social experience as it examined how migrant and workplace communities expressed their identities through speech and other forms of aurality. Finally, this thesis has shown how issues about sound and rhythm proliferated in negotiations of power and the medical discourse of the decades around 1900.

The first chapter focused on man-made street sounds and refined histories of popular culture by examining the sounds produced by hawkers, ballad singers and Katzenmusiker and the ways journalists, local administrators and nerve specialists listened to those sounds. The relations between sound producers and listeners perpetuated as sound filtered through visual boundaries. For example, businessmen working on Portland Street in 1860s Manchester could hear a German band making music and could not shut out the sound, leading some to consider the music as noise. However, noise was a
distinctly subjective experience. By bringing together a variety of reactions to man-made street sounds, the first chapter stressed that sound specifically allows historians to examine the many instances in which different class-based identities conflicted, whether between or within a specific social group. The calls of hawkers and the songs of balladeers and bands moved through the air indiscriminately, resulting in an audience made up in part of people who heard the sounds but did not intentionally listen. The chapter outlined how street hawkers were aware of this and used their voices to create sounds that potential listeners, and thus purchasers of their wares, linked to what they sold. This demonstrated how the city’s public spaces were subject to acoustic regimes controlled by what were often itinerant hawkers and bands, whose sounds conflicted with the urban bourgeoisie’s ideal soundscape of controlled movement and plentiful quietude.

Local authorities enforced a regime of urban ambience that was equally desired by middle-class professionals by legislating against hawking and singing in the street. Their main argument was not about noise itself, but about how such noise disrupted free-flowing traffic and movement through the streets of the city. Historians of governmentality such as Patrick Joyce or James Scott have examined such measures in relation to liberal ideas of progress and modernity. However, the regime of urban ambience designed by local administrators, and supported by a range of middle-class professionals, did not purely amount to top-down measures to suppress the lower classes. Rather, those lower classes had in *Katzenmusik*, or rough music, their own regime of noise, which over time was drowned out by the rising ambient noise levels of urban everyday life. The regime of noise associated with *Katzenmusik* became supplanted by a more controlled urban ambience, which, while more associated with bourgeois ideals of quietude and respectability, was not specifically a nineteenth-century invention of liberal governmentality. Instead, it included techniques of non-experts and the lower
classes. The changes examined by historians of governmentality were of a more detailed nature than the whole-scale change their histories often describe and sound allows historians to explore those details.

Just as sound modifies the ideas associated with governmentality, so it challenges the way historians have analysed and mapped the spatial organisation of the city. Sound’s ephemeral nature broke down visual boundaries, and it has been those boundaries that urban and social historians have focused on. Historians understand that people attach meaning to the physical and material spaces they inhabit. The production of sound and practices of listening were influential tools when it came to place-making. The first chapter demonstrated that a sonic map of the city reveals how sounds, in the form of cries, songs or calls, brought together visually demarcated spaces for leisure. Historians have established the importance of place and space in the history of popular culture. However, sounds affected people’s experience of their environment. The issue of street music provides historians with a way to capture how this experience changed in the face of transformations in the urban social order. The examples of both Düsseldorf and Manchester have shown how, by the early-twentieth century, middle-class professionals and local administrators who had been at the forefront of anti-noise campaigns slowly started to hear the benefits of street music against the city’s rising ambient noise levels. Examining attitudes towards street music over time allowed the first chapter to argue that bourgeois notions of taste and aesthetics were of lesser importance when compared to the introduction of new mechanical sounds in everyday life in ensuring the demise of the street musician.

The anti-noise campaigns of the 1890s and early 1900s began to focus more and more on new technologies such as cars, but also pervasive ones, such as the train whistle. Those mechanical sounds were central to the second chapter of this thesis, which
continued to argue for a need to use sound as a way to talk about blurred spatial boundaries. The chapter focused on debates between local administrators, clergymen, physicians and engineers, which focused on how sounds invaded certain places and disrupted order. A major claim in this thesis is that historians of sound should take into account the acoustic context when talking about the impact of specific acoustic signals. The debates surrounding ‘noiseless’ road surfaces demonstrated that issues related to the acoustic qualities of certain materials played a significant role in attempts by the aforementioned social groups to control the soundscape of the street. Monetary issues eventually prevailed in the decisions made by local administrators, while physicians and others paid to have wooden or other ‘noiseless’ road surfaces put down around hospitals, churches and schools, proving that they valued a quiet, and thus healthy, environment.

Noise in the decades around 1900 became something that could be controlled through technology, even if it was the advent of new technologies that made the soundscape increasingly louder. Physicians especially faced a difficult choice as they used the new automobiles to get to patients quicker, but equally they became a noisy nuisance when they drove their cars around the city streets. Historians of technology have long since established the importance of the interplay between engineer and everyday user in the development of new technologies, and the sonic aspects of cars were no different. The first cars were noisy disruptions to everyday order that scared both pedestrians and horses in streets, and invaded private spaces such as houses or hospitals. Engineers played into this by developing ‘silent’ engines, the first of which was the Daimler-Knight engine. By the early 1910s, newspapers reported that the motorist had now become just another feature in the general hubbub of everyday life and no longer the noisy invader of private and public space. Sound played a significant role in the development of the automobile and its incorporation into everyday life. Focusing on
the sonic nature of technologies can help historians to explain more comprehensively how different social groups interacted in their development.

The second chapter also brought in recorded sounds to test some of the ideas put forward in the early years of motoring. Using personal recordings of old engines also offers a new methodology for historians to approach the study of sound with. The Daimler-Knight engine, while advertised and accepted as ‘silent,’ still created an enormous volume of sound. The idea put forward in several press releases in the early 1910s about the quieting down of motoring can thus be read as the subjective matter that it was. Using such recorded sound allows historians to investigate more closely the acoustic context which influenced the social and cultural context that demanded a quieting down of the automobile. Of course, not all historians have sound recordings available to them, but historians of the period studied in this thesis can draw on a wealth of personal ownership and museum collections to find machines in working order. They can use recordings to test widely held opinions of certain sounds in a specific period or use it to demonstrate the nature of specific acoustic signals, examining them against the acoustic horizon derived from traditional written sources.

Health was a recurring theme among anti-noise campaigners and, as the first chapter already argued, nerve specialists and psychiatrists understood noise to be a major cause of nervous disorders. The idea of sensory overload was popularised by nerve specialists and has subsequently been picked up by historians who have described the period studied here as a ‘nervous age.’ The train whistle, however, was necessarily loud and piercing as an acoustic signal. The many complaints received by the Manchester council about train whistles led to little change, as the whistle was equally significant in preventing accidents, such as crashes. The whistle was the foremost sound through which the train invaded urban space and therefore symbolised many of the anxieties
that existed about trains. The chapter brought together the historiographies of neurasthenia, train travel and urban space through sound and it demonstrated that in terms of cause, effect and solution, sound was essential to the train’s invasion of urban public space. With a different type of source material, perhaps personal testimony, the relation between the train, the urban and the home – as well as the street – can be examined by historians, allowing visual barriers to be broken down by acoustic signals.

The third chapter focused mainly on the way sound was pivotal to lines of fracture and cohesion in Jewish and Polish migrant communities in Britain and Germany respectively. The social history written on both sets of migrants is extensive, and this chapter built on that work by examining the two groups as speech communities. The interplay between immigrant and host society examined through the sound of speech demonstrated how listener and speaker both defined the communities they lived and worked in. Immigrants presented different sounding communities to the host society. Poles and Jews used their speech to locate themselves in a familiar community, where sound defined religious, leisure and work practices. Host societies desired to integrate the immigrants into the dominant culture and heard the sounds of Polish and Yiddish as a form of noise; an unwanted sound that disrupted the social order. The listening host society attempted in various ways to integrate the immigrant communities, such as through poor relief systems, religious services and legislation. Since migrants still tend to live together in spatially defined urban locations, the earlier example of migrant acoustic communities presented in this chapter can help to understand how integration worked and continues to work.

Furthermore, the third chapter demonstrated that although speech could be used as a form of resistance many migrants did not necessarily interpret it as such. Rather, Eastern European Jews in Manchester spoke Yiddish because they lived in close
quarters to one another and often worked together. The nature of Jewish integration meant that they practiced their own religion and customs, but in all other everyday situations spoke English. Speaking Yiddish, then, disrupted the balance between Britons and Jews. Historians such as Bill Williams or David Englander have stressed the disparities between various Jewish identities. Yet, it is through sound, speech, and the way listeners attached meaning to what they heard that these various identities engaged with each other. Sound, then, allows historians to specifically engage with the fluidity of identity.

While Eastern European Jews did not necessarily speak Yiddish to undermine their integration into British society, Poles did use their speech to challenge German authorities and their attempts to make them speak German. One argument of this thesis was that noise was not necessarily a negative force. Instead, it is better to judge noise on a sonic scale that takes into account all types of sound, including silence. The third chapter demonstrated the significance of silence in the power relations between migrant community and host society. Silence in this case was not the quietude desired by middle-class professionals nor the quieting down of a technology but a not-speaking or a keeping-quiet. German state authorities legislated that Polish could not be spoken at official meetings and Poles in the Ruhrgebiet responded by not speaking at all during their meetings. In staying silent, they undermined the power of the German host society. Not only does this example demonstrate the importance for historians to include silence when thinking about sound, but it also shows historians interested in ‘histories from below’ that silence should be understood as a tool that could be utilised to destabilize power structures.

The fourth chapter continued on the topic of power relations as it demonstrated how labourers could express micro-political acts of adaptation to a particular disciplining
structure by producing sound or listening for sound. Miners and millworkers in Manchester and the Ruhrgebiet used their ears to adapt to their work situations. Workers could not control the sounds of the machines they worked with, but they could use those sounds to express a sense of self and to construct a community in their workplace. The chapter thus breathed new life into older classic histories of work-discipline by E.P. Thompson and Alf Lüdtke by demonstrating how sound and listening underpinned workplace relations, both amongst workers and between workers and their overseers and employers. Adaptation to the soundscape of the workplace did not mean that labourers liberated themselves from the power structures inherent to their work situation. Instead, the chapter emphasised the ‘micro’ in the micro-political acts which started from listening to or for an acoustic signal in the mill or mine and resulted in some form of alleviation from the work-discipline through social interaction.

Moreover, the chapter went on to examine how in the early 1900s labour reformers picked up on the rhythms through which workers adapted to their soundscape to make those workers more efficient. While this was mostly done in the name of social reform with a focus on more breaks to make a worker more productive, the selling-point was not the improvement of the health of the worker, but mainly the economic benefits. The early, historically neglected, labour-reform texts employed in this chapter brought the site-specific soundscapes and work rhythms into the wider historiography of Taylorism. The idea of rhythm in these texts stemmed from a natural rhythm, slowly being supplanted by mechanical rhythms. The idea of rhythm here is different from the rhythms of everyday life discussed in the rest of the chapter, which involved calendars, work hours and other temporal schedules. Instead, the idea of the physical, bodily importance of rhythm in the labour-reform texts used in chapter four means historians can begin to consider how rhythm was more than merely a temporal structure.
The fourth chapter focused again on the acoustic context defined through the materiality of the workplace, using a variety of methods to understand what a specific site would have sounded like and which sounds could have been acoustic signals. The sounds within the workplace affected the relationship the labourers had with each other and with their environment. Historians have found it difficult to discuss the process of how sound affected people in specific situations. Further elaborating on the use of concepts of architectural acoustics introduced in chapter three, the fourth chapter attempted to develop a methodology to understand which sounds had the qualities to be an acoustic signal. It used a combination of acoustics, recorded sounds and personal testimony to determine the impact of sound on the millworker and miner. The methodological model presented in this chapter can hopefully guide future historical research into sound. Such research will be richer and more thorough when it includes the physical qualities of specific sounds in discussions of how the sonic impacted on social, cultural and political issues. Sound maintained the relational experiences of everyday life. Historians interested in examining the fragmented nature of identity or the unbalanced power structures of migrant and labourer can turn to sound to specifically get to those moments of fracture.

Overall, this thesis has reaffirmed the importance of sound to historians, while also developing the methodologies that historians can use to uncover the sounds from the past in what are often written, printed and visual archives. The interplay of sound as a measurable object and the responses to a variety of acoustic signals has been central to this thesis. The ephemeral quality of sound means that the sounds of the past need to be drawn out of written and visual sources. This thesis has built on the existing methods and methodologies utilised by historians and staked a claim for the growing importance of the acoustic, material context in which sounds sounded and resonated. The combination of reading traditional sources for aural metaphors and other descriptions
of sound with an analysis of the acoustic, material context of specific locations can
provide a blueprint for other historians interested in how sound affected
transformations and processes in everyday life. Sound resonates and it is that quality
above all that allows historians to reconsider those historical sites, such as street life or
the workplace, in which the soundscape played a significant part in negotiations of
power, identity and community.
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