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## Part I: Introduction

### 1. Preface

In the autumn of 2006 I was a final year student of audiography<sup>1</sup> at the prestigious SRFTI,<sup>2</sup> a premier institute for film education in India. I was invited to speak about my experience as an emerging sound art practitioner and my concerns regarding the use of sound in cinema at a conference titled *Sound Cultures in Indian Cinema*.<sup>3</sup> The conference was held with the intention of launching an Indian film sound research program in the Department of Film Studies at Jadavpur University in Kolkata. I presented a student paper at the conference, and it was later published in the *Journal of the Moving Image*.<sup>4</sup> The paper was my first critical intervention within the field of film sound research and, as such, allowed me to enter into the academic world as an active sound practitioner and artist.

This intervention was significant for two reasons. Firstly, as a sound art practitioner, I was able to offer novel insights into the ongoing academic debates in film sound research, which, up to that point, had been based on mostly non-concrete ideas about sound recording and design in films by seasoned academics who were not sound practitioners themselves. Secondly, the process of devising the paper also helped to advance my own development as an artistic researcher and thinker, allowing me to question the established standards of sound practices that I had come to know through my film school education. The technologically deterministic approach<sup>5</sup> that I had to deal with in my own studies as a

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<sup>1</sup> Audiography is a field of study in India concerned with the knowledge of sound recording and design, primarily in the context of film and music production, but enthusiastic students can push for artistic freedom to a certain extent in choosing their personal projects. Needless to say, there are no academic institutions in India for sound art studies. Film school graduates are given the impetus to experiment.

<sup>2</sup> See <http://srfti.ac.in/>

<sup>3</sup> See <http://osdir.com/ml/culture.india.sarai.reader/2006-11/msg00001.html>

<sup>4</sup> See [http://www.jaduniv.edu.in/templates/newpages/ju\\_journals.html#mi](http://www.jaduniv.edu.in/templates/newpages/ju_journals.html#mi)

<sup>5</sup> Film school education in India mainly revolves around cinema technology in order to train students in the skillful operation of the tools and machines necessary for sound recording and production. This overt emphasis on technology often ignores the aesthetic sensibilities of working with and thinking through the subtleties of sound and listening. A student who is sensitive to the artistic potential of sound may take distance from the educational system and

student of sound production was the area I chose to question and discuss in my student paper. I also confronted the lack of use of ambience or the sounds of the “actual site” in Indian films and intended to shed light on how ambience could contribute to the sense of place if given enough scope in filmmaking. I argued that imposed limitations practiced in standard film sound recording and design create lapses in the inclusion and recognition of site-specific sonic information in the “soundscape” of the films. By this time, in 2006, I was already engaged with an independent practice of field recording and composing with ambient sound in response to the screen-centric and visually dominated field of film production. My shift to artistic practice instead of aspiring to become one of the sound personnel or technicians in the film industry can be seen as an inclination and personal choice. The paper was an initiation into my ongoing efforts to articulate my own work within a growing interest in Sound Studies and academia in general, not only to voice my concerns on these issues, but also to situate my artistic practice within this conundrum and in the genealogy of sound practice in general. At a crucial stage these considerations were instrumental in the initiation and unfolding of this PhD project.

By describing my background, the case that I would like to articulate here is the potential contribution that I, actively involved in sound art practice, can make to existing research in film sound and how this contribution can be seen as novel and relevant to producing new knowledge. My inquiry also drives a search for a comprehensive positioning of my own artistic practice within a larger trajectory to locate the differences as well as the intersections between sound art production and sound production for film, being personally exposed to both practices.

If I look back on my aforementioned first academic paper, much has changed since its publication in 2007, and these changes are indeed instrumental in posing the pertinent questions I asked at that time, once again, within a new context – the context of a thorough digitalization of contemporary sound production and its ramifications for sonic experiences. Regarding the issue of handling the oft-ignored delicate relationship between sound and site in Indian films, I lamented, in the above-mentioned paper, that

Indian cinema has *generally* seemed to be hostile to [the] environmental sound spectrum as ambience on [a] married soundtrack even when a film is shot on location. On location,

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create his or her own practices independent of the intervention of the film school mechanisms.

sound is usually controlled to enter film space and in a film set, sound is limited to mere voice and sync effects, making the construction of a soundtrack completely dependent on asynchronous means of sound sourcing such as available stock sound. In the process, film sound, instead of representing the established locale, drifts away from documenting the sound of an original space. Sound making goes closer to a synthetic design by a sound operator working under the specter of mechanical craftsmanship; the sound practitioner's religion of open hearing loses validity. (Chattopadhyay 2007: 107)

But this lamentation did not hold true for long. A revolution was already in progress in Indian cinema following the decision, after much deliberation, to shoot the movie *Lagaan* (*Land Tax*, Gowariker 2001) with the digital technology of "sync" sound. What this revolution brought was an awareness of how the direct recording of location sound and the live performance of actors are perceived by the filmgoers to be far more convincing and realistically believable than the techniques of dubbed films of the 1960s, 70s and 80s that were exemplifying the established industry standards (with a few exceptional independent filmmakers following a different practice). The awareness was significant in fundamentally shifting the spectator's experience of sound, namely in the proliferation of (an alleged) realism, exploring the "capacity not only to mirror but also to govern the human perceptual apparatus" (Rogers 2013: 32) towards an "embodied experience."<sup>6</sup> This sense of realism and embodiment has been achieved, I assume, through the recognition of the specifics of the sites in the narration or, more generally, through a sensitivity to the "site of sound" (LaBelle 2011). If we look at Indian cinema of the period between 2001 and 2009, there were a number of films that embraced "sync" sound or location-specific digital multi-track recording in live synchronization before it gradually became the standard from 2009 on. The novel experience of the sync sound textures replete with evidence of the site led to a popular appreciation of a revived sense of realism. However, this development didn't make my earlier lamentation completely invalid. My previous concerns about the lack of "ambience" and the dearth of locational information in Indian cinema led to new questions: what do

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<sup>6</sup> An embodied experience of sound in the cinema is provided by site-specific sound recordings – including room tones, low frequency rumbles, and other bodily-perceptible ambient sounds – dispersed in a spatial organization following a multi-channel surround sound design. As argued by Mark Kerins (2006, 2011), these practices find prominence in the digital era of sound production. I am using the term in the context of discussing the digital era in Indian cinema to underscore the unique capacity of the surround design of sync sounds. I will thoroughly explain the term later in the dissertation.

these new developments signify, and how can they be understood from a historical perspective? Moreover, where can my own works as a sound art practitioner, stemming from sound training following traditional Indian cinematic practices, but working with site-specific field recordings, be situated within this development? This set of renewed inquiries has inspired me to take up the course of this research, and it is these broader questions that drive the project.

## **2. Research topic and research question**

The central topic of this research is *ambience* or, more precisely, *ambient sounds*.<sup>7</sup> Of course, academic attention for (locative background) sound in film studies is not new,

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<sup>7</sup> *Ambient sound* broadly denotes the background sounds that are present in a scene or location: wind, water, birds, room-tone, office rumbles, traffic, forest murmurs, waves from the seas shores, neighborhood mutters, etc. According to, for example, the online resources Media College (<http://www.mediacollege.com/audio/ambient/>), and the Oxford Dictionary, in the context of filmmaking, “*ambience*” consists of the sounds characteristic of a given location or space. This definition correlates *ambience* with other associated terms, such as *atmosphere*, *atmos*, or *background*. The resource-rich website [www.FilmSound.org](http://www.FilmSound.org) suggests: “*Ambience* pertains to the pervading atmosphere of a place.” *FilmSound.org* further claims that, “*ambience* is widely used as a synonym for *ambient sound*, which consists of noises present in the environment.” Drawing on these sources, I argue that these two terms belong to the same “family” of concepts in sound practice and theory and can be used interchangeably. However, etymologically, “*ambient sound*” underscores the material and functional aspects of the term, while “*ambience*” emphasizes the social and cultural connotations. In this sense it is, for example, understood and applied by researchers at CRESSON (Centre de Recherche sur l’Espace Sonore et l’Environnement Urbain / Research Center on Sonic Space and the Urban Environment). CRESSON reads *ambience* (or “*ambiance*” as they write it) as “a space-time qualified from a sensory point of view. It relates to the sensing and feeling of a place. Each *ambience* involves a specific mood expressed in the material presence of things and embodied in the way of being of city dwellers” (Thibaud 2011: n.p.). This definition underlines multi-modal rather than solely sonic experiences. Furthermore, the emphasis is on sociological research of the city. While this usage creates a useful concept for cross-referencing within the field of urban sonic environments, my research inclines towards emphasizing the materiality and functionality of environmental sounds in art works rather than the role they play within urban social issues.

although never systematically investigated. Therefore I intend to examine how ambient sound is used in the process of sound production, both in films and in field recording-based sound artworks, especially in my home country India. The focus of the investigation is on the processes of (re)constructing the presence of a site by means of ambient sounds recorded from that site. In film it is the fictional site, while in sound artworks it is the site for making field recordings with the purpose of developing an artistic production. What can we learn from the developments in Indian cinema with regard to ambient sounds? And what can we learn by comparing the way ambient sounds are used in movies and sound art?

The mediated worlds within any work of sound production emerge through the narrative and descriptive accounts of a place or a site<sup>8</sup> and through the recording and spatial organization of sounds. The audiences involve themselves with the site by recognizing its presence within this constructed world. The produced experience of presence may vary in degree and intensity, depending on the art and craft of the sound practitioners<sup>9</sup> and sound artists' intentions to attend to the sonic details of the site. The mediated world appears convincing if the resonance of the site reverberates in the ears of the audience and triggers their sonic sensibilities long after these works of sound production are experienced. It is no surprise then that the fundamental element of establishing a site's presence through sound is of foremost importance when it comes to convincingly conveying the narrative and descriptive account of a particular site. My use of the term "site" thus denotes a source of actual sonic components, which are collected as materials during sited recordings and which, as art critic and curator Miwon Kwon argues, are "based in a phenomenological or experiential

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<sup>8</sup> "Place" refers to generic locations that are local and governed by interpersonal, ecological, or political relationships (cf. Castells in Demers 2010: 114). "Site," on the contrary, is more specific. Site denotes a location of an occurrence or event where something important happens; it suggests a particular place that is used for a certain activity. Hence, I will use the term "site" more often than "place" to specify the sonic depiction of the particular location. In short, site in relation to sound is understood as situated, inextricably bound to a particular spot. Therefore, in this dissertation I employ the term "site" to denote the specificity of a particular place where ambient sounds are recorded.

<sup>9</sup> "Sound practice" is a broad term used throughout this dissertation; it encompasses sound recording, production mixing, dubbing, studio mixing, Foley, re-recording, and so forth. Likewise, the term "sound practitioner" accommodates all categories of sound professionals: location sound recordists, field recording experts, directors of audiography, Foley artists, sound designers, production mixers and mixing engineers, re-recording specialists, etc.

understanding of the site, defined primarily as an agglomeration of the actual physical attributes of a particular location" (Kwon 2002: 3). The broad, but often ambiguous use of the term "site-specificity" in the arts is problematic, as Kwon points out. Following her cautionary suggestions, I utilize the term "site-referenced," which refers the listener back to the site where the materials were originally collected, considering sound as a "signifier and the Site as that which is signified" (Alloway 1981: 42). In the context of film and (media) art production, Joanna Demers defines "site" more specifically in the context of sound art and field recording: "*Site* [...] entails not only the environments in which sound propagates but also those that listeners physically and metaphorically occupy" (Demers 2010: 113). As regards my usage, the term "site" connects to "physical conditions of a particular location as integral to the production, presentation, and reception of art" (Kwon 2002: 1).

This leads to the central research question of this dissertation: How is a site in films, as well as in sound artworks, (re)produced through ambient sound? There are certainly specific methods and creative strategies involved in constructing or evoking a relatively convincing presence of a site within the mediated environment by means of various forms and formats of sound recording and spatial organization of recorded sounds. However, to *what degree* can presence be achieved in sound practice? Or does the site remain elusive within the sonic experience?

This research project has been delimited by sound practices in Indian cinema. The reason is threefold. First, my own educational background is rooted in Indian cinema. Second, I have had access to a large repository of Indian films as well as to the experiential knowledge of acquaintances and contacts, established and eminent practitioners of sound in the Indian film industry. Third, and most importantly, Indian cinema is the world's largest producer of films, with a diverse set of practices and approaches in need of critical attention and that provides fertile ground for the production of new knowledge. The conceptual insights and findings derived from this research project can perhaps also be used for studies of (film) sound in other world cinemas. Besides, the study of ambient sound in Indian movies could be considered as a proper supplement to the field of Sound Studies.

It has been my aim to question the classical assumptions about sound in film (e.g. image-based relationships), and to shift the focus toward the notion of carefully constructing the

site's presence in the film's diegetic world<sup>10</sup> as a vital narrative strategy. The emphasis on "site" will enable the study of the similarities and differences between location recording of ambient sounds made for the purpose of constructing the site within the interior world of the film production, and field recordings used in certain site-driven sound artworks and compositions. It is my belief that examining these similarities and differences can be considered essential in the production of novel and relevant new knowledge, a specific set of knowledge that can also contribute to the notion of "best practice"<sup>11</sup> in film sound production by questioning and reshaping this notion through sound art.

## **2.1 Ambient sound in films**

Let us first consider the role of ambient sound in films. Since a substantial amount of sound production scholarship is based on the analysis of film sound, a clearer picture of the context of the project can be drawn by beginning with an exploration of ambient sound in film. It is my primary assumption that film sound practitioners choose to use certain layers of ambient sound among a multitude of other recorded sound components, incorporating them in the strategy of narration in such a way that they produce a spatial realization of presence of the site in the diegetic world. Veteran sound designer Anup Deb for example states that "ambience creates the location where you are [...] and with this ambience you create that location."<sup>12</sup> The absence or relative inclusion of ambient sound in the sound organization determines qualitative degrees and intensities of the site's presence.

Film sound scholars point toward the spatial, enveloping properties of ambient sound. Take for example David Sonnenschein, who suggests that ambient sound can "create a space within which the audience can be enveloped" (Sonnenschein 2001: 47). Film scholar Béla

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<sup>10</sup> In film, the term "diegetic" typically refers to the internal world created by the story that the characters themselves experience and encounter, the narrative "space" that includes all the components of the story-world, both those that are and those that are not actually depicted on the screen. I will explain the crucial term "diegesis" in a following sub-chapter.

<sup>11</sup> A best practice is a method, technique, or approach that is generally considered as better than its alternatives because it produces results that are allegedly or within a specific context superior to those achieved by other means of production, or because it has become a standard way of doing things in compliance with certain aesthetic references. Best practices are used as an alternative to mandatory legislated standards to maintain quality and can be based on self-assessment or benchmarking.

<sup>12</sup> See the interview with Anup Deb in the Appendix, page 24.

Balázs proclaimed that it is sound's business to reveal the acoustic environment, the landscape that we experience everyday as the "intimate whispering of the nature" (Balázs 1985: 116). Theories of spatial cognition also suggest that natural site-specific environmental sounds can reinforce spatial aspects of perception "focusing primarily on perception of sound-source direction" (Waller and Nadel 2013: 83). These varied perspectives inform us about how ambient sounds provide depth and a spatial dimension to a particular filmic sequence by establishing an environment conducive to eliciting a cognitive association between audience and site, reinforcing "the impression of reality" (Percherron 1980: 17). In film sound, the organization and design of ambient sound completes the perception of reality in terms of direction and localization, enabling the audience members to relate to the specifics of a site's sonic environment. As Anup Deb claims: "Basically ambience is very important as far as the film is concerned because it creates the locale."<sup>13</sup>

Film sound theorist Tomlinson Holman states that "ambience most typically consists of more or less continuous sound, often with a low-frequency emphasis we associate with background noise of spaces" (Holman 1997: 177). The advent of digital recording makes it possible to record these deep layers of low-frequency sounds (Kerins 2011). Earlier recording media – namely analogue optical recording and analogue magnetic recording, with their limited dynamic range – were less capable of capturing the full spectrum of ambient sounds, thus negatively affecting the way the fictional sites were narratively portrayed.

If we look at the trajectories of sound production within Indian cinema, we can observe shifts in the practices of recording sites, enabling us to loosely delineate various phases of production practices. In an interview I conducted with sound mixer Alope Dey, he refers to this chronological order of technological innovations: "Ultra stereo, they got it first before Dolby. And then so many films we did after that in that format. Then Dolby came to India with their SR unit, which is a noise reduction unit for music purpose. Then they introduced Dolby SR, then 5.1, 6.1, 7.1 and Atmos."<sup>14</sup> There have been phases of sound production such as the dubbing era (1960s–1990s) that cared less about the site, giving more importance to typical narrative tropes such as song and dance sequences. However, there are also phases such as the digital era (2000s–) where a more "realistic" and concrete representation of sites can be observed. The dominant factors that have determined these shifts are rooted in technological developments (Kassabian 2013; Kerins 2011, 2006; Lastra

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<sup>13</sup> See the interview with Anup Deb in the Appendix, page 25.

<sup>14</sup> See the interview with Alope Dey in the Appendix, page 5.

2000; Altman 1992), while certain aesthetic choices became available as a result of the historical evolution of sound production. This history needs to be studied in order to understand the various differing and concurrent practices, methods, and approaches as well as the shifts in the practices surrounding the recording and designing of ambient sounds for narrative purposes, whereby the presence of the site is (re)produced – during the transformation of the “pro-filmic space” (Lastra 2000) into the film space – through sound editing and organization.<sup>15</sup>

Based on these developments I will study the nature of ambient sound’s usage in various corresponding and intercepting phases of recording and sound production in India in sound practice. For methodological clarity, I will divide the history of Indian cinema in three separate periods: (1) analogue recording (direct optical), synchronized sound, monaural mixing (1931 – 1950s); (2) analogue recording (magnetic), dubbing, stereophonic mixing (1960s–1990s); and (3) digital sync recording and surround sound design (2000s–). Critical listening, informed reflections, and analyses of certain passages of sound from representative Indian films from these three phases of sound production qualify the evidential component of this study as following a top-down approach. The quality, texture, depth and other typical onsite characteristics of ambient sound recording, as well as the aesthetic choices of sound organization in the spatial settings of various post-production stages, have substantially changed along with technological shifts, corresponding to as well as intercepting periods of predominant modes of sound production. Hence, it is necessary to study the contemporary practice of digital tool use and techniques in the light of the

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<sup>15</sup> The term “film space” is defined as the space that the spectator encounters, a space that is organized through time, e.g. the temporal linking of shots through sound editing. According to, among others, David Sorfa (2014) and James Lastra (2000), the area in front of the camera’s recording field is known as the “pro-filmic space.” Film scholars Annette Kuhn and Guy Westwell define pro-filmic space in *A Dictionary of Film Studies, Oxford Reference* as “the slice of the world in front of the film camera; including protagonists and their actions, lighting, sets, props and costumes, as well as the setting itself, as opposed to what eventually appears on the cinema screen. In studio-made fiction films, the profilmic event is a set constructed for the purpose of being filmed. At the other extreme, in observational documentary forms like direct cinema, filmmakers seek, as a fundamental element of their practice, to preserve the integrity of the real-life space and time of the profilmic event. Many films occupy a middle ground in their organization of, or relationship with, the profilmic event: as for example in the case of location-shot” (Kuhn and Westwell 2015: n.p.).

previous production phases in order to address the main topic of this research in a historically comprehensive and scholarly manner.

As we know from film sound scholars, most commercial American cinema has consistently utilized clean layers of ambient sounds in order to “help to develop the atmosphere and to range the image on screen into space and time” (Ribrant 1999: 19). Technological developments in the digital era – the systematic use of ambient sounds and surround design (Holman 2002; Kerins 2011) – facilitated attaining “a thicker, more realistic, sound score [...] and help the audience in their spatial orientation” (Ribrant 1999: 20). However, Indian cinema is notorious for producing sonic experiences incorporating an overwhelming use of song and dance sequences where location-specific ambient sounds are generally given little attention and often ignored (Rajadhyaksha 2007; Gopalan 2002). There are indeed many examples from popular Indian films in which ambient sounds are kept at bay, mostly in the interest of a loud and colorful setting, providing a detached and imaginary cinematic landscape of auditory spectacle in which the site is predominantly absent in the narration, offering a transient moment of escape for the spectator. I will show that this general perception might be erroneous when historical trajectories are taken into consideration. Especially the advent of digital technology was successful in incorporating rich layers of ambient sound components within the production schemes of sound organization. A thorough study of the historical trajectories of sound production leading to the contemporary digital domain, specifically focusing on the use of ambient sounds, will help to contextualize my critical listening, inquiry, and analyses.

## **2.2 Ambient sound in sound art**

This historical trajectory may also be significant and relevant while discussing and situating sound art developed from field recordings within a contemporary context. I will argue that in sound art the functional aspects of ambient sounds are often dissolved for the purpose of embracing artistic imagination and transformation. However, in the context of sound art, the word “ambient” relates to a rather obscure understanding of environment or atmosphere (Böhme 1993), leading to terms such as “environmental sound art.”<sup>16</sup> No wonder sound artist and theorist Seth Kim-Cohen criticizes the art world’s recent fascination with an

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<sup>16</sup> The term “environmental sound art” has been coined by some sound artists and incorporates processes in which the artist actively engages with the environment; See: <https://global.oup.com/academic/product/environmental-sound-artists-9780190234614?cc=dk&lang=en&#>

ambient aesthetics in his book *Against Ambience* (2013). Here “ambience” is understood as the soothing atmospheres that prevail in contemporary sound art exhibition contexts. He identifies a non-critical attraction for immersive experiences that tend to “wash over the senses.” He argues that a strong emphasis on the ambience enhances an alleged perceptual immediacy at the expense of conceptual rigor. Kim-Cohen’s analysis thus heavily critiques what he calls the “ambient aesthetics” of contemporary sound art as “a move toward unmediated experience without concepts.”<sup>17</sup> His views do not, however, allow revealing the deeper ramifications and implications of “ambience” in Sound Studies, as I will contend further.

Ambient music pioneer Brian Eno has defined ambience in the liner notes of *Music for Airports* (1978) “as an atmosphere, or a surrounding influence: a tint” (Eno 1978). This sense of subdued coloring indeed permeates the field of ambient music. However, Eno’s definition shows a tendency to make an easy association between ambient music and ambience. In opposition, I will argue that correlating ambient music readily to ambient sounds or ambience is debatable. As Joanna Demers has shown, ambient music “uses a slew of methods to make it sound as if it lacks a foreground and thus easily melts into its surroundings” (Demers 2010: 117), and thus, as David Toop suggests (1995), hints at an imaginary environment rather than imposing one. I will show that ambiances emerge from specific sites and that their site-specificity cannot be easily erased through artistic transformation.

Contributing to the discussion, Ulrik Schmidt (2012, 2013) has proposed the term “sonic environmentality” to denote an aggregation of the ways ambient sound can affect us. The concept of sonic environmentality further opens up the discourse by making a distinction between three major forms or dimensions: the ambient, the ecological, and the atmospheric. This threefold dissection of ambience helps to create a deeper engagement with the term in a comprehensive understanding. My project intervenes in the discourse by considering ambient sound as a material layer in the hands of sound practitioners and artists. Specifically, I inquire into the ways in which they sculpt the conditions of a relative presence (or absence) and embodiment (or deliberate abstraction) through the mediated processes of recording and spatial organization in the attempt to (re)produce a site’s specific atmosphere.

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<sup>17</sup> See: <https://earroom.wordpress.com/2013/12/04/seth-kim-cohen/>

### 3. Context

From the very advent of sound in cinema, ambient sound has been a practical concern in film sound production, firstly/negatively as unwanted "background noise" from the location and secondly/positively as site-specific information to be included in the diegesis. It is obvious that the latter explains the relevance and role of ambient sounds in sound production. Every site depicted in a story contains distinct and subtle sounds emanating from the environment. These sound sources can include wind, rain, running water, rustling leaves, distant traffic, aircraft and machinery noise, the sound of distant human movement and speech, creaks and pops from thermal contraction, air conditioners and plumbing, fan and motor noises, the hum of electrical machines, room tones, etc. Although film sound has received extensive academic interest, much of this attention has been invested in explaining the role of the voice and music in relation to the visual image (Chion 1994, 2009; Gorbman 1987). Natural, environmental, or atmospheric sounds have largely remained underexplored, although these specific layers of sound carry the primary spatial information for constructing a site's "presence" (Doane 1985; Skalski and Whitbred 2010; Grimshaw 2011; Reiter 2011; Lombard and Ditton 1997) through an interplay between "diegesis" (Percheron 1980; Burch 1982) and "mimesis"<sup>18</sup> (Kassabian 2013a; Weiss 2011). Therefore, ambient sound deserves careful attention and in-depth analysis.

In film sound research to date there is indeed little discussion about the practice and implications of using location-specific ambient sounds and the specific purposes they serve. Few early writings on film sound have mentioned the environmental or atmospheric potential of ambient sounds. If we take one such an exception, Béla Balázs proclaimed in his article "Theory of the Film: Sound" that:

It is the business of the sound film to reveal for us our acoustic environment, the acoustic landscape in which we live, the speech of things and the intimate whisperings of nature; all that has speech beyond human speech, and speaks to us with the vast conversational powers of life and incessantly influences and directs our thoughts and emotions, from the muttering of the sea to the din of a great city, from the roar of machinery to the gentle patter of autumn rain on a windowpane. (Balázs 1985: 116)

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<sup>18</sup> I will explain these crucial terms in the sub-chapter "Concepts."

With such a passionate and ardent utterance regarding the roles played by natural environmental sounds in cinema and a prescription of what film sounds should be including and incorporating in order to (re)present nature, Balázs, already in the early years of sound films, suggests the strategy of incorporating location-specific environmental sounds or ambient sounds. His enthusiasm, however, is not reflected in ensuing studies on film sound.

In the works of Rick Altman (1980, 1985, 2001, 1992, 2012) the technological development of sound in cinema is articulated, and its ramifications in aesthetic choices are analyzed in the light of sound-image relationships. However, ambient sound's usage is hardly addressed in his analyses, and the sound-site relationship is not discussed at all. Michel Chion's influential writings (1994, 2009) on film sound do not show considerable interest in addressing the role of ambient sound in cinema either. The next generation of scholars addressing sound technology, sound practice, and sonic aesthetics in cinema – such as Mark Kerins (2006, 2011), Tomlinson Holman (1997, 2002) and David Sonnenschein (2001) – do mention ambient sound as a specific layer of sound design, but their writings do not consider the complex relationship between sound and site. A number of recent works do address various aspects of film sound, from synchronization to the Dolby digital era of surround sound. I make a preliminary literature review of these works below and attempt to posit my project within the current research on film sound, stressing its specific contribution.

In his book *Occult Aesthetics: Synchronization in Sound Film* (2014), film scholar Kevin Donnelly offers perhaps the first sustained theorization of synchronization in sound film. Donnelly addresses the manner in which the lock of the audio and the visual exerts a perceptible synergy, an aesthetic he dubs "occult": a secret and esoteric effect that can dissipate in the face of an awareness of its synergetic workings. The book investigates points of synchronization as something like repose, providing moments of comfort in a potentially threatening environment possibly fraught with sound and image stimuli. Correspondingly, a lack of synchrony between sound and image is characterized as potentially disturbing for an audience, a discomfort that signals moments of danger. From this perspective, the interplay between the two becomes more generally the central dynamic of audio-visual culture, which, as Donnelly argues, provides a starting point for a new understanding of audio-visual interactions. This fresh approach to the topic is discussed in theoretical and historical terms as well as elaborated through analyses of and references to a broad selection of films and their soundtracks. Nevertheless, ambient sound is hardly covered in the discussion.

Drawing upon works from the past two decades as well as a collection of interviews with sound designers, sound mixers, and editors, Mark Kerins in his book *Beyond Dolby (Stereo): Cinema in the Digital Sound Age* (2011) uncovers how digital surround sound has affected not just sound design, but cinematography and editing as well. The book includes detailed analyses of a number of American films and their soundtracks. Kerins does mention ambient sound as a specific layer of sound design in digital cinema systems, imparting more spatial information as compared to earlier eras (monaural and stereophonic) of sound production. But his discussion does not consider the complex relationships between sound and site.

Film sound scholar Andy Birtwistle's book *Cinesonica: Sounding Film and Video* (2010) explores previously neglected and under-theorized aspects of film and video sound, drawing on detailed case studies of Hollywood cinema, art cinema, animated cartoons, and avant-garde film and video. Adopting an interdisciplinary approach to the study of the soundtrack, and breaking away from the focus on narrativity and signification that has tended to dominate the study of film sound, the book examines the way in which sound's materiality figures within audiovisual experience. Through a close examination of sound-image relations in a range of film and video forms and genres, including cartoons and scratch video, the book recasts text as the meeting point of audio and visual materialities. Covering topics such as deconstructive film practice, the sound of old films, electronic sounds, and audiovisual synesthetic experience, the book draws on theoretical resources of Sound Studies, musicology, and post-structural theory to provide an alternative to established models of film analysis. Proposing that film and video sound cannot be examined in isolation from the image, the book discusses the temporal, historical, morphological, affective, and sensory dimensions of audiovisuality and asks how sound-image relations might be considered in political terms. Birtwistle's work acknowledges that contemporary sound practices derive the larger part of their impetus from experimental artists. Specific attention for site-specific sounds in films could, perhaps, be traced back to the experimental compositions of, for example, Luc Ferrari and Jean-Claude Risset as well as to the works of film director Walter Ruttmann. The interdisciplinary approach adopted by Birtwistle makes the discussion of sound of interest to those working in a range of disciplines, including film studies, Sound Studies, sonic arts, cultural studies, music, and art history. However, the book does not show specific interest in the exploration of ambient sound.

Kim-Cohen in his book *Against Ambience* (2013) diagnoses the art world's recent turn toward ambience. As explained earlier, Kim-Cohen understands "ambience" as the easy and comforting wash of environmental sounds that dominate recent sound art exhibitions. His

discussion does not expand towards film sound and does not consider the roles of "ambience" in cinema or sound art as an essentially site-specific element.

The books mentioned above use distinct points of entry in approaching the question of audio-visual relationships (Donnelly; Birtwistle), the digital/technological changes impacting aesthetic choices in film sound (Kerins), or the loose "ambient ethos" in the recent works of sound art (Kim-Cohen). They, however, do not read ambient sound as a potential source of site-specific evidence to be considered for in-depth analysis and further investigation. There is indeed no comparable work on ambient sound to date. From that vantage point, this dissertation tries to offer a comprehensive understanding of the underexplored field within film studies beyond the obvious studies in audio-visual relationships. The research is furthermore expected to contribute to a discourse in Sound Studies concerning the evolving relationship between site and sound approached from an artistic and practice-based perspective.

### **3.1 The audio-visual relationship**

The past few decades have seen the establishment of specialized scholarship for the study of film sound. The early writings of Rick Altman and Tom Levin on the history of sound technology have been instrumental in this developing field, examining sound's relationship to the moving image. Chion's seminal works, *Audio Vision* (1994), for example, have also contributed to these canonical texts on film sound as a corpus of developing knowledge focused on understanding the audio-visual relationship operating on the screen. These writings have consistently studied sound in relation to the visual image, whereby sound has been regarded as an element predominantly enhancing the cinematic narrative, a reinforcement of the visual testimony on screen, and/or underlining the emotive potential of a scene. This scholarly stance considers the "soundtrack" as a secondary and one-dimensional accompaniment to the visual storytelling without enacting an autonomous impact on the multi-sensory cinematic experience. In recent works, however, an apparent shift seems to be emerging. Among contemporary scholars, Giorgio Biancorosso (2009) questions the overarching comparisons of sound with image and emphasizes the role of sound and the potential of listening by taking sound as a specific and separate area of research. The idea that sound can be studied separately from the moving image, and that sound in movies is more than the flat and screen-centric soundtrack following the visual narrative, has destabilized the notion of a "soundtrack." This term has retained its historical

relationship to an optical track on the filmstrip, mixed with music, thus retaining a sense of linearity and one-dimensionality.

Following Biancorosso, I will assert that "soundtrack" is a limiting term. This is particularly true for the production methods available in the digital realm, due to the fact that the effects of surround practices utilizing ambient sound transcend a linear representation of the soundtrack and develop into a spatially evocative sound environment that creates an elaborate and fluid cinematic space in which the epistemological grounding of the sounds (Branigan 1989), as related to their respective screen-centric visual referents, is reordered. The wider off-screen diegetic space available with digital cinema systems (Kerins 2006, 2011) appears to be immersive and expands toward providing an embodied experience for the listening audience; it also opens up the possibility of multiple interpretations of sound through subjective positioning. This new setting leads to an interactive sonic space (Dyson 2009) that often appears to unfold itself beyond the visual image and constraints of the screen. Ideas about this interactive, fluid, ambient, and flexible sonic space, seemingly unhinged from the constraints of the screen or an implied objectness of sound, can help the listener comprehend developments in the relatively independent and autonomous practice of sound art in India.

### **3.2 Sound Studies**

Ambient sound as a concept gains currency in contemporary studies of sound, both in films and in field recording-based sound art, ever since digital technology made it possible to easily record sound with high fidelity and precision from the actual location and (re)construct it in various possible spatial organizations of sound. In contemporary media scholarship this is often called the "spatial turn." Andrew J. Eisenberg notes that "the increasing recognition of the intimate links between sound and space may be attributed to a confluence of scientific and technological developments in the latter half of the twentieth century, including the development of travelling-wave models of auditory perception and the rise of multichannel audio recording and playback" (Eisenberg 2015: 195). I will show that in the digital realm of sound production, the capacity for multichannel audio recording, and playback helped to accelerate this shift toward a spatial sensibility in film sound. This shift is linked to the emergence of sound art in India and also related to an intellectual shift in the social sciences and the humanities, placing an emphasis on place, space, and site. I consider this spatial shift as the *raison d'être* of this research. The present time, with the emergence and rapid establishment of Sound Studies as a vibrant academic field, indeed seems felicitous for

these considerations. A critical listening, informed inquiry, and in-depth analysis of the generally ignored field of ambient sounds will engage with pertinent spatial discourses in Sound Studies. This context will be a useful framework for analyzing artistic production that uses ambient sound as its primary material. Drawing on the notions of ambient sound in the studies of film sound production, the discussion on sound art can focus on the more subjective means by which a site is addressed.

### **3.3 Film and sound art**

The reason to choose both films and field recording-based sound artworks as my cases of inquiry is twofold. Firstly, as I have already mentioned, it is a personal trajectory that I am trying to trace. Secondly, and most importantly, both film and field recording-based sound art are developed through the recording of sounds from sites for the purpose of narration and/or providing a descriptive account of those sites. Besides field recording practices, it is the cinematic medium that provides the scope and incentive to “record sound from a landscape so extensively” (Chattopadhyay 2007: 110). Moreover, in the contemporary form of sound production, the art of producing and delivering spatially engaging and immersive sound experiences have been awakening increasing interest from not only film-goers but also enthusiastic audiences of contemporary sound art. What needs to be investigated is the way in which the technology has been developing, and thus changing, sound recording and production processes designed to handle the subtleties of site-specific and atmospheric potentials of ambient sounds. This project will look at what has not been yet discussed and will build on existing research to demonstrate how sound production has been developing before, as well as through, the advent of digital multi-track recording and surround sound mixing in cinema as well as how these technologies and tools have impacted sound art. Therefore, I believe that a study of the production processes geared toward narrating and describing a site and reconstructing its presence by means of ambient sounds should take into account both the fields of cinema as well as sound art for the research to be comprehensive and useful. Hence, it is of crucial importance that the study deals with the similarities and differences between sound artworks based on field recordings (not always providing a realistic [re]presentation of a site) and the layers of ambient sound in film (attempting to produce a realistic auditory setting – at least in the digital era – by [re]presenting a site). Therefore, these similarities and differences will be discussed to shed light on how sound art can influence and substantially inform the so-called best practices of film productions while concurrently taking a critical approach towards the notions of narration and presence.

## **4. Justification**

### **4.1 The role of ambient sound**

While changes in visual elements are related both to the diegetic world of film and its perceivers, changes in the aural elements are first and foremost related to activities in the film's interior physical or material world (Branigan 1997; Langkjær 2000, 2006). This is because sound in film is fundamentally linked to perceptual processes that reveal the physical aspects of the fiction. Even film theorist Siegfried Kracauer, who emphasizes that cinema is primarily a visual medium, notes that sound in films has "the quality of bringing the material aspects of reality into focus" (Kracauer 1960: 124). This reading makes sound a central provider of information about the material world unfolding in the filmic environment, and explains why sound, more than image, is able to give an embodied experience<sup>19</sup> of a site recorded from the pro-filmic space and constructed carefully in the film space during the production process. Audiences are highly sensitive to the sounds included in the storytelling. Remove the sounds, and see how the entire filmic world collapses.

But first of all, let us evaluate this assumption: why is it that ambient sound is most effective when sculpting a spatial sensation and an embodied experience of site, more so than other layers of sound, such as voice, music, and sound effects? Among these layers, voice includes dialogues between characters, thus relaying the primary narrative information (Bordwell 1997). Amy Lawrence argues that in narrative cinema "the synchronization of image and voice is sacrosanct" (Lawrence 1992: 179), emphasizing the necessity of a stricter method of sound production when dealing with voice, which must be connected to a "body" on the screen. Mary Ann Doane affirms that dialogue or the use of the voice "engenders a network of metaphors whose nodal point appears to be the body." She further states that the sound of the character's voice is strictly "married to the image" (Doane 1985: 162-3). In view of these arguments, voice in cinema is simply less "spatial" in nature, making it more creatively limited as a sound component when compared to ambient sounds. The post-synchronized voice, produced by dubbing or similar practices, is "disengaged from

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<sup>19</sup> "Embodied experience" is defined by scholars of digital media as a state of "being surrounded by simulated sensorimotor information in mediated environments that create the sensation of personally undergoing the experience at that moment." (Ahn 2011: iv). I am using the term in the context of this discussion of the digital era of film sound production to underscore a unique capacity of sync sound and surround sound design.

its 'proper' space (the space conveyed by the visual image) and the credibility of that voice depends upon the technician's ability to return it to the site of its origin" (Doane 1985: 164). This return to the original site can be achieved by the technician's creative and innovative use of ambient sounds.

In films, music usually triggers feelings and emotions. Film music is used "largely to set mood or elicit a particular emotional response from the audience" (Kuhn and Westwell 2014). Film music tracks and sound effects "establish a particular mood" (Doane 1985: 55) instead of providing a sense of space. Sound effects are also important for the narration and for creating feelings of, for example, tension and horror. In the mixing stages, the hierarchy of different sound components usually follows specific conventions: "Sound effects and music are subservient to dialogue and it is, above all, the intelligibility of the dialogue which is at stake, together with its nuances of tone" (Doane 1985: 55). In this hierarchy of sonic elements, ambient sound remains fluid and malleable.

On the other hand, ambient sound can provide the specific atmosphere of a site in the production of a "reality" inside the film space. To sound practitioners,<sup>20</sup> ambient sound injects life and substance not only to what we see on the screen but also to the off-screen diegetic space. The practitioners use layers of ambient sound to construct the perceptual experience of reality by artistic means (Chaki 2017: 96).<sup>21</sup> Ambient sound helps to ground the sense of a specific place (Subramanian 2017: 83) in a way no other layer of sound can.<sup>22</sup> These practical considerations and the creative perspectives of sound practitioners underscore the spatial nature of ambient sound as compared to the other sound components.

The American film theorist and audio engineer Tomlinson Holman informs us that there are various kinds of ambient sounds used in film sound production: they can vary from the characteristic natural environmental sounds of a given outdoor site to the indoor "room tone."<sup>23</sup> Room tone is the low-frequency ambient sound of an indoor space that comes to the fore when all the actors are silent; it is the sonic layer that is significantly capable of

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<sup>20</sup> See the Appendix for in-depth conversations with prominent Indian sound practitioners, speaking about the various ways they use ambient sounds in cinema.

<sup>21</sup> See the interview with Dipankar Chaki in the Appendix.

<sup>22</sup> See the interview with Dileep Subramanian in the Appendix.

<sup>23</sup> See: <http://filmsound.org/QA/vocabulary.htm>

transmitting the characteristic auditory details of a particular indoor location. In this respect, Holman suggests that “ambience most typically consists of more or less continuous sound, often with a low-frequency emphasis we associate with background noise of spaces” (Holman 1997: 177). The advent of digital recording makes it possible to record and (re)present a deep layer of low-frequency sounds (Kerins 2011). Earlier recording media, analogue optical recording and analogue magnetic recording, with their limited dynamic ranges, were less capable of capturing the full spectrum of locative ambient sounds, such as the elusive layer of a room tone. The low frequency content, such as rumbles and room tone in digitally recorded ambient sound layers, arguably contributes to a sense of embodiment. An embodied experience of sound in cinema is provided by a full-frequency multi-track digital recording of site-specific bodily-perceptible ambient sounds, later diffused through a multi-channel surround sound design. As rightly argued by Kerins (2006, 2011), this sense of embodiment through bodily-perceptible low frequency sounds finds prominence in the digital realm of sound production – an important aspect for sound design practices, where this capacity is termed “adding body to the sound.”<sup>24</sup> The concept of embodiment draws from the phenomenology of sonic perception. French philosopher Maurice Merleau-Ponty has argued that perception is the product of a multisensory relationship between the individual’s “body” and its surroundings as a whole (Merleau-Ponty 2005: 273). Don Ihde resonated with similar views, claiming: “I do not merely hear with my ears, I hear with my whole body” (Ihde 2007: 44), substantiating embodiment as a useful concept in discussing ambient sound.

Ambient sounds are not always directly anchored to the specific sources visible on the cinematic screen, unlike voice and effects, which usually emanate from the respective characters or objects onscreen (Kerins 2011; Holman 2010), the exception being certain non-diegetic usages, such as voice-overs. This particular attribute of ambient sound gives it relative freedom when compared to other sound components (Chatterjee 2017: 84), allowing it to be perceived as an autonomous element and heard outside the constraints of the visual image.<sup>25</sup> This creative autonomy also allows sound practitioners to use ambient sounds more freely and independently, exploring their spatial characteristics and site-specific associations. Therefore, the perspectives of Sound Studies, in which the spatial

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<sup>24</sup> See the Appendix for interviews I conducted with various renowned sound designers, production mixing specialists, mixing engineers, sound editors, and location recordists.

<sup>25</sup> See the interview with Biswadeep Chatterjee in the Appendix, page 84-85.

characteristics of sound are investigated, are taken into account in this research as pertinent and useful.

As I have already discussed in the previous subchapter, Sound Studies has emerged and rapidly established itself as a vibrant and productive academic field, co-created through the recent flux of investigative scholarship. Two consecutive compendia, *The Routledge Sound Studies Reader* (2012) and *The Oxford Handbook of Sound Studies* (2013) have been followed by a number of peer-reviewed journals, such as *The Journal of Sonic Studies* and *Ear | Wave | Event*, that are entirely dedicated to the studies of sound. These examples demonstrate that Sound Studies is currently a rewarding area of research receiving wider academic attention. In this unfolding and intensified discourse on sound, in-depth studies as well as inspired and dedicated inquiries into the production of film sound and sound art should be welcome and well-accommodated. Jay Beck and Tony Grajeda quote Rick Altman in the introductory chapter "The Future of Film Sound Studies" to their edited anthology *Lowering the Boom: Critical Studies in Film Sound* to emphasize the appropriateness and legitimacy of specialized and in-depth investigations in film sound "within the growing field of Sound Studies" (Beck and Grajeda 2008: 1). In this context, my research can be seen to be in dialogue with an integral area of current discourse in Sound Studies.

Film scholars have already pointed out that technical advances in cinema have affected the spatial aspects of sound creation (Bordwell and Thompson 1985). I hypothesize that the evolving spatiality in cinema is primarily supplied by additional layers of ambient sounds, while other layers, such as voice and sound effects, have continued to remain largely screen-centric throughout the technological transitions from monaural and stereophonic to the contemporary digital surround environment. There are instances of voice carrying spatial information, particularly in the case of a digital multi-track sync sound practice, as Kerins shows (2011). Instead of dubbing inside an inert studio – a practice that was standardized in many national cinemas for the larger part of late 20<sup>th</sup>-century cinema history (1950s–2000) – the sync track would include some spatial information directly recorded from the location. This would add to the overall sense of a site-aware experience, but it is the layer of ambient sound that would carry the *primary* spatial information as well as being the basic tool in the hands of sound practitioners to (re)construct the site and to enhance the "ultrafield" of the

sonic environment (Holman 2001; Kerins 2011).<sup>26</sup> Following this argument, my dissertation extends beyond other research on voice and background music, focusing instead on the ramifications of the implementation of ambient sounds on and beyond cinema.

#### **4.2 Ambient sound and digital technology**

Historically, the sole reliance on voice to carry out the primary threads of a narrative has been decreasing ever since other channels of sound have been opened up to distribute the screen-centric appeal of films towards an expanded cinemascope and surround sound (Rogers 2013). This development can be seen as a shift away from the “vococentricity” of cinema (Chion 1994) to a more inclusive realm of digital systems. Since the 1990s, a large-scale conversion from analogue recording, analogue production practices, and optical film exhibition to digital technologies has taken place. Digital technology has been integrated into the production and post-production stages of filmmaking. The ramifications of these developments have been far-reaching; it is particularly evident in the way cinematic experience has changed through the use of sound, such as multi-track synchronized sound recording and surround sound design. In very recent times, digital multi-channel surround sound systems like Dolby Atmos or Auro 3D have altered the way in which the film “soundtrack” is rendered and organized. These newer environments have reconfigured the audience’s experience of the film space, diverging considerably from earlier predominantly screen-centric mono- and stereophonic settings, integrating and augmenting the desired aesthetics into the surround environment through a reordering of the spatial organization of film sound. Following these transitions, contemporary cinema facilitates specific practices involving ambient sound to create cinematic experiences that, as I will show here, are spatially wider, more elaborate, and relatively fluid compared to the screen-centric monaural soundtrack or the flat surface of a stereophonic composite soundtrack, slightly wider but still constrained to the two-dimensional frame of the screen. These earlier organizations of film sound offered an anchoring of the story-world narrated on the screen, altogether ignoring the site specificities in the diegesis and instead evoking sound’s emotive potential by using post-synchronized effects and background music. I will argue that digitalized sound practices have been incorporating the multi-channel surround design of ambient sounds that handle the site in spatially perceptible ways, rather than catering to a voice and screen-oriented audio-visual contract as postulated by Chion earlier.

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<sup>26</sup> “Ultrafield” is an extension of the term “superfield” that Michel Chion used to describe Dolby Stereo and refers to a new form of sound-derived spatial configuration associated with digital sound systems.

Chion's views of film sound (1994, 2009) may appear outmoded in current analyses of sound practices that enable more layers of sound to be included in their spatial organization. Contrary to what Chion had envisioned, today's multi-channel universe of film sound builds surround environments, assuming that audiences will understand that sounds originating in the surround channels are part of the same diegetic space as those originating onscreen (Kerins 2011), expanded with elaborate details beyond the screen. Innovative practices with sound in the digital realm lead to new experiences in which audiences engage with cinematic sites through immersive listening, employing a spatial cognitive engagement with sound. These practices need new theoretical models and approaches to expand those already existing (e.g. Chion). These new approaches should include studies of sound that look and listen beyond the domination of the moving image, with its screen-centric tendencies. In this context, my project enables a novel framework for studying the increasingly important layers of sound included in the digital realm and explores sound's spatial capacity to enrich the cinematic experience. The "spatial turn" (Eisenberg 2015) in sound production, manifested by the use of ambient sound, will be studied in the light of its development from monaural synchronized sound recording and post-synchronous dubbing to the contemporary digital multi-track synchronized or "sync" recording, as well as from monaural and stereophonic mixing to digital surround sound design, thus putting the studies of ambient sound within a historical context. Because the knowledge pool of film sound research used here primarily refers to American cinema, a study of the use of sound in Indian cinema can be considered a useful addition. As the current relevant literature on sound in films almost always emerges from the perspective of commercial films, most often those produced in Hollywood, the frequent references to that specific literature constitute the project's epistemological grounding on which the examples from relevant Indian films can be theorized, contextualized, and critically analyzed.

Hence, in this dissertation, I will investigate the capacity of ambient sounds to sculpt the presence of the site, bringing in a much-needed focus on the complex relationship between sound and site beyond the predominantly image-centric studies in film. Instead of relying on the traditional theories of film sound, with its typical underscoring of the sound-image relationships, I intend to shift the emphasis toward the spatial aspects of sound production, partly by expanding the discourse towards field recording-based sound art. Exploring concepts like diegesis, mimesis, and presence from the growing theoretical corpus of Sound Studies, I will reformulate the Schaferean notion of the soundscape to include a discourse surrounding site-specificity of ambient sounds. In the second part of the dissertation, a few

field recording-based sound artworks produced in India will be discussed to illustrate the technologically-intersecting but aesthetically-different development of sound art dealing with site-specific issues. The discussion will enable informed comparisons between the specifics of film sound and contemporary sound art productions.

## **5. Key concepts**

### **5.1 Diegetic sound**

Often cited in film theory is the Greek notion of storytelling, *diegesis*, which denotes using a narrative<sup>27</sup> process to construct the “diegetic world,” which, as Mary Ann Doane has noted, is the internal space of the cinematic universe framed and constructed by the technical tools of filmmaking. Translated to sound, this term could be understood to relate to the environmental, incidental and other location-specific sounds that are made to emanate from the story space in which events occur (Doane 1985). Claudia Gorbman defines *diegesis* as “the narratively implied spatiotemporal world of the actions and characters” (Gorbman 1987: 21). Both Doane and Gorbman use the terms “space” and “world,” underscoring the constructed nature of the film space during narrative storytelling. The term “diegetic sound” helps us to consider the sounds that inhabit the constructed world and whose sources are visibly present within the space of filmic events. Likewise, any sound outside of the interior space of the filmic universe is called non-diegetic. The most common example of non-diegetic sound is background music, which the characters do not hear and which is not present in the space of filmic events; the music is not grounded in the filmic reality. As I have discussed before, the incorporation of location-recorded ambient sound contributes to a realistic sense in producing the presence of the site. Ambient sound can be regarded as the means of reinforcing a sense of realism by enhancing a site’s believability in the spatial environment. In other words, ambient “[S]ound is used to make the image (of the site) ‘credible’” (Wayne 1997: 176). Hence, examining the roles of ambient sound to construct

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<sup>27</sup> Narrativity in film theory assumes a distinction between “the story that is represented and the actual representation of it” (Bordwell 1985: 49), a distinction between the narrative as it is constructed by the spectator or the audience (the auditor/listener) and the formal systems of representation employed in a film through the making or production processes of the film. “Diegesis” bridges this gap between the story and its construction by the audience, since in *diegesis* the narrator tells the story rather than showing it, thus involving the imagination and interpretation of audience.

the site's relative presence in the story-world must take into account the concept of diegesis.

In the historical account, diegesis is understood as the process of illustrating the story-world with all the narrative elements that are shown or inferred within the filmic content. The process allows for a certain mediated discernment of the phenomenal world within the story, including all the physical sites framed inside the film, be they indoor or outdoor, urban or rural, closed or open. These sites might be narrated with their auditory features, characteristics, atmospheres and "soundmarks"<sup>28</sup> (Schafer 1994) in order to establish their presence in the mind of the audience, who can construe a diegetic world from the recorded and (re)presented sonic materials as they take in tiny aural hints to interpret contours of the sites from the relative volumes and spatial matrixing of these ambient sounds. Noël Burch (1980) states that diegesis includes a description of the narrative action proper, including places, people, clothing and *sounds*. As Edward Branigan sees it, diegesis is the "implied spatial [...] system of a character – a collection of sense data which is represented as being at least potentially accessible to a character" (Branigan 1992: 35). Both scholars point out the necessity of the spatial component within a narrative sound practice (location-specific recording and spatial design of ambient sounds as the sense data) in the (re)creation and (re)construction of the pro-filmic space.

It is not new that shifting sound practices in cinema, impacting the diegesis, have been studied using the theoretical corpus about narration and storytelling. Writing on the specifics of narration in the digital realm of American cinema when using DSS (Digital sound systems), Kerins argues that,

[F]ilmmakers have taken advantage of DSS's expansion of the cinematic soundfield beyond the screen. To some degree this represents a simple acceleration of established narrative strategies – filmmakers have [...] relied on ambient sound in the 'surrounds' to set up diegetic spaces, and this trend has certainly continued with movies employing DSS. The difference here is that DSS has encouraged the construction of complex multichannel sound mixes, where the different sounds in each speaker channel together create a seemingly realistic and *complete* aural

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<sup>28</sup> "Soundmark," inspired by the word "landmark," was coined by Schafer to refer to a site-specific sound that is unique or possesses location-related qualities that make it noteworthy.

environment in a way difficult (if not impossible) with monophonic or Dolby Stereo sound. (Kerins 2006: 44, emphasis mine)

Kerins writes here about the narrative strategy of the practitioner embracing digital systems. He, however, is less interested in exploring ambient sound as an important component in this strategy. Nevertheless, from his insights we get an idea about the concept of presence. As he writes, the apparent completeness of the constructed aural environment in cinema suggests the relatively high (or arguably highest) degree of presence in the rendering of the cinematic site as (re)presented in the story-world. This story-world would be considered diegetic if the elements that belong to the film's narrative universe are included in the storytelling.

There is a question of mediation in diegesis in relation to sound. This mediation allows the narrator to control how much is revealed in the narration – objects, situations, spaces and characters that inhabit the story-world. The process of mediation follows two stages of sound production: the recording of sounds from the site itself and the sound design in the studio to recreate and produce the site. Taking a moral and ideological stance against the mediation of sounds recorded from the sited environments, Schafer stated that “we have split the sound from the maker of the sound” (Schafer 1994: 90). I will show how these “torn” and “ruptured” sound recordings can go through further mediation in the practice of sound art whereby sonic materials are processed and organized spatially to create new diegetic worlds that are often minimally abstracted from their site of recording. In this strategy, ambient sounds contribute to the construction of the auditory setting undergoing artistic transformation.

## **5.2 Mimesis**

Theorists of early cinema have argued that, “since film is always framed by the camera (and sound recorder), it is therefore a diegetic form and not a mimetic one” (Prince, as cited in Kassabian 2013a). Opposed to the basic tenets of diegesis, i.e. narration and depiction, “mimesis” as a concept suggests imitation or representation (Weiss 2011; Dumouchel 2015). While diegesis *narrates* the action, mimesis *shows* the action (Kassabian 2013a). Kassabian suggests that narration through sound in cinema combines both strategies to a certain degree: “Surely all realist film forms are both diegetic and mimetic in significant proportions, and it might be more interesting to consider how, when, and why those proportions shift in one direction or another” (Kassabian 2013a: n.p.). I intend to discuss

how these proportions shift in the context of the move from analogue to digital production frameworks. I will show that with contemporary digital sound techniques the sites appear more *present*, being spatially wider, more elaborate and fluid compared to the screen-centric monaural soundtrack or the flat surface of the stereophonic composite soundtrack. The digital realm's sound practice has incorporated the multi-track synchronized sound recording and surround spatialization of ambient sounds in a more mimetic process of representation, *showing* the sites with intricate details, instead of employing other overly controlled ways of *narrating*, as if "holding a mirror to the nature" (Dumouchel 2015: 51). It is no surprise that the sites appear mimetically more present in the digital era than in previous eras of sound production, as it has become possible to render "sounds with an increased exactness" (Beck 2008: 72). In other words, I see a shift occurring from the diegetic to the mimetic as we move from the analogue to the digital era of cinematic sound production.

### **5.3 Presence**

The conceptualization of "presence" concerns the degree to which a medium can generate a seemingly accurate reproduction of objects, events, and space – representations that look, sound, and/or feel like the "real" thing. In the domain of film sound studies, Doane claimed that, "concomitant with the demand for a lifelike representation is the desire for 'presence', a concept which is not specific to the cinematic soundtrack but acts as a standard to measure quality in the sound recording industry as a whole. The term 'presence' offers a certain legitimacy to the wish for pure reproduction" (Doane 1985: 163). I would like to underline the word "pure" used by Doane – the word denotes a striving for a natural and complete registering of sound in the recording. Doane made this reflection on presence before the arrival of digital technology in sound recording. Her conceptualization of presence was drawn from analogue optical or magnetic sound recording practices. In the digital realm, presence gains currency in the digital sound system's capacity to produce the "complete sonic environment" (Kerins 2006), presenting detailed sonic information from the location and surrounding the audience member in a spatially richer perspective, creating an "immersion in the filmic environment – audiences are, [...] aurally, literally placed in the middle of the action" (Kerins 2006: 44). In contemporary scholarship on sound, presence is defined as the "feeling of being present" (Reiter 2011: 174) even in an artificially constructed environment, or, in broader terms, as the "perceptual illusion of nonmediation" (Lombard and Ditton 2006: 9). These definitions and conceptualizations of presence suggest a tendency towards mimetic representation of sound; in the digitalized production of cinematic environment, the pro-filmic space appears with an intensified "sensation of reality"

and “completeness.” This notion of presence helps to explain how audiences experience a feeling of bodily “being there.” In Part 2 of this dissertation, in an article on digital sound practice (Article 3), I will demonstrate how an aesthetic of “spatial fidelity” (Kerins 2011) pervades within the digital realm. This notion of spatial fidelity operates closer to “spatial realism” (Altman 1994) than the term “sound fidelity” that Jonathan Sterne discusses in *The Audible Past* (2003).<sup>29</sup>

While Sterne is primarily concerned with the “social circulation” of digital audio reproduction, I am more interested in the inherent technical characteristics of digital audio recordings, such as a higher definition, wider headroom, broader dynamic range, an improved signal-to-noise ratio, and multi-channel spatialization – aspects that enable digital audio to produce reality in a spatially plausible way. Drawing attention to the spatial fidelity of the recording capabilities inherent in the technologies of digital systems – as do Kerins, Sergi, and Holman – I emphasize the spatial faithfulness and ambient lifelikeness that digital sound production provides.<sup>30</sup> This sense of spatial realism, as David Neumeier suggests, works as a system of

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<sup>29</sup> For Sterne, the question of sound fidelity is more of a social construct and social choice. While Sterne questions whether “the old vacuum-tube equipment sounds better,” he also affirms that “nobody disputes the clarity of digital reproduction” (Sterne 2003: 277). The preference for a “better” sound here hinges on the predominantly social and cultural aspects of sound reproduction. In a later article, “The death and life of digital audio” (2006), he questions the “metaphysical assumptions” about digital audio recording to be lacking in life and naturalness, arguing that “digital recordings have as legitimate a claim on sonic experience as their analogue counterparts;” based on their social lives, “digital recordings are at least as lively as analogue recordings ever were” (Sterne 2006: 338).

<sup>30</sup> In Part 2, Article 3, of this dissertation, entitled “Being There: Evocation of the Site in Contemporary Indian Cinema,” I show and discuss in detail that digital sound recording and production frameworks have introduced a number of creative possibilities, including a significantly larger dynamic range, which is a fourfold improvement over the monophonic and almost double that of the stereophonic format; a larger headroom – a major improvement over both the monophonic and stereophonic formats; discreet channels for multi-channel systems, like Atmos; wider panning for sound spatialization; and full-frequency channels with a consistently flatter response than any analogue counterparts. These technical improvements, I argue, contribute to faithful recordings made on location and faithful-to-original sound design deployed in the studio.

narrative processes that draws upon plausibility in the physical worlds, accomplished through digital recording and design (Neumeyer 1997: 16).

However, even within the conducive creative environment of digital sound production in Indian cinema, the question remains as to whether all the subtler aspects of the acoustic worlds of the urban and rural sites of India are narrated truthfully, "mimetically," and faithfully. In many occasions, the noisy parts of the ambient sound recordings are controlled and sanitized by editing and advanced noise reduction to provide "cleaner" sonic environments.<sup>31</sup> The typically syncretic, chaotic, and inchoate structure of Indian cities are reflected in the multiple layers of sounds from pre-industrial, industrial, and post-industrial eras, simultaneously active in juxtapositions or in contrapuntal relationships with one another. The urban sound environment is thus sonically overwhelming and potentially disorienting for the listening subject (Chattopadhyay 2014: 140). This is not always fully manifest(ed) in the augmented sonic environment of Indian films, where more "aestheticized" accounts of these sites are heard. This spatial atmosphere, however, can no longer be understood as a linear and one-dimensional "soundtrack," rather, it might be called a "cinematic soundscape" (see Part 2, Article 3). Here I explicitly refer to R. Murray Schafer's original formulation of the term "soundscape," indicative of "an acoustic environment as a field of study just as we can study the characteristics of a given landscape" (Schafer 1994: 7). This formulation "seems to offer a way of describing the relationship between sound and place. It evokes the sonic counterpart of the landscape" (Kelman 2010: 215). However, at the same time, the Schaferean soundscape's particular aim is "to draw attention to imbalances which may have unhealthy or inimical effects" (Schafer 1994: 271). This "moralizing" (LaBelle 2006: 203) tendency applied to controlling the incoming ambience by means of "acoustic design" has a strong correspondence with the "sound design" deployed in contemporary Indian cinema, involving editing and advanced noise reduction. The underlying intention is to transform the "lo-fi" sounds into "hi-fi" sounds, removing "noise" contents while prioritizing the potential entertainment and enjoyment of the audience members. According to Schafer, "lo-fi" sounds are "overcrowded, resulting in masking or lack of clarity" (Schafer 1994: 272); they have a lower signal to noise ratio and tend to impose "an increased level of disturbance upon the body, society and the environment" (LaBelle 2006: 202). "Hi-fi" sounds, on the contrary, are defined as "the quiet ambience" (Schafer 1994: 43), having "a low ambient noise level and discrete sounds

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<sup>31</sup> For an elaboration of this statement, please refer to the interviews with sound editors such as Bobby John in the Appendix.

emerge with clarity" (Rodaway, as cited in LaBelle 2006: 202). This compulsion of achieving clarity in the cinematic soundscape leads the sound practitioner to often use "soundmarks"<sup>32</sup> instead of accurately capturing the complete ambience of the sites. This tendency to underline a particular sound, often at the expense of many other ambient sounds emanating from a specific site, intends to sonically compensate for the noise reduction and the editing of many sync sound layers in the post-production phase.<sup>33</sup> These "industrial" norms, practical rules, and creative regulations embedded in the essentially "functional" aspects of film sound production often tend to thwart the artistic potential of the sound practitioner, keeping it from flourishing and further enriching the film's auditory spatial experience.

#### **5.4 Artistic intervention and transformation**

On the other hand, in sound art, the mimetic representation of a site in the form of field recordings tends to develop more into unrestrained, idiosyncratic, playful, and often subjective, constructs. These constructs, as I will show in the three articles discussing my own artworks (see Part 2), are typically a result of intricate interplays between a recognition of the site and its abstraction in the compositional stages, utilizing the ambient sounds extensively recorded on the field as compositional ingredients or raw materials. Field recording-based sound artworks often transcend the Schaferean notion of the soundscape. These works neither give substantial importance to underscoring stereotypical "soundmarks" of the site, nor do they intend to enhance the "ecological" discourse of differentiating between "lo-fi" and "hi-fi" environments. These works, in my assumption, encourage a rather subjective interaction with the site. As Brandon LaBelle articulates, "artistic production is but a mirror of the artist's own image: mimesis depicting interior states, psychological anxieties, euphoric hopes, and ecstatic dreams. Art represents life at its most poignant, its most dramatic, and its most memorable" (LaBelle 2006: 212). The artist's own image of the site as derived from the interaction with the site while doing field recording frames the selfhood to be inscribed in these sound artworks. The artist's subjectivity also reflects in the way these works are "composed." The interviews with field recording artists in the book *In the Field: The Art of Field Recording* (2013) reveal the current discourse on field

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<sup>32</sup> According to Schafer, a soundmark is "a community sound which is unique or possesses qualities which make it specially regarded or noticed by the people of that community" (Schafer 1994: 10).

<sup>33</sup> Post-production is work done on a film (or recording) after filming or recording has taken place. In post-production stages the editing, processing, designing, spatial organization, and mixing of sound are performed.

recording as an artistic practice. The discourse reveals and contributes to a larger debate between a "realistic presentation" and an artistic intervention, transformation, mediation and manipulation of sound. This tension often challenges and dictates the artistic decision as to whether field recording in its presentation as a composition should be processed or presented in its raw form, that is, with as little post-production editing as possible. This decision largely depends on the artist's intentions in approaching a specific site as a subject of artistic intervention and aesthetic transformation.

Many listeners and artists alike tend to appreciate works that are unprocessed. Likewise, the deliberate choice of medium and methodology for particular recordings may contribute to a perceived compositional structure without the need for artistic transformation. Needless to say, this choice of preserving the rawness of sound materials for the potential listener's interpretation essentially arises from a preference for "purity" in the artist's sonic sensibility. Taking part in this debate, I will argue that the choice of method largely depends on the desired intervention of the artist to produce a certain narrative of the site. In most cases, the site-specificity of the recorded sounds are deliberately altered by further compositional mediations, be they entirely based on recording or involving studio processing. However, I will show that sound artworks that go through artistic transformation via compositional mediations using sound recording and spatialization techniques might appeal to a wider range of listeners than a purely documentary approach of field recording. Through artistic interventions and transformations, sites are rendered in nuanced ways.

I will show how the discourse of "acoustic ecology" becomes reconfigured in the shift from ambient sounds recorded at the site to the production of what is termed "soundscape composition," taking a point of departure from Schaferean terminology (Kelman 2010) and underscoring artistic freedom and aesthetic sensibilities.<sup>34</sup> Using this particular term to

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<sup>34</sup> I am aware of other criticisms of the first generation proponents and practitioners of acoustic ecology, notably those of Jean-François Augoyard and his fellow researchers at CRESSON. In his work *Sonic Experience: A Guide to Everyday Sounds*, Augoyard comments on the limitations of the conceptualization of "acoustic ecology" and "soundscape" as developed at Simon Fraser University by Murray Schafer et. al. in the late 1970s. As Augoyard writes: "The application of the criteria of clarity and precision discredits a number of everyday urban situations impregnated with blurred and hazy (not to say uproarious) sound environments, which would then belong to the 'lo-fi' category. We must therefore question whether, other than for the fields of aesthetic analysis, creation, and conservation,

denote compositions developed from field recordings, Sound Studies scholar Joanna Demers argues that field recordings as “audio footage ties a soundscape composition to the ecological, social, historical, or cultural dynamics of a specific location, which both personalizes and politicizes the act of listening” (Demers 2010: 120). What she means is that the material layers of ambient sound collected through field recording from a particular site always also carry some documentary evidence. The composition also allows the listener to co-create the way the site is perceived. To give the listener a fertile space or open-ended situation in which to listen in an engaged, embodied, and subjective way, the artist might choose to intervene in and artistically transform the field recordings in such a way that they would be considered sound art rather than pure documentary.

This capacity of ambient sounds to provide site-specific evidence in sound art does not differ from that of ambient sounds in film production, but what is unique is a distancing from an ontologically-driven approach to a site, weaving it, rather, into an ambivalent reproduction that is open to multiple contingent interpretations “by bringing place out of place and toward another” (LaBelle 2006: 213). It is no surprise that Demers finds sound in an artistic context “a tantalizing phenomenon that simultaneously discloses and hides a great deal about its origin” (Demers 2010: 115). To substantiate my explanation of why I believe artists prefer to avoid presenting field recordings as purely documentary works, I refer here to John Drever’s essay “Soundscape Composition: The Convergence of Ethnography and Acousmatic Music” (2002). In this essay, Drever describes “soundscape composition” as the juxtaposition of site-specific ethnography and musical composition, incorporating ambient

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the use of the term soundscape remains useful and pertinent” (Augoyard 2014: 7). In my project I take his, and particularly Kelman’s, criticism as important points of departure to argue for the artistic intervention and transformation of the locative soundscape through a sound artwork.

Granted, several of these early-generation acoustic ecologists were also composers themselves. However, my ensuing discussion will show how the transformation and artistic mediation of locative soundscape into a work of composition, such as *Kits Beach Soundwalk* by Hildegard Westerkamp, remains underexplained by the theories of acoustic ecology provided by these early proponents of the term. While discussing *Kits Beach* in the Conclusion, I notice a tension between acoustic ecology and sound art based on field recordings: whereas acoustic ecology seems to aim for recording “reality” (e.g. in order to preserve site-specific soundscapes which would otherwise disappear, for example due to rapid urbanization), sound art based on field recordings often puts aesthetic qualities first.

sound as its key ingredient.<sup>35</sup> This articulation takes into account the aspects of convergence between the site-based evidence embedded in the field recording and the sonic abstraction brought about in the artistic practice of recording and/or composing. Both Demers and Drever's formulations depart from the Schaferean notion of the "soundscape," embedded within environmental and ecological perspectives of rural and urban sites, in order to embrace the artistic and compositional possibilities of field recording.

## **6. Research method**

The dissertation is developed as a dialogical approach investigating how ambient sound as specific material contributes to the production of the experience of particular sites: first, in a number of Indian films and, second, in a few sound artworks developed from field recordings made at particular sites in India. Methodologically I have followed three tracks: historical research, interviews, and artistic research. It is specifically the cross-pollination of these three parallel tracks which generates the methodology of this dissertation. While the interviews have provided me with insights and the raw materials needed to build my arguments with regard to the historical developments, the artistic projects have, in turn, drawn from the historical analysis. Without my education in film sound, I could not have made these specific sound artworks, and, conversely, my sound art practice has been a response to the ways ambient sound was historically used or ignored within the larger schemes of Indian cinema. In other words, the apparently exclusive and disparate realms of theory and practice are merged here.

### **6.1 Historical overview**

As explained above, ambient sounds used in the cinematic narration directly relate to the sites portrayed on the screen. The relationship between site and sound is constructed according to the narrative strategy undertaken by the filmmakers/directors but also depends largely on the craft of the sound practitioners. It is therefore necessary to understand how

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<sup>35</sup> Ethnography has its own tradition of field recording, as do other disciplines, such as ornithology, anthropology, and archival research. Although I am aware of these and other disciplines in which field recordings are used, here I concentrate on the context of a sonic ethnography which champions so-called "location study," that is, the gathering of extensive information from a specific site through ethnographic means before and while the actual recordings take place (see <http://nemeton.org.uk/other/soundscape-composition/> and also the interview with sound recordist Lasse-Marc Riek in Lane and Carlyle 2013: 171-179).

ambient sound is conceptualized before we embark on an inquiry into its capacity to provide site-specific evidence. Drawing on the notions of atmosphere and ambiance as spatial elements intrinsic to the diegetic universe and following the processes that transform the “pro-filmic space” into “film space” via recording and sound organization, it can be argued that the choice and arrangement of sound substantially effects the spatial dynamics of the sonorous space of the *mise-en-scène*.

I introduce the neologism “*mise-en-sonore*” here to describe an *auditory setting* that in effect influences the verisimilitude or believability of a filmic work in the ears of the audience. As the sonic equivalent of *mise-en-scène*, the term “*mise-en-sonore*” can be understood as the mediated atmosphere designed to provide a specific sensation of the site through ambient sound use. This invention and loose formulation of the term expands upon film theorist James Lastra’s conceptualization of the terms “film space” and “pro-filmic space” and draws upon the definition of the same terms by film historians Annette Kuhn and Guy Westwell, who declare that a role of ambient sound in the process of narration and description is “to preserve the integrity of the real-life space” (Kuhn and Westwell 2012: 333). For instance, the soaring sound of wind arising in the mid-shot of a room can suggest the presence of a nearby sea or the arrival of a stormy upheaval; a dense sound of traffic in a similar shot may suggest the presence of a mundane urban milieu. The aesthetic choices of the quality, volume, texture, design and spatialization of these layers of ambient sounds will determine the presence of the specific sites in the cinematic story-world. Hence, I will examine the nature of ambient sound usage in various corresponding and intercepting phases of sound production in India: (1) analogue recording (direct optical), synchronized sound, monaural mixing; (2) analogue recording (magnetic), dubbing, stereophonic mixing; (3) digital sync recording and surround sound design, in three respective chapters. The critical listening and reflective analyses in these chapters will develop the top-down approach of this study.

## **6.2 Interviews**

Correspondingly, learning about the nitty-gritty of sound production through in-depth conversations with established sound practitioners as first-hand documentation of what has historically transpired in the use of sound is a prerequisite in understanding how the *mise-en-sonore* or auditory setting is produced in cinema. A discussion of current practice and the claim that sound production with digital technology has impacted the cinematic experience

need complementary empirical evidence. The interviews with the sound practitioners can be considered to be the bottom-up approach of my research.

The interviews are based on a specific set of semi-structured and open-ended questions about the handling of the ambient tracks from recording to design and how technology impacts these processes.<sup>36</sup> According to scholars of qualitative research in the social sciences Jody Miller and Barry Glassner, semi-structured and open-ended interviews may solicit “authentic accounts of subjective experience” (Miller and Glassner 2011: 131). The interviews that I have conducted for empirical evidence helped the sound practitioners “to speak in their own voices about their art and craft” (LoBrutto 1994: 1). Sound Studies scholar Mark Grimshaw asserts that a questionnaire-based qualitative approach involving semi-structured interviews “allows the interviewer a certain level of control which directs the interviewee down particular paths. Equally it allows the interviewee to expand on themes outside the limits of the questions, which can reveal unexpected information” (Grimshaw 2011: 54). The dialectics between the top-down approach of reflective analyses and the bottom-up approach of interviewing thus form the backbone of this research, ensuring that “even the more abstract notions about filmmaking and cinema remain grounded in real-world practices” (Kerins 2011: 10).

The interview with well-known sound re-recordist Alope Dey focuses on various modifications and alterations within re-recording and mixing practices during the shift from the analogue to the digital era. The interview with the on-location production mixing engineer Anil Radhakrishnan, one of the younger generation of sound practitioners primarily working with digital technology, focuses on the nitty-gritty of location recording with multi-track digital sync technology, involving innovative methods and approaches. The interview with veteran sound and music mixing engineer Anup Deb explores the practical differences between the analogue and digital domains of sound recording and mixing. Anup Mukherjee, another veteran sound mixing engineer and sound designer working primarily in the Bengali film industry of Kolkata in Eastern India, talks about the arrival of digital sound in Indian cinema and its impact on filmmaking: the way sound technicians have been upgrading their skills, approaches, and methods. Other veteran sound practitioners, such as Hitendra Ghosh, provide insights into this change through personal anecdotes. Octogenarian Jyoti Chatterjee, sound mixer for many of Satyajit Ray’s films, talks about early sound recording and mixing in the pre-dubbing era and the introduction of dubbing in Indian cinema. His interview

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<sup>36</sup> See the basic format of the questionnaire in the Appendix.

provides valuable insights into Ray's use of monaural mixing. Shyam Benegal, one of the pioneers of independent Indian cinema, talks at length about the necessity of ambience in films.

The younger generation of sound designers, such as Biswadeep Chatterjee, Dileep Subramanian, Dipankar Chaki, Manas Choudhury, Bobby John, P. M. Satheesh, Promod Thomas, Vinod Subramanian and Kunal Sharma, talk of various methods of working with sound in cinema after the introduction of digital technology. They also talk about the role of ambient sound and sound design in creating site-specific atmospheres. They also speak about the introduction of digital synchronized sound in Indian cinema – technically known as “sync” sound. The conversation with two of the pioneers of “sync” sound in Indian cinema, Nakul Kamte (*Lagaan*, 2001) and Subhas Sahoo (*Kaminey*, 2009), are particularly insightful as they discuss real world mechanisms and professional ploys of recording sound on location in the quest to (re)produce an authentic and realistic tone and texture of the site. In a longer conversation, Oscar-winning sound designer Resul Pookutty (*Slumdog Millionaire*, 2008) talks about the various practical struggles in sustaining a sync sound practice, working with surround sound formats like Dolby Atmos, and ensuing changes in the philosophy of sound production practices. My contemporaries – such as Pritam Das, Sukanta Majumdar, Hitesh Chaurasia and Jayadevan Chakkadath – are particularly assiduous in talking about the role of ambient sound in transforming the experience of sound towards an embodied experience. They inform us about multi-channel sound systems like Dolby Atmos and Auro 3D and the enormous possibilities these systems open up for narrating the story with intricate details about the site.

These sound practitioners inject the project with practical insights based on the rudimentary aspects of the real world of sound production. The interviews shed light on India's normative modes of cinematic sound practice. For example, according to one of the sound practitioners,<sup>37</sup> one reason for not using sync sound earlier has been the working structure within the Indian film industry, which has been based on certain stardoms and inflexible hierarchies.<sup>38</sup> Sync sound requires the glorified actor's complete participation on the film set,

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<sup>37</sup> See the interview with Anup Dev in the Appendix.

<sup>38</sup> Within this hierarchy, several other crew members, among them the music director, receive more acknowledgement, attention, as well as time than the director of audiography or other sound technicians. Alope Dey claims that “the music director who is doing the background score – he is completing it on the first of the month. So you will have only nine

on a par with the location sound technician, who has long held a lower status in the hierarchy of the film crew. According to the interviews, the introduction of digital technology has opened up scope for a more creative sound practice that not only has substantially changed the sonic experience but also realigned the hierarchy of the film crews, making the role of the sound practitioners more significant.

### **6.3 My own field recordings**

In Part 2 of the dissertation, three of my field recording-based sound artworks are discussed in three respective articles. In India there are numerous urban as well as rural areas that are home to ingrained site-specific cultural traditions. In my work, some of these landscapes are exposed as the sites for sound recording. In the artworks developed through the recordings, these sites tend to be artistically mediated and transformed via the creative process of sound production. This process needs to be examined in order to better understand the nature of (re)presenting environmental and onsite actualities in sound art. My own artistic practice forms a response to these pertinent issues. However, having been trained in filmmaking before shifting to sound art, as is the case with some of the other emerging sound artists from India,<sup>39</sup> I will first establish the (historical) context of film sound production as mentioned above. From there, the discussion of my own practice will depart towards a deeper understanding of the tendencies with which specific sites are addressed within the artistic transformation. This understanding will help to posit my own artistic practice within the historical trajectories of mediated portrayal of Indian sites. It will be easier then to take a critical look at my own artworks as representative of sound art practices emerging in India and help construct new knowledge that should prove useful for film sound practitioners in developing a better understanding of the contexts not only for an innovative and cutting-edge creative sound practice, but also for implementing a more

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to ten days to complete the film" (see the interview with Dey in the Appendix, page 6). Likewise, the typical power structure in the film crew often does not allow sound practitioners to take autonomous creative decisions. The advent of digital technology post-2000 granted relatively more respect and autonomy for the sound technicians due to an increased acknowledgment of the complex and intricate processes they pursue.

<sup>39</sup> I refer here to Indian sound artists like Navin Thomas and Sukanta Majumdar who work with recorded sound. Most of them directly or indirectly draw inspiration from Indian cinema, and many of them are trained in film, since it is the cinematic medium that provides the impetus to "record sound from a landscape so extensively" (Chattopadhyay 2007: 110).

mindful practice with location-recorded sounds. The following sound artworks will be discussed:

*Landscape in Metamorphoses* (2008) is a soundscape composition in stereo, developed from field recordings made at an area called Tumbani in India between February and April, 2007. Published by Gruenrekorder (Germany) on a limited edition CD-R, the piece captures the transformation of Tumbani from a tribal-dominated pastoral landscape into an industrial zone, with the auditory setting slowly changing from a rich natural environment into a monolithic industrial soundscape. As an audio essay, the work studies the trajectory of metamorphoses in unprocessed field recordings. Issuing from a motivation to return and revisit, having spent my childhood there, I realized while undertaking the recording experience that the topography of my childhood was already disappearing into nostalgia. Not merely a sonic representation of a transforming landscape, this work is also a lamentation over my own personal loss of memories.

*Elegy for Bangalore* (2013) is a soundscape composition for stereo and multi-channel format, premiered at Klangkunst, Deutschlandradio, Berlin and released by Gruenrekorder on CD. Stemming from the sound/video installation-project "Eye Contact with the City," the result of an artists' residency in Bangalore between 2010 and 2011, the primary materials used in the installation are extensive field recordings made at various construction sites of Bangalore and retrieved sounds from archival reel-to-reel tapes found at the city's flea markets. The repository of field recordings and other audio materials eventually took the form of this elegiac composition during a subsequent artist residency at the School of Music, Bangor University, in the summer and autumn of 2011.

*Decomposing Landscape* (2015) is an award-winning sound work that offers in-depth listening to the transfiguration of rural landscapes in India, undergoing environmental decay and destruction. Using field recordings made on the site, and diffusing sound in a third-order Ambisonics B-format, the work is an exclusively multi-channel sound composition. The work has been developed through a meticulous collection of ambient sounds from an SEZ (Special Economic Zone) in India during extensive fieldworks over several years. The collection has been forming a digital archive that was instrumental in realizing the work, which was composed, mixed and produced at ICST, Zurich University of the Arts, during an artist residency in 2014. The work has been released in 2015 by Touch (UK) as both Binaural and Ambisonics mixes.

## **7. Structure of the dissertation**

The dissertation is divided into four parts, each organized to accommodate a specific area of the research. Part 1 introduces the project. Part 2 consists of six peer-reviewed and mostly already published articles of which the first three articles are dedicated to three primary phases of sound production in Indian cinema, namely: direct or synchronized recording and monaural mixing, dubbing, and digital sync recording and surround sound design. In the other three articles I discuss three of my own field recording-based sound artworks. Although each of the articles in Part 2 is autonomous in subject matter and scope, they are interconnected by my main research question and woven together by the central threads of argumentation. Part 3 contains a reflection on how sound art can best inform practice in film sound production. Part 4, the Appendix, consists of 23 interviews with Indian sound practitioners.

