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The cinematic soundscape:

conceptualising the use of sound in Indian films

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Abstract

This article examines the trajectories of sound practice in Indian cinema and conceptualises the use of sound since the advent of talkies. By studying and analysing a number of sound-films from different technological phases of direct recording, magnetic recording and present-day digital recording, the article proposes three corresponding models that are developed on the basis of observations on the use of sound in Indian cinema. These models take their point of departure in specific phases of technological transitions and intend to highlight characteristics defining the sound aesthetics that emerges from these different phases of sound practice. The models furthermore seek to frame the aesthetics within theoretical frameworks of sound studies in general. The argument developed following the observations is that, through different phases of cinematic sound practice, Indian films have been primarily shifting the relationship between audio and visual from a merely vococentric contract to a creative realm of sound, in which audience engagement with the moving image is increasingly instigated by the spatial reordering of environmental sound or ambience. I term this arrangement of sound 'The Cinematic Soundscape', which is crafted by digital technologies such as 'sync' recording and multi-track sound design, emphasising a cognitive theoretical premise in cinematic sound studies.

Introduction

In recent years, digital media technologies have had a significant impact on cinema, particularly on the production and reception of cinematic sound. Techniques and practices such as location 'sync' recording[1] and surround sound design alter the spatial organisation of film soundtracks in the digital era of cinema. At the point of reception, these phenomena subsequently initiate reconfiguration of audience engagement, thereby contrasting with earlier cinema viewing in mono-aural and Dolby stereo settings. For example, in recent Indian films, the previous practices of dubbing, stock-sound effects and Foley are gradually being replaced by authentic 'sync' sound effects and an elaborate design of location-specific ambience alongside actors' 'live recorded' performance in front of the camera. These authentic sound layers incorporate a wider diffusion of auditory artefacts into cinematic space and narrative, adding depth, texture and perspective. Consequently, these practices encourage a creative and inventive application of sound in film, restructuring Chion's notion of an audiovisual contract of merely vococentric order, as he claims:

> In stating that sound in the cinema is primarily vococentric, I mean that it almost always privileges the voice, highlighting and setting the latter off from other sounds. During filming it is the voice that is collected in sound recording – which therefore is almost always voice recording – and it is the voice that is isolated in the sound mix

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> like a solo instrument – for which the other sounds (music and noise) are merely the accompaniment. (Chion, 1994, p. 5-6)

In this article I will provide an outline of my observation on and analysis of the different trajectories of sound practice in Indian films, arguing that audience engagement with the moving image is increasingly instigated by spatial reordering of sound, instead of maintaining a merely vococentric audiovisual contract, such as the song sequences. The observation and analysis are conducted in order to understand and conceptualise these different trajectories of sound in Indian cinema. The approach has been to experience, examine and analyse a number of representative sound-films as the case studies from three different technological phases: direct recording, magnetic recording and present-day digital recording. In my analysis I have primarily focused on the strategy of using the location-specific environmental sounds or 'ambience', arguing that in the digital realm of cinema they provide for auditory artefacts in the cinematic narrative having a tendency to develop 'cinematic soundscape', which are principally crafted using digital techniques and practices like location-specific 'sync' recording and multi-track sound design that emphasise elaborately creative and inventive use of sound in cinema via the intricate spatialisation[2] of these sound layers. Here, the term 'Soundscape' is referred to R. Murray Schafer's notion relating to the mediation and creative dissemination of environmental sound (Schafer, 1977) as aptly put by John Drever in his paper 'Soundscape composition: the convergence of ethnography and acousmatic music' describing soundscape as a juxtaposition of field-based ethnography and artistic practice incorporating environmental sound as basic ingredients (Drever, 2002).

The selection of films discussed here inclines to widespread familiarity. For instance, Satyajit Ray's entire oeuvre has been considered in terms of the agency of realism in the early mono-aural setting of Indian cinematic sound. In addition, a few films from the optical, magnetic and digital eras are referred to in order to locate specific characteristics of film sound, based primarily on material collected through fieldwork and film analysis.

Inasmuch as the article represents part of my ongoing research into cinematic sound, I here consider the phenomenon of sound in cinema as distinct from image. I draw on and defend Giorgio Biancorosso's arguments on reading sound as a specific area of praxis, arguments that extend rather than challenge the existing seminal works of Chion:

> The terms are too vague to be of any use, as both 'image' and 'sound' are at best approximations for complex, multifaceted phenomena. Moreover, the vastly different roles played by aural and visual cues in a film, despite their convergence in the mind of the spectator into something like a complex gestalt, make any attempt to establish a hierarchy between them simply uninformative. The significance of sound

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> in cinema must be gauged in terms that are germane to hearing. (Biancorosso, 2009, p. 260)

The history of sound in Indian cinema is a vast subject for a single article. For the convenience of conceptualising the 80 years of film sound practice in India, this article proposes three corresponding models developed on the basis of observations on the use of sound and production practices in Indian cinema. These three models take their point of departure in specific phases of technological transitions, but do not limit the discussion to the history of film sound technology. Rather, these models highlight characteristics defining the sound aesthetics that emerges from these different technological phases. The models furthermore seek to frame the aesthetics within certain theoretical frameworks of cinematic sound studies in general, mentioned at the beginning of each section in the article.

Sound as observation: direct recording in mono-aural films

In a sequence of Devdas (P.C. Barua, 1935), the protagonist Devdas is languishing over his initial arrival at a brothel in Calcutta following his recent breakup with Paro, a childhood sweetheart from his native village. Devdas' fateful interaction with the prostitute Chandra leaves him in a state of perpetual melancholia from which he can never recover. The 'mise-en-scène' indicates that this sequence is taking place on an indoor location within a closed building. But a birdcall continues throughout the sequence in the mono-aural setting of actors' voices and other effects, and disappears with the cut.

In typical Indian film shooting, the camera establishes a shot, and the sound recording device follows it in order to capture a limited sound field within the visual frame, displaying attention to the available sound-producing objects in accordance with the 'mise-en-scène'. In most cases, the director and the cameraperson determine the microphone placements. Within the given space and time of shot-taking, there is a scattering of different sources of sound, and most of these, which are not related to the sound script, are generally considered unwanted noise. As I have quoted Chion earlier, in a verbocentric script the freedom of a microphone is reduced, as its directionality is forced to focus on recording 'almost always the voice' (Chion, 1994, p. 5). Within this limited dynamic range of sound recording, available sound sources are narrowed to a minimum on the recording media.

In spite of the limitation and suppression of the dynamic range, some stray sound elements intrude onto the film's predetermined soundtrack and may turn out to be capable of carrying meaning if we employ film analysis. The off-screen sound of a birdcall in Devdas holds distinct documentary evidence of the cinematic place represented on the film's soundtrack as aurally realistic (Kania, 2009, p. 244) in

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perception, even if the sound is off-screen. Indian film scholar Madhuja Mukherjee terms this the 'here and now' effect (2007):

> In early talkies, where sound is in sync, on screen, and mostly diegetic, the resonances and meanings are somewhat different from the theories of 'disembodied' sound and music destroying the 'aura' of performances [...]. Certainly, these are mechanically recorded images and sound, which have been recorded from multiple positions and camera angles, in multiple spaces, and thereafter have been edited and restructured. Moreover, as we listen (and see) we first hear a mechanical sound, then a voice, words, rendition, and the sound of music. Nevertheless, it can recreate the 'aura of performance' in its own terms as the star/actor (who is also a singer) sings in a time which is real, where the real and reel time become one. In many cases the mechanical rendition of the song is a continuous take, and has a strong 'here and now' effect. (Mukherjee, 2007, p. 52-53)

Later, in the works of Satyajit Ray the 'here and now' effect is made evident by the presence of recognisable environmental sound content recorded from the location. Pather Panchali (Satyajit Ray, 1955) clinically connects the audience to different locations in Boral, where the film was shot. This occurs through certain recurring sound elements, such as wind in the woods, the drone of electrical poles, sounds of cattle and other domestic animals, the rubbing of tree branches in a gentle breeze etc. Ray's early films were mostly made using direct location recording: Pather Panchali was for the most part directly recorded on a Kinevox sound machine and mixed in a mono-aural track, as in Ray's other films. This is quite evident from the texture and quality of the sound captured on the cinematic media: environmental audio layers with available depth of field recorded on the film location are clearly present. The directly recorded sound elements let the audience observe the place where the film was shot. They provide information as well as detailed illustration of the setting, such as the auditory situation of the actors and of the visual objects framed within the 'mise-en-scène'. Let us consider the sequence of Indir Thakrun's death in Pather Panchali, set against the background of the woods and the inquisitive close-ups and voices of the girl Durga and the boy Apu, the protagonist. Here, the sound-producing object, the rubbing of tree branches due to a light breeze, is off-screen, but its reproduction adds value (Chion, 1994, p. 5) to the death sequence. To the general audience, it functions as a prayer for the dead, like a sublime backdrop to an ending; in another sense, it signifies nature's indifference to death (Chattopadhyay, 2007, p. 104). At the time of shooting in Boral, the optical recorder picked up this environmental sound element or ambience as a screeching sonic texture, a high-pitched, strident sound coming from the nearby woods, which may be perceived as environmental noise (Chion, 1994, p. 6) to some extent, but at the level of perception it helps reconstruct the auditory situation by elaborately illustrating the death sequence, representing the keen observation of the author.

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Satyajit Ray's use of sound in his films highlights his distinct recognition of locational observation and documentation, establishing his legacy of realism in Indian cinema. Here the definition of 'realism' refers back to the tradition of observational cinema, which represents reality by recording vision and sound that come 'from within the world of the film' (Kania, 2009, p. 244). Richard Allen points out and comments on the incorporation of ambience and the dynamic relationship between on-screen and off-screen sounds used by Ray:

> Ray uses digetic, offscreen sound as an integrated component of the compositional technique of camera movement and staging in depth [...] that broadens the physical space of the represented scene and may carry expressive importance [...] keeping with his realist aesthetics. (Allen, 2009, p. 93)

Ray's early films were direct recordings on location, whereas his later films were inclined to collect most of the sound effects and ambiences from location, using them as the primary source of aural stimuli, information and engagement.

In an interview conducted by Pierre Andre Boutang in 1989, Ray explains his use of sound in film:

> In the contemporary films, I use less, less and less music; I can do without music, I can use actual sounds creatively to serve the purpose of music. After all, ideally one should do without music completely. I think, as, because one has an audience in mind, and one is always afraid, that a certain change in mood will not be perceptible unless it is underlined by music, you use music. Ideally, a film ought to be able to do without music. (Ray, 1989)[3]

Ray's belief in the ability of actual sounds to carry the narrative creates the premise of audiographic realism for later generations of filmmakers in Indian cinema. By audiographic realism, I mean direct optical and magnetic sound recordings used in films without significant sound synthesis or processing in post-production stages, retaining the materiality of the documented sound in its mono-aural framing, analogous to photographic realism's determination not to affect the appearance of a photographic object (Kania, 2009, p. 240). Satyajit Ray, one of the most influential filmmakers from the Indian subcontinent, for whom the realist paradigm in cinema was an authorial choice, preferred and continued to use sound as elaborate observation and controlled documentation of reality as part of his cinematic signature. Indian film scholar Anindya Sengupta comments on Ray's practice of realism with sound:

> Ray not only imbibed formal ideas from the dominant and emerging practices of realist cinema, but was also informed by other kinds of cinemas. He can certainly be credited for creating a model of narrative realism, which will be loosely followed by the succeeding art-cinema movements in India; [...] the soundtrack in Ray's

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> cinema became naturalistic (particularly in his use of 'voice', 'speech' and incidental 'noise'), reticent (in his famous use of silences or suspension of speech, variations in set themes and motifs of non-diegetic music) and auteuristic (i.e. it became eminently recognizable), compared to the more ornamental, generic and over-wrought instances of the mainstream melodramas. (Sengupta, 2007, p. 86-87)

Ray's legacy of 'audiographic realism' has been avidly followed by his predecessors: filmmakers like Shyam Benegal in North India and Adoor Gopalakrishnan in the south are among those who have continued the tradition of direct recording, making subtle and naturalistic use of ambient sound. In contrast, however, Ray's younger contemporaries, filmmakers like Mrinal Sen, initiated a New Indian Independent Cinema that assimilated wider influences, primarily consisting of European films. Bhuban Shome (Mrinal Sen, 1969) illustrates the comic use of processed sounds, while Rittwik Ghatak's emotional use of sound alongside intricate background music and songs, as in Meghe Dhaka Tara (Rittwik Ghatak, 1960), arguably added melodrama to the then-emerging Bollywood genre.

Sound as emotion: stereophonic audio effects in the studio system

In Bhuvan Shome (Mrinal Sen, 1969), sound is processed, which was not the case with the earlier direct usage of sound in Indian cinema. That the sound has gone through elaborate post-production work is evident from the structure, tone and quality of the soundtrack. Film scholar Megan Carrigy notes that:

> The approach to storytelling in Bhuvan Shome offers up a dizzying array of interrelated non-naturalistic devices. Disjunctive, shock-producing storytelling techniques keep the audience in a state of anticipation. Techniques include merging voice-over narration and central character's internal dialogue, stark freeze frames, [...] rapid editing techniques such as jump cuts, abrupt changes in tone and tempo; and a complex soundtrack of railway sound effects. Often comic, sometimes startling, these devices conjure up a detailed visceral portrait of the disposition of the central character Mr. Bhuvan Shome. (Carrigy, 2009, p. 142)

In an interview for a documentary on Indian cinema made for DRK, a channel under the Danish Broadcasting Corporation, Mrinal Sen says that he exhaustively used the latest analogue technology available in India during the 1970s and incorporated studio techniques to their fullest during the making of Bhuvan Shome.[4]

In Bhuvan Shome, the observational and documentary realism of earlier Indian cinematic sound took a serious turn towards non-naturalistic, processed and modulated use of sound, engaging the audience by emotional and affective means. Rittwik Ghatak had already introduced these methods in his elaborate use of edited sound effects and ambience in order to create an epic and melodramatic environment for his films. One example of this is the looped sound of whipping, with a clear reverb

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effect at the end of a song sequence in Meghe Dhaka Tara (Rittwik Ghatak, 1960). In this sequence, the protagonist and female lead, Neeta, who will later die of fatal tuberculosis following a long battle against her ill-fated social condition, is learning to sing a love song for a marriage ceremony within a modulated sonic background of high wind. This marriage ceremony refers to another tragic twist of her fate, as her fiancé decides to marry Neeta's sister. The love song ends with the sound effect of repetitive whipping with extended reverb. The sound effect directs the audience's sympathy towards the woman protagonist, while the sympathetic emotion takes the character as its intentional object (Plantinga, 2009, p. 90). The auditory situation created by processed sound with the expressionist (Schneider, 2008, p. 378) reverb and loop effects involves the audience in ways that generate pity and compassion for the protagonist. A technologically simulated approach to represent reality in overly expressionistic and melodramatic overtones thereafter became prevalent in studio-centric film sound design, aimed at creating emotional responses in the audience and gradually giving rise to the studio's control over cinematic sound.

During the 1970s, magnetic recording began to be used extensively in Indian cinema. With the arrival of magnetic tapes, recording machines became portable, and it was possible to erase tracks when required, creating scope for re-recording. With the emergence of magnetic recording, sound studios became popular sites for the post-production of sound on a mass scale, and film sound became increasingly distanced from recording sound on location (Chattopadhyay, 2007, p. 105).

Gradually, a synthetic technique of film sound design emerged as the dominant mode. Dubbing and Foley recording were major technological advances in sound engineering. The studio system invited more investment in post-production sound. Tools and techniques, such as loop recording, mixing consoles and track-laying, opened up possibilities for other resources of sound reconstruction, instead of dependence on locational recording. Stock sounds became commercially available in banks of pre-recorded sound from which one could pick and choose raw materials for ambience and sync sound effects; although, in most cases, ambience received little attention in sound design. Films were increasingly shot on pre-designed sets inside studios, and film sound was becoming a mere dialogue, sync effect and background score scheme (Chattopadhyay, 2007, p. 106). In summary, a practice was nurtured by the collective effort of industry-dependent technicians to construct a film's sound environment by synthetic means, typically paying little attention to sonic authenticity of location, and using song sequences and music as aural masking. This trend in some sense incorporated over-modulation, manipulation and sound abstraction of the film location, enhancing sound's emotional and affective qualities in the process.

Sholay (Ramesh Sippy, 1975) was the first stereophonic sound mix and 70 mm film screened in Indian cinema, paving the way for an era of films that made use of

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analogue technology of the magnetic recording era, available to sound engineers. Sholay remains a reference point for both Hindi-language cinema audiences and the Indian film industry as a whole, not only because of its technological achievements but also because of its substantial emotional and affective appeal to the mass audience. This mass appeal was exemplified in repeating the lines, copying the tone and texture of voice, and buying records of dialogue from the film's villain Gabbar Singh by general Indian audiences (Shankar, 2009: 168) even today. The specific sonic representation of the villain's character was constructed using vocal manipulation as well as extended reverb of his footsteps and other bodily postures and gestures, affecting visceral responses of the audience to the auditory characterisation by affective mimicry (Plantinga, 2009, p. 94) and mirror responses as the mass appeal. The strategy by which Sholay constructed the film's characters and location as well as the technically synthesised cinematic reality through processed sound and spatial practice in stereophony in order to manipulate the dream-like, emotional engagement of the audience was later adopted throughout Indian cinema in the 1980s. Dissanayake and Sahai observe:

> Sholay clearly is not a realistic film, there is very little social specificity inscribed in the filmic text. The narrative codes employed in the film serve to construct a metaphoric view of Indian society and its manifold problems. A metaphoric representation displaces accuracy and specificity with ideality. This strategy serves to universalize the problems depicted in the film and give them a pan-Indian applicability. (Dissanayake and Sahai in: Shankar, 2009, p. 165)

The richly constructed location of the fictitious Ramgarh village in Sholay and the highly processed sound of the brutal scenes of violence, elaborate fight sequences and sonically arranged folk-rhythmic song sequences intricately contribute to the film's affective intensity and emotional appeal (Shankar, 2009, p. 168) to the Indian audience, physically affecting the spectator as 'auditory entrainment' (Plantinga, 2009, p. 94). This strategy also became a popular idiom in mainstream Indian cinema, studio-centric sound-making exploiting available analogue technology to produce a stereophonic sound mix. This trend continued until the post-1990s digital era, dissolving into the future spatial practice of sound, where the representation of reality and cognition of filmic location take centre stage.

Sound as cognition: 'sync' sound in surround cinema

The growing digitalisation of post-1990s film technology imparts recognition of observational techniques related to location-specific details, particularly in film sound recording and reproduction. An emergent fascination with authentic location and spatial evidence in the film image suggests a rediscovery of cinema's realistic origin. In this phase, the first film that was shot mostly on location was Lagaan

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(Ashutosh Gowariker, 2001). In this film 'sync' recording and Dolby digital sound technology were implemented following a major debate, and since then most of today's films have been gradually embracing the digital revolution. In the past 10 years or so, film sound technology has undergone a massive transformation from analogue to digital. This has been regarded as a sea change in terms of work culture and reproduction formats. With the advent of digital technology in film sound, easily available and easy-to-handle recording devices have brought innovations in sound practice by introducing digital recording, surround design, spatialisation and surround sound projection. The technology of digital audio has initiated in-depth methods such as location-specific multi-track sound recording and multi-channel audio spatialisation for reconstructing a film location through intricate processes. Location 'sync' sound recording is a direct descendant of this trend.

The new trend of 'sync' sound recording is characterised by on-location sound recording in synchronisation with the camera. These 'real' sound recordings, which are in 'sync' with the visuals, are used in post-production without the use of archival content and stock sound effects. Direct on-location digital 'sync' recording is supported by recent developments in technology such as hard disc recorders with multi-track options; dolly boom recording equipment with greater flexibility and locational reach; and application software, like Pro-Tools HD, that offers precise control over each clip recorded on location. Multiple options for keeping tracks of ambience, sync sound effects and dialogue permit the recording of a larger number of sound elements and the processing of multilayered sound captured on location. The studio itself offers ample scope for digitally manipulating location-specific authentic sounds, which are treated as part of film mediation through which such sounds are re-contextualised in cinematic space. Regularly updated timeline-based applications can work with a virtually infinite number of audio tracks. A variety of plug-ins allow for the processing of sound that has actually been recorded on location, involving them in the restructuring of their place-based characteristics in the visual narrative of cinema in multi-channel spatial setting such as surround sound. According to Bordwell, the minds of the audiences are capable of processing the layers of auditory information provided to them by means of the spatial sound setting, thereby actively shaping the cinematic experience (Bordwell, 2009, p. 359).

The present-day location sound engineer and sound designer work with virtually unlimited tracks in the recording, track-laying and design stages. They handle powerful microphones with precise directionality. As the new trend of 'sync' sound recording becomes popular and widely used in Indian cinema's current digital era, this methodology of film sound practice incorporates newly available improvements of existing technology. Post-production techniques are now also subject to rapid technological development in terms of sound editing, mixing and projection, for instance in a Dolby/DTS 5.1 surround setting.

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The reordering of cinematic space has been gaining momentum with the growing direct participation of sound technicians in the filmmaking process by means of authoring 'sync' sound recording and surround sound design, re-recording and mixing. Since the film Lagaan, sound technicians have taken on positions of importance within film crews. The film's success has brought the question of 'sync' sound to the fore. 'Sync' sound has been accepted as a highly precise, artistically demanding and skilled recording technique practiced by sound technicians and involving actors' original dialogue, thereby eliminating the tedious processes of post-production techniques such as Dubbing and Foley.

The reason for the late rebirth of 'direct recording' in the form of 'sync' sound technology in the post-1990s era is embedded in India's normative modes of cinematic practice. The first Indian talkie, Alam Ara (1931), involved the first use of direct sound recording for Indian cinema. After that time, Indian films were regularly shot in synchronous mode, using the Mitchell camera, until the early 1960s. The arrival of the Arriflex 2C (a noisy but more practical camera used particularly for outdoor shoots) meant that Indian filmmakers began to use dubbing and 'post-synchronised' sound in the magnetic recording era. However, filmmakers like Shyam Benegal, who has used 'sync' sound in his films, have remained among the few exceptions, following the tradition of realist cinema exemplified by Satyajit Ray. One reason for this has been the working conditions in the Indian film industry, which contribute to the star system in Indian cinema. 'Sync' sound requires the busy and highly glorified actor's complete participation on the film set, on par with the location sound technician, who has long held a low status in the film crew hierarchy. This is why Lagaan represented an important achievement in the history of Indian cinema: shot entirely on a difficult location, yet using 'sync' sound, this film prompted recognition of the location sound technician's artistry and skill. Lagaan was trendsetting in Indian cinema with its regular use of the technique and its recognition of the sound personnel involved. Lagaan's producer and lead actor Mr Aamir Khan comments:

> In Lagaan we have used 'sync' sound for the first time. I was advised against using 'sync' sound for Lagaan, but I decided to give it a try. However this too was possible only after Arri 535, a silent blimp camera, arrived at Ramoji Film City in Hyderabad. I believe it is most favourable for an artist, as it enhances their performance and they can successfully record both emotions: sound and mime, and also avoid unattainable repeating of sentiment in a vacuumed dubbing studio. Certainly 'sync' sound will become a preferred way of working especially amongst artists, as it directly results in an enhanced performance. However, as a producer I feel its consequences in an increased expenditure as compared to a dubbed film. [... From now onwards] I personally will prefer 'sync' sound to dubbed sound. (Khan, 2002)

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Sound recordist Ashwin Balsavar shares the same view that 'sync' sound texture is recognizably 'authentic' and cannot be reproduced in a dubbing studio setting. Furthermore, the actor's performances can never be repeated in dubbing. In his opinion, dubbing has never provided complete lip-sync. While Dolby digital technology, better microphones and Digital Audio Workstations provide efficient technology and facilitate better and more creative audio post-production, recordists in 'sync' sound films acquire of as much importance as the cameramen, leading to appropriate cooperation and equality within the crew. He comments that:

> Dubbing is time consuming, patience testing and is an exercise in futility. 'Sync' sound saves time and sounds better and gives due respect to the sound people. Big banners should adopt the use of 'sync' sound and make it a norm. (Balasavar, 2002)

Another renowned sound practitioner, Manas Choudhury, also mentions of the hierarchical relationship between sound and visual personnel in Indian cinema and the larger debate on visual domination over the sound. However, he stresses that the creativity involved in sound practice after the advent of 'sync' recording and surround sound design, upsets this hierarchy to situate sound in a more inventive context to engage audience.

In recent Indian films, such as Slumdog Millionaire (Danny Boyle, 2008), Delhi-6 (Rakeysh Omprakash Mehra, 2009), Love Sex aur Dhokha (Dibakar Banerjee, 2010), Dhobi Ghat (Kiran Rao, 2011) and Kahani (Sujoy Ghosh, 2012), spatial arrangements of authentic sound elements in the surround settings by creative and inventive strategies of using 'sync' sound techniques permit cognitive association with the location-specific environment by multi-layered and richly evocative audio information that have played out in the minds of the audience a spatial topography of the film-locations where they were shot. This, in turn, allows the audience to directly recognise the location represented in the cinematic space. Referring to the authenticity and cognition in cinema, Bordwell has described the film audience as an active information seeker (Bordwell, 2009, p. 360) in the way it extracts information from regularities and phenomena of the natural environment (Bordwell, 2009, p. 363).

It is observed that, in recent Indian cinema, these phenomenal worlds of natural environments from India's urban and rural landscapes are represented creatively and inventively in the experience of cinematic sound. The authentic 'sync' sound layers incorporate wider diffusion of auditory artefacts into cinematic space and narrative adding depth, texture, and perspective to develop a locational 'soundscape' in the cinematic context. According to film scholar Ranjani Mazumdar "The city's wastelands saturate the mise-en-scène, forming the heart of the city" (Mazumdar, 2009, p. 238), unlike the synthetic construction of the fictitious location of Ramgarh village in Sholay by solely studio-centric means.

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Conclusion

The advent of digital technology has altered the way that sound has been practiced in Indian cinema. With the introduction of digital technology, innovations in the use of sound have produced fresh perspectives and new forms of film sound practice, such as location 'sync' recording and surround design, mixing and re-recording. These practices transform the production and reception of recent Indian films. The present-day production of mainstream Indian cinematic sound is different from that of pre-1990s films, involving added layers of ambience in the spatial arrangement of sound, such as the Dolby digital surround system. This spatial reordering of environmental sound enables the audience to experience cinema by means of auditory cognition in ways that convey information, meaning and spatial qualities, emphasising creative and inventive applications of sound.

Therefore, it is evident that, through different phases of cinematic sound practice, Indian films have been primarily shifting the relationship between audio and visual from a merely vococentric contract in terms of dubbed voices alongside studio Foley, stock sound effects and song sequences, to a creative realm of sound practice, in which audience engagement with the moving image is increasingly instigated by the spatial reordering of environmental sound or ambience. I call this reordering of sound the 'The Cinematic Soundscape' in place of the term 'soundtrack', referring back to Chion's proclamation that 'there is no soundtrack', meaning that the sounds of a film taken separately from the image do not form a coherent footing (Chion, 1994, p. 40). However, as observed earlier, in the digital realm of Indian cinema, spatialisation and the reordering of recognisable environmental sounds or ambience aim to evoke the audience's spatial association and cognition of the cinematic location similar to the working of the soundscape.

In the digital realm of Indian cinema, sound has been gaining momentum in exploring its potential inventiveness to engage audience creating spatially cognitive environments by use of environmental sounds or ambience, similar to emerging areas of sound-based artistic practices, such as 'Soundscape composition' that involves the listener in spatial contexts by means of cognitive, rather than merely observational, documentary, emotive or affective strategies.

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Notes

1 The term 'sync recording' is used in cinematic practice and refers to the recording of sound on location in synchronisation with the camera.
2 In multichannel experimental sound composition and electro-acoustic music creation, production and performance, the term 'spatialisation' is increasingly used to denote diffusion of sound in space. The origin of the term can be found in the English translation of the French term 'l'espace', introduced by Henri Lefebvre with reference to sociocultural perception and cognition of geographical space.
3 The interview can be found at YouTube, link: http://www.youtube.com/watch?v=RWS5dlxwZDc.
4 Aired on DR K. Link: http://www.dr.dk/nu/player/#/indiens-verden-af-film/40274.

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