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TUNED IN AND HANDS ON: SOUND DESIGNERS BEYOND TECHNICAL EXPERTISE

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Abstract

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The term sound designer is a relatively new addition to the professional roles in a film sound crew. Its use can be traced to the 1970s when the dismantlement of some major Hollywood studios gave space for more experimental approaches to film making. A study on acoustic ecologies and cinema sound allowed for creative and altruistic collaborations with some Australian cinema professionals. Subsequent face-to-face interviews and correspondence with the participants to the study pointed to the humanity and concerns at play behind the screen. It is apparent that the capacity of sound designer cannot be pigeonholed: it oscillates according to the demands of a film production and depends on its director's and financial backers' sonic awareness. Amongst professional sound makers themselves exists a lack of consensus on the role and importance of the position of sound designer. The author proposes a way to lessen professional ambiguity and increase public recognition of atmospheric cinema sound. Invoking atmospheric sound at the inception of an audio-visual narrative could reward its makers and audiences in unsuspected ways. To acknowledge sound designers as architects of sensations and, by the same token, include viscerality and affect as creative elements of film production, could lead to a different appreciation of our lives in sound.

Introduction

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My interest in the silences of the everyday, the ubiquitous sonic ecologies related to mechanical contraptions and human activity, is triggered by the human capacity to adapt, or not, to the elemental vibrations of our common existence. Often the sources of these sounds are invisible but act as sentinels of our inclusion into the physical realms of contemporary socio-cultural situations. My motive for developing a study examining these aspects of our lives in sound was to get a glimpse at two human processes: cultural habituation to silences and professional expression of their existences.

This study has been enlightening in this regard, but also went far beyond technical or industrial concerns, thanks to the altruistic participations of some Australian cinema professionals. Currently sound crews still operate in the shadow of the moving image. Cinema and theatre sound man Daniel Deshays assimilates "le sonore", the audible, as a clandestine entity that works without cinema-goers' awareness (Deshays 2004). The sound crew of a film production seems almost innocuous to some because of their public invisibility and, often discreet, professional indispensability. I find it logical to interact with the individuals producing sonic ubiquity for socio-cultural purposes, such as films, to get a better understanding of our elemental interactions with sonic environments and with each other.

So, what happens when members of a sound crew take centre-stage and modify at once their relationships to sound, to its narrative potential and to their own usual work patterns?

Rather than examining in detail the mechanisms linking cinema sound production and theoretical film studies, I

chose to gain reflexive insights into the personal and creative practices of individual sound designers. Through the design of my study, I had the good fortune to gain a greater awareness than I expected in the practice and humanity of a profession operating behind and around the screen. The creative participation of eight Australian cinema sound designers and a scriptwriter allowed for a personification of cinema sound design as a phenomenological storyteller, demonstrating human inter-relations around the creation of sonic narrative. All study participants were living and working in or from Australia. That they were all males aged between 25 and 45 years old was circumstantial. All the film professionals involved in this study demonstrated the same qualities: unpretentiousness and generosity.[1] Several of the participants have won Australian professional awards from the Australian Film Institute (AFI), the Inside Film award (IF) or the Australian Screen Sound Guild (ASSG), and/or contributed to awarded movies (AFI, Emmy, American Oscars or Golden Reel).

A script specifically designed for this study was given to the participating cinema sound professionals. Being provided with written material to start their work rather than visual guidelines, such as edited footage, meant that the participants modified their creative patterns. The scripted scene called for the creation of "silences" and gave participants scope for personal experimentation without aesthetic constraints or commercial imperatives. Some of them found the concept and its realisation confronting. Subsequent interviews with all creative participants between 2010 and 2012 proved to be eye-openers for some individuals on their own professional practices. The content of these interviews and electronic correspondence highlighted the importance of human interactions and the influence of associated technology to the current phenomenological processes of cinema sound-making in commercial settings.[2]

In this article I canvass definitions of the term "sound designers" through examining the roles, experiences, and aspirations of individuals usually operating as members of a complex creative team. I consider the way current technologies and subsequent professional inter-relationships influence sound design practices. I reflect on the role of sound design in the elemental relationships between the self and others. Finally, I address the creative potential of a more widespread sharing of experiential situations within the cinema industry setting.

Experiment: concept

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Filmmaking is a sensory practice reflecting the lives of all professionals involved in the production. A film soundtrack is the sum of an organic process and the product of a heartfelt assemblage of talents and ideas – and bodies. The sound department of a feature film has many different positions to fill on set and in post-production. Some terms used currently are: boom operator, sound recordist, sound engineer, sound editor, sound mixer, sound effects mixer, sound effects editor, mixer, re-recording mixer, Foley artist, Foley mixer, automated dialogue replacement Mixer (ADR), dialogue mixer, sound supervisor, sound designer and more. These various roles involve different ways to move in and around sound. The body's centre of gravity shifts according to the task performed, or limitations encountered: for example from a standing to a kneeling position for recording, specific kinetic movements for Foley, and sitting positions for post-production.

Film production constraints can be dominant creative agents, and the breakup of work within the process has the potential to affect many of a film's creative steps. In contemporary film production, edited visuals are commonly the blueprint for what is going to be heard. A movie sound crew might have been given a script early on and so have an idea of the story but, as most sound designers get involved in the production at a later stage, their first appreciation of a movie is a visual edit of the narrative or a storyboard. Most of the time sound designers' and sound mixers' experiments occur in post-production and are synched to moving images animating a planar screen.

The experiential and experimental methodology used for this study focused on an altering of the phenomenological processes of cinema sound production, therefore involving sound designers from pre-production. This process alteration changes the experience and intentions of its creators, the narrative itself and the audience's experiences of the story. A short script written for the study by professional screenwriter Roger Monk was sent to the eight Australian cinema sound designers.[3] The minimal script described a scene in which a single character, seated, smoking and confined to a small space, reflects on a professional and emotional situation. The premise of the study prohibited the researcher's participation in the creative process. The participating sound designers' only brief was that they had "carte blanche" to model their individual soundtrack from the script. In this context the role of "sound designer" was to produce a story without visual guidelines. Or was it?

Sound designers: many hats, one body

There is unease around the term "sound designer" and the specificity of the task at hand. This unease can be traced historically and has repercussions on the current phenomenological practice of cinema sound making. In the early 70s, most large Hollywood studios were dismantled partly because of trade union disputes (Whittington 2007: 113). These changes pushed people like directors Francis Ford Coppola, George Lucas, and sound professionals like Walter Murch, Randy Thom, Alan Splet and others to move to San Francisco. They formed independent companies, such as American Zoetrope led by Coppola. Without large studio constraints, these creative individuals had the opportunity to freelance, experiment, and become film collaborators in their own right (Whittington 2007: 32). In the 1970s Coppola and Murch cemented their creative collaboration with *The Conversation* (Coppola 1974) and *Apocalypse Now* (Coppola 1979). The subtleties of sounds, other than vocal or musical, had already been established as powerful narrative and stylistic elements by Alfred Hitchcock in *The Birds* (Hitchcock 1963) or by Jules Dassin in *Du Rififi chez les Hommes* (Dassin 1955), for example. Nevertheless, the collaborations of Coppola and Murch gave impetus to incorporating atmospheric sound as an intrinsic narrative element seamlessly and effectively integrated into the film soundtrack. This inevitably gave creative status to the sound personnel.

However, the term sound designer is not always a fixture of a movie's credit list, and the Academy of Motion Pictures Arts and Sciences does not acknowledge this professional capacity. When Murch tried to describe his role(s) in the making of *Apocalypse Now* (Coppola 1979), his first stereo film, he coined the term "sound designer". In an interview, Michael Jarrett asked him the origin and meaning of the term:

> It is a nebulous area. The origin of the term 'sound designer' goes back to *Apocalypse Now* when I was trying to come up with what I had actually done on the film. ... I thought, 'Well, if an interior designer can go into an architectural space and decorate it interestingly, that's sort of what I am doing in the theater. I'm taking the three-dimensional space of the theater and decorating it with sound. I had to come up with an approach, specifically for *Apocalypse Now* that would make that work coherently. In my case, that was where 'sound designer', the word, came from. (Jarrett)

All along Murch also has been a talented visual film editor, and this point seems pivotal to him expanding the sensorial integration of creative components. Murch's view of his role and status brings a phenomenological reality to quasi-regulatory approaches of the creative industries' workplace. Psychologist Dean Simonton proposed four different clusters of creativity in cinema production: dramatic, visual, technical and musical (Simonton 2004: 1494). Simonton defines the musical cluster as independent from all creative clusters, and he associates sound designers with the technical cluster. He also notes that during the 1960s the sound technicians' work was split into two different categories: special effects and sonic features (Simonton 2004: 1507). In 2007, parts of a report on the state of the creative industries in Britain pointed out that a ranking of creative contribution based on two distinct categories, "pure creativity" and "applied creative skills", did not reflect "the tensions between creative labour and the conditions in which it is put to work" (O'Connor 2007: 47-48). Current definitions or opinions on the label and the role of sound designers seem to oscillate between these divisions of labour and creativity without being able to define them clearly. Defining the function of a sound designer based on the chronology of tasks at hand is left to individual sound mediator's experiences.

Study participant Michael Worthington prefers to use the term "Surround Design" to define the aim of his practice (Worthington 2013). He also describes his professional activity as being at once an audio engineer, a mixer, a sound designer and a digital audio sculptor. For Worthington everything is sound design: voice, music, sound effects and sound design elements can be employed musically. Worthington argued that mixing is part of sound design and a sound design is something that is '"thought through" (personal communication, December 21, 2010). Sound designer and participant to the study Tom Heuzenroeder explained that he considers the activity of a sound designer as someone "coming in with a plan" to direct the soundscape in ways that enhance the overall mood of the movie (personal communication, May 1, 2011). For sound designer Emma Bortignon, the role of a sound designer is to communicate with the director and then articulate her or his ideas to the sound team in order to find technical and creative solutions that will help to tell a story (Siemienowicz 2010). Australian sound editor Livia Ruzic does not call herself a sound designer unless she is the only person working in post-production on a non-feature film (Capp 2002).

To further blur the situation, "sound designer" and "sound supervisor" can equally have an administrative connotation, as both capacities relay the creative brief to an assemblage of people producing the audio-visual narrative. Cinema sound designer Mark Ward objects to the idea that the label "sound designer" suggests an administrative role rather than that of "a major aesthetic force in the film" (Hancock 2007: 162). A quarter of the twenty-four Australian respondents to the recruitment online questionnaire for the study did not provide any answer on the subject of the predominance of a sound designer's role in a film production. The other three-quarters of the cinema professionals contacted for this study were ambivalent: half suggested that sound design is a fully

creative position, whereas the other half thought that the role encompasses both capacities. Every production being different, the question of a sound designer having a creative role rather an administrative one, or having an administrative role rather than focusing on a production's creative aspects, might be redundant.

Study participant sound designer Damian Candusso commented that a supervising sound editor is the person who has the overall view but who also concentrates on music and dialogue, and a sound designer "goes away, and creates new sound from scratch and specifically for the film." Candusso added that a sound designer is often considered as a designer of sound effects, "a creator of new and unknown sounds for specific use in the visual narrative" (personal communication, May 3, 2011). Randy Thom positions the sound designer as a person guiding the overall treatment of sound in movies while noting that this structure was still unusual in Hollywood, where a sound designer was often regarded as a "hired gun" effect maker (Thom 2003: 122). In his Churchill Fellow Report, study participant John Kassab wrote that supervising sound editors should co-ordinate the film soundtrack from inception to final mix. For him, these professionals can be more hands on or administrative according to their personal preferences but are often "the most accountable sound person to producers and directors" (Kassab 2010: 8).

There does not seem to be consensus as to an exact definition of what a sound designer does in a movie production. Although "sound design" is taught, some might find a certain resonance in Worthington's words: "Sound designer is not a job. It's something that becomes what people think is a job. Nobody is employed as a sound designer. They're employed to do a specific thing and from that they decide this is sound design" (personal communication, December 21, 2010). Sometimes, the often-nebulous tasks of sound designers calls for miracles. Writers and producers, for example, usually interact with the sound team, including sound designers, in post-production. At that stage, if pictures do not tell the story adequately or problems appear in a narrative, sound can help "fix" the story (R. Monk, personal communication, October 17, 2012).

Despite the vagueness of their role, it is quite clear that cinema sound designers closely communicate with colleagues and directors: their aim is to give a sonic texture, a sense of gravity, a mood and a feel to the story, its spaces and its characters. The multi-dimensional narrative that they create will consequently inhabit a place of projection, shared with directors and producers. Sound mixers are more focused on the experience of audiences in the designed space of a cinema. With the expression "cinema sound design", I refer to the modelling and spatial carving of the story itself by sound designers.

Disturbing the Workflow, mediating narratives' embodiments

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The emergence of digital audio workstations (aka DAW) as a primary mode of production allows a technological capability known as "mixing in the box". Experimenting with sound effects, editing, mixing and giving an overtone to a story can now be performed by an individual using one tool and in one place. This process also allows sound designers to flesh out a story by giving it an overall sonic feeling, a texture, before, during or after the production of any visuals. It facilitates experiential explorations of narrative and expands the possibility of sound designers, theoretically, to increase collaborations with writers, directors and producers.

Heuzenroeder agrees with sound designer Randy Thom's affirmation that movies could be devised around sound and sees this proposition as a "resistance to the conventional linearity of film construction" (personal communication, August 16, 2010). Heuzenroeder suggests that involving sound designers from pre-production onwards can also make some visuals redundant and cut lines of scripts, therefore adding to the creative potential of an audio-visual narrative (personal communication, August 16, 2010). This process can also save time and money for the directors and producers at a movie's shooting stage. Despite this economical incentive, the ideal of involving sound designers from pre-production rarely matches the financial constraints of most Australian productions. The concept remains utopian unless directors and producers have strong personal affinity with sound at large and want to experience the visceral intimacy that atmospheric sound can bring to a story.

Atmospheric sound, other than vocal or musical, is most of the time used as an indispensable filler. The common consensus is that the design of atmospheric sound should not distract the public unless its audible presence can be synchronised to a narrative. This component of sound designers' work is integrated in the final mixing of all sonic elements, a dedicated work that is often performed by a person who, most of the time, has had no role in the production of the different sounds, dialogue and music. This person, the mixer or re-recording mixer, is someone who is technically gifted and creative, and most importantly, someone who comes in "with fresh ears" as pointed out by most study participants. A particularity of this production step is that it happens in a large room, a space with the same type of speakers as those used in a movie theatre, allowing for all frequencies to be fully experienced.

The working spaces and personal studios of cinema sound designers have spatial limitations. Their work focuses on

the narrative and on what protagonists hear and feel: they experience it first-hand from the "sweet spot" at the equilateral distance of all speakers and, therefore, in perfect stereophony. At that point in space, says participant to the study John Kassab: "It sounds fantastic!" (personal communication, July 29, 2011). Cinema sound design aims to relay to the skin of an audience a sensorial narrative experience through mechanical devices, and its live public does not include the cinema-goers. The publics of cinema sound designers are made up of themselves, other sound creators, directors and producers. In post-production the organisation of the working space implies that both performers and public are usually seated, surrounded by speakers positioned in a set manner, and most of the time both parties will gaze straight ahead at a screen.

Film theory and film sound semantics are usually absent from interactions between cinema sound designers, other sound creators, directors and producers. Practice is the leitmotiv, and when concepts and explanations are suggested, expressions such as "it feels like" or "it feels right" or "you know when" or "what about this?" are the norm. Some professional practitioners struggle with applied terminology. Sound designers participating in the study were able to generate individual views on their practice without needing to expand on semantics. Most of the study's participants had studied sound production and sound design in institutional settings. In commercial settings the precise cinematic nomenclature that film theoretician Michel Chion has elaborated since the mid-1980s (Chion 2009: 465-500) is not regarded as essential.

The use of the expressions "diegetic" and "nondiegetic" would be unusual in a mixing room operating in an English speaking country, for example. For some sound professionals, Chion's lexicon resembles name-giving to obvious and/or instinctive sound manoeuvres and physical interactions. Should terminology be important when "hands on", tuned ears, a receptive body, instinct and story telling are the traits of the trade and result in products that can, at times, relate to prescient knowledge? All the same, Chion's notion of rendering (Chion 1994: 109) embodies the emotional and physical atmospheric creations executed, thoughtfully or instinctively, by practitioners. Chion's comments "because sounds are neither experienced objectively nor named, and through a magnetism related to all the vagueness and uncertainty surrounding them, sounds 'attract' affects for which they are not especially responsible" (Chion 1994: 112) tells of the impossibility to clearly regulate the content of a sonic narrative and its viscerality.

Regardless of its elusive definition, the practice of cinema sound design is more often than not a transmission of embodied knowledge, as we listen with the whole body, and our ears are "at best the focal organs of hearing" (Ihde 2007: 44). A focus on Murch's reference to modelling sound for a three-dimensional space allows for an integration of a sound designer as a collaborator in the translating of fictional phenomenologies into experiential events. The instinctive awareness of affective reactions on bodies, starting with their own, can influence cinema sound designers' experimentations in the spatial narrative of the story. Their experiments can also provoke pre- and/or post-production awareness for other members of the creative team.

Study participant Roger Monk recalled the experience of watching a movie he wrote, *Walking on Water* (Ayres 2002), screened in Berlin (Germany) where, Monk says, screens and sound systems are "bigger" (personal communication, October 17, 2012). Monk did not have any contact with the sound team during production. None of the previous screenings of *Walking on Water* (Ayres 2002) allowed such a detailed exposure of the sound work's intricacies as in Berlin. In that particular setting, Monk felt the delicacy of sound making and its impact on his script and on himself. It is this element of surprise, of "what they have done with it", that sums up his view of films as organic matters that are the chronological sum of human involvement: the lived experiences of all collaborators have a creative cumulative effect (personal communication, October 17, 2012).

Coenaesthetic sculptors

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Gibson's writes that "imposed perceptions" are obtained through the interactions of traditional organs of perception with the environment. His definition of "imposed proprioception" involves movement of the head and stimulation of the vestibular organs and then "the whole individual is passively transported and the eyes are stimulated by motion perspective" without any muscle participation (Gibson 1966: 44-45). This "passive transport" coincides with the notion of affect described as a state that is not linked to emotions but is the body's response to stimuli "at a precognitive and prelinguistic level" (Labanyi 2010: 224). Consciousness is not fast enough at registering the impulses absorbed by the body; they are quicker than can be perceived, therefore "the entire vibratory event is unconscious, out of mind" (Massumi 2002: 29).

Audible and inaudible sounds transform the body in its totality as an interface able to convey states preceding conscious responses and emotional involvement. Film theoretician Steven Shaviro notes the hegemony of

consciousness as the knowledgeable judge for the reality of sensations but comments that the cognitive grows out of the visceral (Shaviro 2008: 53). Sound makers' craft relies on their own predisposed and acquired bodily relationship to audible and non-audible sounds. Their role is literally pivotal. John Kassab comments that to create the "right sound" directors have to tell him "what they want their audience to feel" (personal communication, July 29, 2011). A cinema sound experience starts in the flesh of its creators, sound designers and directors, in order to move audiences. The physicality of the practice might give us clues as to the potential of sound design and a better appreciation of the professional title itself. The stylisation and transformation of sonic elements create unique artistic expressions of phenomenological characterisations and emotions in movement: sound designers are artists in their own rights.

Gabor Csepregi notes that artists at large are able to experience a form of coenaesthesia, which he refers to as "deep sensibility stimuli" (Csepregi 2006: 37). Yuasa refers to coenaesthesia as "*consciousness of self-apprehending sensation"* (Yuasa 1993: 47, italics in text), a state that promotes an awareness of one's own body. Coenaesthesia, as a felt immediacy of the body's presence in itself and the world, is also described as "a vital sense", an undefined consciousness and product of all the vital processes (The Oxford English Dictionary 1989: 433). David Appelbaum, relaying philosopher Maine de Biran's eighteenth century idea, notes that kinaesthesia, the sense of moving through space, is a mode of body consciousness that is part of coenaesthetic perception, regardless of bodily stillness or activity (Appelbaum 1993: 52).

Coenaesthesia and kinaesthesia are creative parameters that we can associate with the experiential and imaginative practice of cinema sound design. Humans have the ability to internally access different rotational planes, therefore applying kinaesthetic qualities to perceptual abstractions (Johnson 1987: 125). A person can actually imagine being in her or his own body and experiencing sensations expected in an actual situation (Mahoney and Avener 1977: 137). This process of internal imagery requires an approximation of real-life phenomenology to perform motor imagery and is a common faculty amongst athletes and other sports practitioners. Visual imagery is a mindful representation that triggers "the experience of 'seeing' in an absence of the appropriate visual stimulation from the eyes" (Kosslyn 1983: 29). Without vocal expression, the sounding of gestures, postures, materials, as well as environmental silences, echoes images of a coenaesthetic body performing within a specific space.

Each haptic element, such as the smoking of a cigarette, pushes the air a bit further so that protagonists expand their bodies and extend their physical imprint on audiences' imagination. There is no finality in the audio storytelling; instead there is a potential of visceral affect generated by mimetism, described as "the corporeally based form of imitation, both voluntary and involuntary" (Gibbs 2010: 186). Tom Heuzenroeder mentions that the artistry of sound design comes into focus when instinct and less conscious thoughts lead to a bolder approach and design takes on a character of its own (personal communication, August 16, 2010). As an experiential transfer of the coenaesthesia experienced by all individuals, sound can trigger a transmission of affect, "a process that is social in origin but biological and physical in effect" (Brennan 2004: 3). The nurturing of affect amongst a film production team that appreciates sound designers' experiences of the world could impact on the coenaesthesia of the story itself.

A scene of the film *The Hurt Locker* (Bigelow 2008) provides such a coenaesthetic sculpting of a narrative and its space modelling. In an emptied Baghdad street, American military bomb disarmer Sergent Matt Thomson, played by Guy Pearce, walks towards an explosive device wearing an armoured suit for bomb disposal, his head topped with a five-kilo helmet. The walk is slow and economical in gesture. Thomson's breath stops at the visor of his helmet, and travels back to his skin. We feel the thumping of his boots on the arid and rocky street and the armoured suit pulls us towards the ground, our shoulders feeling the weight. Through the two-way communication system Thomson's words and those of his colleagues circle around his head, our head. When Thomson kneels to pick up a piece of equipment and then stands up slowly with his arms stretched in front of him, we feel his instability and the material inside the suit brushing his limbs. There is no music but just space, skin, weight, rigidity and an impaired centre of gravity.

The sensory potential of sound reinforces both instinctive and intentional experiments of cinema sound designers to channel sonic worlds to influence the centre of gravity of their first public: themselves and directors/producers. These physical reactions are signs of oscillations, of the perturbation of emotional and physical balance that take us, primates, in and out of ourselves. This definition of the concept of affect adds a subtext that includes notions of movement and oscillating states:

> Affect, at its most anthropomorphic, is the name we give to those forces - visceral forces beneath, alongside, or generally other than conscious knowing, vital forces insisting beyond emotion - that can serve to drive us towards movement, toward thought and extension, that can likewise suspend us (as if in neutral) across a barely registering accretion of force-relations, or that can even leave us overwhelmed by the world's apparent intractability. (Seigworth and Gregg 2010: 1)

The various suggestions and opinions on the roles of "sound designer" mentioned in this paper propose that environmental knowledge intrinsic to bodily activities is able to affect the embodiment of a story. Affect is a pre-emotional and a-subjective state that allows the body to be part of environments without a hierarchy of sensations and cognitive promotion. I consider cinema sound designers as "coenaesthetic sculptors" because of the different sensory imaginations and axial permutations that they apply, consciously or not, to visible or invisible matters and bodies, thus reflecting the oscillations of a scene and immersing us in its spatio-temporality. The notion of affect is applicable to sound designers' lives and work practices and to their interactions with a film production team when devising or assembling an audio-visual narrative.

Sounding silences: a practice of affect

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The creation and use of "silences" is a demonstration of these primordial processes: affect and coenesthesia. Silences, in and outside cinemas, have become ubiquitous, noisy, invisible and indispensable. The silence of the everyday is a consensual silence made of frequencies that are part of the visual realm but absent from the visual field, like distant traffic. Silences are the vibrations we are immersed in and the perception of which can often be interrupted at will. An analogy with Paul Virilio's remark that silence implies consent (Virilio 2003: 71) can be applied to human habituation and indifference to the soundscapes of modernity. For example, frequencies and vibrations emitted by air conditioning systems are often easily dismissed. We give to their presence at once a status of inevitability and consent to their indispensability: for some their constancy brings stability to their soundscapes. At the same time, the absence of these "silences" on a film soundtrack can have a destabilising effect on film-goers. The perceived ubiquity of locative silence provides a cinematic vocabulary that includes the expressions "room tone", "silence", "atmospheres", "backgrounds", and "ambiences". Creating the silences of the everyday links environmental sound, bodily absorption and creative practices.

Film director Mike Figgis directs his explanation of the fear of digital silence onto the reactions of audiences. In his career, Figgis always wanted to put some silence in a film and "have *nothing* on the soundtrack" (Figgis 1998: 1, italics in text). He took that opportunity in a scene in his film *Leaving Las Vegas* (Figgis 1995). Figgis did not attend the post-production stage, but watched the film with the crew in the big space cinema where the sound of silence sounded "gorgeous" (Figgis 1998: 2). However, when he went and experienced the movie in a crowded movie theatre, Figgis noted that "suddenly, it's so quiet in the cinema that you can literally hear everything, and you don't have the protection of this sound blanket of mush, or just ambient noise, or whatever, which we come to expect of a soundtrack" (Figgis 1998: 2).

Expectations and affective creativity can be tested by the impact of narrative embodiment. Kassab testifies to this potential when noting that "silence can make us lean forward in our seats to be absorbed by the visual drama, a sudden sound from silence can then throw us back in our seat" (personal communication, July 29, 2011). Cinema sound designers' first public are directors and producers, an audience that can be crudely described by W.A Darlington as one that follows "the dramatist's meaning like a pack of hounds on a scent" (cited in [White 2011: 199]). A number of producers of large budget films tend to be afraid to introduce relatively inaudible quietness, to "take this risk" as explained by soundman Tony Murtagh:

> Something that can be frustrating for some one who is trying to create a sound design for a film is when changes are made to the locked picture cut. Often times quieter sections of the film, usually where actors aren't speaking, will be removed, as these sections appear to slow the pace of the film. We will often get locked picture cuts of films to work on, which will have lots of nice spaces to create interesting moments in the soundtrack. This can be done through the use of the real environment sounds experienced in the film as well combining other sound sources. Before a film reaches sound post production it has gone through a considerable number of screening. From the edit suite, to director, to producer, to production company and to investor screenings. At any of these screenings changes are likely to be made and one of the most likely changes is "Oh there is a dead space there, how about we take it out and tighten up the sequence." (personal communication, September 22, 2010)

Many sound makers and most directors would advocate the necessity to use ambient sound or "room tone". However, most study participants, when acting as sound designers, have a fascination and a great desire to use more subtle silences as spatio-narrative elements. Some of the participants also relish the use of "pure" silence, a total absence of information on the digital track.

The process of convincing directors or producers of the cultural validity of digital silence is a physical adventure in itself: one has to be in the studio or the mixing room to experience the potential of what is often thought of as a full

sensorial disconnection. The experience of inserting digital silence entails the physical presence of all parties. Such collaborations are based on trust. Sound designer and study participant Carlos Choconta mentions his physical interaction and persistence at post-production stage while trying to insert digital silence instead of audible sound: "I was with the producer and that's when a lot of sounds were chopped away. So that's why it was a win for me, because I managed to convince him" (personal communication, May 5, 2011).

Sound design: sharing trust and space

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It would be presumptuous, and unnecessary, to generalise about Western professional practices because of the contextual particularities and the evolving identity of each project, as well as the galloping technological changes inherent in the industry. Each professional generation is associated with technologies that inevitably modify the phenomenology of human involvement in cinema sound creation. Nowadays, with the use of digital audio workstations allowing for fast sound manipulations and experiencing of sensations, the process of "mixing in the box" allows cinema sound professionals to pre-mix while watching footage, but also while reading script. The chronology of their sonic experiments and creative sensitivity can also then be conveyed, and approved, at an earlier stage by the director.

Technique and experiments reflect on a collaborative creativity emerging out of industry necessities, human physical interactivity and the sharing of life experiences. Chion writes that "Audiovisual relationships are largely cultural and historical but, in everyday life as well as in the audiovisual arts, they rely also on relatively 'little-known universal psycho-physiological phenomena'" (Chion 2000: 205). Innate and immanent knowledge of the self in the world can depart from cognitive intentionality, and at times this phenomenon demands the sharing of the same place and atmospheres. Vibrations provide the flow that attests to "the permeability of individuals in their environment as they selectively transduce and amplify its energetic patterns – that is, propagate affect" (Henriques 2010: 84). Transmitting and sharing states of affect with creative collaborators is as important as invoking cultural or commercial assumptions. Could the physical collaboration of sound women and men, directors and producers, through sharing of common space and transmission of affect influence the overall narrative prior to any visuals being shot?

For the film *The Hurt Locker* (Bigelow 2008) director Kathryn Bigelow, writer Mark Boal and sound designer Paul N.J. Ottosson worked together, sometimes in the same space, from the pre-production stage. Ottosson mixed *The Hurt Locker* (Bigelow 2008) himself and "in the box", only getting into a mixing theatre to adjust tonal balance. He won two Oscars for his editing and mixing of this particular feature film. Ottosson, Boal and Bigelow re-iterated their successful collaboration with *Zero Dark 30* (Bigelow 2012) and, yet again, Ottosson won an Oscar for best sound editing. Kassab says that Ottosson's work process, technological use and creative involvement from start to finish "sent shockwaves throughout the sound community" (Kassab 2010: 13). The validation of *The Hurt Locker* and *Zero Dark 30* soundtracks suggests that successful sound design can be a phenomenological process between writer, director and sound designer as technology allows a blurring and intertwining of production roles.

The technical process and consequences of "mixing in the box" from pre-production on, independent of the signposting provided by moving images, suggests a re-mapping of the experiential and chronological process of sound creation. For writer-director Rolf de Heer, imagining sound is a physical part of writing. During an informal conversation with this article's author, de Heer made a gesture with his two hands near his head to indicate that, while writing, sound sits "next to him, just there" (personal communication, September 1, 2012). Writing with sound and for sound has also been central for Australian writer-director Matthew Saville. His collaboration with sound designer Emma Bortignon on *Noise* (Saville 2007) started from pre-production onwards, a long time before any visuals were shot. Their exchange of ideas and Bortignon's experiments resulted in a movie that literally and metaphorically resonates with the sounds and silences that suffuse the lives of the main characters.

This mode of feeling sound is the norm in contemporary animations, and in science fiction films, as their genesis relies heavily on sonic characterisation. John Kassab worked for 13 months on the short Australian animation *The Lost Thing* (Tan and Ruhemann 2010) that won the Oscar for short animation in 2010. Both sound and animated work were feeding on each other, a process that Kassab qualifies as "a complete technical and creative anomaly" leading to a "completely open beautiful collaboration" (personal communication, July 29, 2011). Regular meetings in the flesh allowed for experiential symbiosis, and online file transfers of drafts ensured constant communication. For a few years Rolf de Heer and sound designers James Currie and Tom Heuzenroeder were working in the same building in Adelaide (Australia). Known as an excellent sound team and long time collaborators, Heuzenroeder and Currie used to ask de Heer to "'come down and have a listen to this', and he'll come down and then we'll play him some things and he'll approve or make a comment" (personal communication, May 1, 2011).

Design can be a bold and spontaneous activity put into motion by affect and multi-sensory experiments offered to directors; mixing entails more moderation and seems prompted by the thought of the potential transmission of affect amongst crowds. There is a trans-situational aspect to these creative events and their affective continuity as they establish a "connecting thread of experience" (Massumi 2002: 217). Environmental and atmospheric sound personifies such an affective thread of experience for all immersed in its presence in post-production or inside cinema theatres. De Heer's long-term collaboration with James Currie starts at location recording, as both privilege the atmospheric truth of the location and understand "an audience's conscious and sub-conscious acceptance of the reality of their movie". In parallel, the inclusion of Westerkamp's existing acousmatic composition in the soundtrack of *Last Days* (Van Sant 2005) is perfectly described as "housed within the spaces we see on screen, while continually offering a ladder out of the frame to lands that lie beyond" (Jordan 2007). Although Westerkamp's piece had no physical relation to the movie's location, it is the sonic habituation and coenaesthesia of audiences that validate its ubiquitous presence.

Sound designers and mixers work towards communicating psycho-physiological experiences with directors or producers in order to ultimately gain audiences' acceptance. Tom Heuzenroeder mentioned that because sound has the potential to steer a movie towards different shores, a film sound person needs direction from the director, and their working relationship needs to be "solid" (personal communication, August 16, 2010). In the context of the study I was neither a client nor a director and therefore did not act as "a sounding board". Perhaps if I had been physically in the studio with participants our social interaction would have affected us biologically and physically. A transmission of affect could have influenced the coenaesthesia of both sound makers and myself, and subsequently that the story itself, thus becoming a determinant factor in the production of study participants' sound creations. Instead, the solitary process demanded by the experiment triggered some unexpected reactions from some sound designers.

As a response to my non-sensorial participation and absence of direction, one study participant gave me two different audio versions of the script. The assumption was that the one that I (the "client") would prefer could be different to the one that the creator liked himself. Another consequence seems in direct line with the notion of affect and the creation of silences. At the end of our face-to-face interview, Heuzenroeder said "All along you were after silence, and I didn't provide you with any!" (personal communication, May 1, 2011). Heuzenroeder sounded almost surprised and maybe a bit disappointed, as if he had missed an opportunity, giving me the impression that he might have "silenced himself". Maybe digital silences would have inhabited the soundtrack if I had been physically in the studio to experience the coenaesthetic sculpting of the script and its story.

Conclusion

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A phenomenological approach to film theory provides a "mutually constitutive relationship" between non-filmic factors and filmic experiences as they influence each other inside and outside cinemas (Stadler 1990: 41). The sensory dynamics that manifest in the way human bodies perform in their environments are essential to the genesis of modes of inter-communication with the cellular self and others. The manner in which this sort of communication is acknowledged varies because, although it is not a metaphysical proposition, it is not a definite scientific hypothesis. These phenomenological modes of interaction and their creative aspects are sometimes dismissed in order to fence in communication methods and production models. Nevertheless, cinema sound-making is an osmotic process able to permeate all aspects of film production.

Budget constraints limit the number of sound crew involved in different stages of the film production and therefore expand the roles of the persons involved. One person can fit many production roles and can be involved at different stages of the creative process. With many production variables at play, the term "sound designer" still appears vague: individual practitioners seem to apply different criteria to its functions, at the risk that the title of "sound designer" might become meaningless. However, an important point of the study was the insistence by all participants that, as individuals, they were foremost part of a team. To my ears this constancy in their perception of their function at once increases their role as talented leaders and confirms their unpretentiousness.

The physical aspects of sound making for cinema consolidate the role of sound designers functioning as sensorial mediators able to spatially embody a story and take us under its skin, as so well demonstrated in *The Hurt Locker*. Could "a nurturing of affect", lead by an experiential sharing of sounds and silences, contribute to enriching and solidifying collaborations between writers, directors, producers and the sound team? Kassab describes the communication between him and directors or producers when trying to "sell" them a moment of digital silence. The complexity and possibility of digital silence makes producers, and some directors, nervous, but at the same time it is a satisfying manoeuvre for "sound designers who like to push the limit" (Kassab, personal communication, July 29,

2011). Their interaction starts with the sound designer asking "'What do you think of this?' Answer from director/producer: 'hoo I don't feel good' followed by a question from the sound designer 'but isn't that what you want your audience to feel?' to which directors or producers often answer: 'haa ok, but only for a second, you know?'"(personal communication, July 29, 2011).

This anecdote shows the importance of affect as an essential part of a creative production mode. To some extent it confirms that the physical involvement of sound designers with other members of a movie production team should not be limited to post-production and the reliance of a visual narrative. However, in the contemporary movie industry, a lot of sound production work is now done online through exchanges of sound files and subsequent emails or video-conferencing allowing worldwide live feedback. Could the substitution of human sharing of spaces for virtual meetings have an impact on a transmission of affect between sensory makers, story devisors and film producers? Would listening only with the ears and communicating only through the voice influence an affective practice of cinema sound design?

Certainly the division of creative clusters opposing the concepts of "pure creativity" and "applied creative skills" seems irrelevant to the potential suggested by new work configurations. Rather, it is late involvement and creative input by "coenaesthetic sound sculptors" to a sensorial product, a movie, which deserves some attention. It limits the potential of storytelling by re-enforcing the assumption that movies are foremost visual experiences for many. That might be because our cognition is thought to interpret light faster than audible sound. Nevertheless, some theoreticians, producers and directors could all be guilty of the same sin: instead of talking about and feeling sound they "are actually thinking of the visual image of the sound's source" (Metz and Gurrieri 1980: 29). Sound designers-supervisors-mixers aim to move audiences to the edge of their seats but, ultimately, they are telling a story to entertain others by responding to the ideas, and sensations, of directors. The voluntary or involuntary dismissal by some directors, and producers, of the potential creativity of sound designers' practices diminishes the authorship of the human body itself and disallows us all an exploration of our own coenaesthetic beings.

Notes

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1 All participants gave consent for their soundtracks, interviews and correspondence to be part of the study data. Their bibliography and credentials can be accessed at this address: http://www.inaudible-visions.net/?page_id=30

2 For copyright reasons the soundtracks created by cinema sound professionals for this particular study cannot be accessed online. Their use is exclusively reserved for conference presentations and artistic exhibitions.

3 The script written by Roger Monk can be accessed online through the visioning of a short audio-visual piece that amalgamate some elements of the exhibition "Inaudible Visions, Oscillating Silences".

Isabelle Delmotte is a practicing artist; her multi-media installations have been exhibited internationally. Her academic enquiries and their artistic incarnations have generated alternative approaches to sensory awareness."Epileptograph: the Internal Journey" became a valuable interdisciplinary vehicle linking the domains of art, health and science through explorations of the notion of consciousness. Isabelle's latest academic research and its artistic component focus on environmental sound awareness. "Inaudible Visions, Oscillating Silences" uses the practice of cinema sound design as a vehicle to interrogate contemporary notions of silences, acoustic ecologies, health and cultural practices. Isabelle holds a Master of Fine Arts by Research (University of NSW, Australia) and a PhD in Media Studies from Southern Cross University (NSW, Australia). Website: http:// www.inaudible-visions.net

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