

Sonic Assault to Massive Attack: touch, sound and embodiment

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In Dorothy L. Sayers' novel, *The Nine Tailors* (2003) the man whose death is being investigated by Lord Peter Wimsey is killed by sound. Accidentally locked in a church bell-chamber during a celebration New Year's change-ring of "fifteen thousand, eight hundred and forty Kent Treble Bob Majors" (p. 12), the man dies in agony under the sonic assault of nine huge bells. Wimsey realizes what has caused the man's death when he finds himself in the bell-chamber during a short emergency peal and suffers a breakdown. Sayers' description of the dead man makes it clear how traumatic his death has been, as Jim Thoday who discovered the body recounts:

He'd died on his feet and whatever it was, he'd seen it coming to him. He'd struggled like a tiger against the ropes, working at them till he could get upright, and they had cut through the stuff of his jacket and through his socks. And his face! My God, sir, I've never seen anything like it. His eyes staring open and a look in them as if he'd looked down into hell. (p. 337)

Sayers' method of death in this case has since been challenged, with H.R.F. Keating (1989) noting that the physiology is incorrect; the sound alone would not have caused the man's death. Death from loud noise is due not to the effect of the sound on the ears, but to the change in air pressure that affects hollow organs such as the lungs, causing embolisms; without the kind of decompression that accompanies a mortar explosion, the pressure change would not have been sufficient. For Sayers' readers, however, the death was not fantastic, but wholly understandable through the cultural memories it evokes of hyper-sensitized soldiers returning from the War – the experience referred to directly by Wimsey's own response.

Without becoming embroiled in detailed physiological arguments we might note that the relationship between sound and embodiment is complex and not sufficiently explained by the definition of sound as a percept of the human sense of hearing – or as a physical phenomenon given meaning through its mediation by the human sense of hearing. It is those things but it also affects us in ways that these explanations do not quite explain. I would argue that sound is as much a touch as a hearing percept – and, further, that it is the intimate relationship between sound and touch that makes sound such a powerful means of expression and communication.

Embodying sound

In the Sayers' story Lord Peter Wimsey's own experience of the bells is not only of an inhumanly loud volume of sound but also of the memories of World War 1 fighting in the trenches in France that are conjured sonically by it. Wimsey himself suffers a temporary breakdown and is rescued by Bunter, his valet and former Sergeant and aide in France. After World War 1 this phenomenon, which we might now call post-traumatic stress disorder, was called 'shellshock' and related directly by some battlefield physicians to exposure to the pounding of heavy mortar. The Spartacus Educational website entry for "Shellshock" notes: "These doctors argued that a bursting shell creates a vacuum, and when the air rushes into this vacuum it disturbs the cerebro-spinal fluid and this can upset the working of the brain." As the website also notes, the condition was not considered by everyone to be related to loud sound, but more generally to the appalling conditions of the battle-field. However, sound is recorded as triggering an embodied response in the sufferer, as in this quoted diary entry by Corporal Henry Gregory who served with the 119 Machine Gun Company:

It was while I was in this Field Hospital that I saw the first case of shell-shock. The enemy opened fire about dinner time, as usual, with his big guns. As soon as the first shell came over, the shell-shock case nearly went mad. He screamed and raved, and it took eight men to hold him down on the stretcher. With every shell he would go into a fit of screaming and fight to get away.

It is heartbreaking to watch a shell-shock case. The terror is indescribable. The flesh on their faces shakes in fear, and their teeth continually chatter. Shell-shock was brought about in many ways; loss of sleep,

continually being under heavy shell fire, the torment of the lice, irregular meals, nerves always on end, and the thought always in the man's mind that the next minute was going to be his last. (quoted in Spartacus Educational, "Shellshock")

Wimsey's response to the church-bells is that he is transported back to the battlefield, to the sound of falling mortar shells, their concussive force and their promise of death. In other words, in Sayers' description of Wimsey's breakdown sound triggers the memory of another time and place – and the sound, sight, smell, taste and feel of that place, overwhelming Wimsey's understanding of space/time and sending him back to another, earlier time and space. Further, he is transported back to that time and place not in a disembodied, distanced way, but in a fully engaged, embodied sense. The related implication is that a visual or verbal stimulus would not have the same effect; somehow it is the embodied perception of sound that so disorients Wimsey's sensorium that he is transported to a different space/time.

In Sayers' description, then, sound is represented as a percept that has the capacity to disorient the senses and therefore to disrupt the engagement between the embodied subject and their immediate reality. Also sound is represented as affecting the subject not only by its immediate physical or sensory reception/perception, but also through the memory it evokes of other events and their associated perceptions, which may involve all the senses, not only hearing.

The immediate question raised by this explanation is whether sound can be seen as deconstructing the conventional separation of the senses that allocates sound to hearing, locating this separation as an artefact of the same categorical thinking that conceptualizes body and mind as separate, if interrelated. In other words, in exploring how sound affects us do we need to take account of the already-interrelated nature of the senses – so that sound is able to affect us as it does because it appeals to multiple senses and specifically to senses that have a visceral intimacy with the physicality of embodiment, such as hearing and touch.

The touch of sound

The touch of sound includes its physical practice; sound literally touches us, as campaigners against loud noise attest. Bass reverberates through us; the sound of a jet engine shakes not only houses but also the people inside them. The phenomenon that we hear as sound is produced by the intimate touching of tiny bones in the ears in response to reverberations of the eardrum. In a sense we act as both receivers and instruments to create the sound we hear; are fully engaged in its production. There is not necessarily the same sense of engagement (or possible annoyance) with visual perception, which is relatively distanced. As William Welsh noted:

Whereas vision is a distancing sense, hearing is one of alliance ... hearing ... does not keep the world at a distance, but admits it. 'Tone penetrates, without distance.' Such penetration, vulnerability and exposure are characteristic of hearing. We have eyelids, but not earlids. In hearing we are unprotected. Hearing is a sense of extreme passivity, and we cannot escape from acoustic congestion. - That is why we are especially in need of protection acoustically. (quoted in Bull, 2000)

Welsh's characterisation of hearing as involving "penetration, vulnerability and exposure"¹ attest to its visceral nature and it is surely no accident that while 'visceral' denotes 'of the viscera' or internal organs, it also means 'emotional' and 'instinctual'. In other words, once the body is involved intimately in processing a phenomenon or event or practice, its significance moves beyond the mental or intellectual or distanced to include the emotions as well – a wholly embodied response. And we might note also that the reverse also happens; that we tend to deploy the senses fully in not just expressing but also experiencing our attitudes and values. For example, racist (or sexist or classist) beliefs are accompanied by not just value judgements about one 'race' compared with another, but also feelings and perceptions; at the most sensory level, by denunciations of the sight, sound and smell of the supposedly inferior race; they look cheap or dirty; their language or music sounds ugly or discordant; they smell bad.

In other words, once we start to examine a mode of perception that is intimate, visceral and clearly embodied, rather than distanced from the body (though even the perception of sight as distanced is a relatively modern one²), then we become aware of the interrelationships not only between the senses (more on this later), but also between our senses, our emotions and our judgements or beliefs or thoughts – and hence what we construct as knowledge. Which explains why touch is used metaphorically (at least in English) to refer to emotional and intellectual states.

The sense of touch

Touch has multiple significances for human embodiment, which is to say embodied human being or the embodied subject. This includes touch as a physical phenomenon or practice and as one of the human senses, as well as its deployment in a range of metaphors related to other human responses or states including emotional ('I was touched by her story') and mental or spiritual state ('she's touched [in the head]').

Touch is one of the capacities that comprise the traditional (Aristotelean) understanding of the human sensorium, along with sight, hearing, taste and smell. Neuroscience, with its different methods of classification, has since 'identified' or classified at least six other senses, which are variously related to these, including kinaesthesia (sense of movement), proprioception (sense of position in space/time) and thermoception (temperature sense). In classifying the senses in this way, through ever more minute categories, western medicine and science is able to work specifically on those sub-categories. However, in so doing it potentially loses a sense of the interconnectedness of the senses, which we might argue is essential to their operation. That is, we rarely are in a position where any of our senses is isolated from the others; rather our understanding of ourselves and of our world is generated by the interrelated functioning of the senses that generates a complex understanding of our being-in-the-world. For example, looking at a picture is accompanied by our sense of our location in space relative to the picture (proprioception, an aspect of touch) as well, arguably, as other senses such as smell (the linseed oil smell of an oil painting, the lingering chemical traces of photographic printing).

Further, the senses co-operate to generate an understanding of being-in-the-world through processing of not only the physical data, but also the associations accumulated individually and culturally with that physical, sensory data. That is, each specific perception has associated memories and perceptions that become part of the meaning of that encounter or event. In the Wimsey story and the WW1 diary entry discussed above, the experience of very loud sound precipitated a memory of an earlier experience and all its associated perceptions and meanings – the sight, smell, feel and touch, as well as the sound, of trench warfare and the feelings and thoughts associated with it. The next section specifically explores the relationship between music and touch, in order to establish the intimacy of our relationship with sound – which will then be explored as a social and cultural, as well as individual, practice.

The touch of music

Music has often been related specifically to the sense of touch through the notion of the performer's 'touch'. In 2006 concert pianist, Simon Tedeschi spoke about the relationship between touch and music for the Art Gallery of New South Wales lecture series, "The Senses". In an extraordinarily evocative image Tedeschi described the keys of a piano stained with the blood and sweat of pianists at practice. He noted that the more common notion of the performer's 'touch' is a kind of tactile metaphor referring to the contour of pressure and release that characterizes the way a pianist touches the keys, and sometimes a guitarist's touch on strings. The metaphor is primarily used to describe the interaction between performers and instruments that are struck or plucked with the fingers and signifies the uniqueness of a performer's action. One performer's touch is unlike any other's because it arises from her/his specific embodiment – the shape and size of their hands but also how those hands articulate the performer's understanding of and feeling about the music they are playing. The performer's 'touch' is her or his embodiment of music.

Tedeschi didn't stay with touch as metaphor, however, but related his playing of the piano and the production of music directly to the literal touching of the keys, drawing attention to the materiality of the performer's work. He noted that the pain that produces the sweat and blood on the keys of the piano *is* the music he plays. Without this embodied interaction, there can be no music. Further he spoke about the staining of the keys as a communal practice; that music is not just the production of/by an individual, but a communal or cultural practice; the bodily traces on the keys are the embodiment of music as a cultural, not only individual, practice.

Scottish writer and saxophonist, Brian Morton described the experience of playing the saxophone through a combination of tactile and visual metaphors:

It knows it's being talked about and it's watching me from the other side of the room. Just like, gulp, Alien. I suspect saxophone players understand the facehugger bit better than anyone, but let's not go there. I have a small thing growing in my chest again. Want to play. Constantly nagged to play. (Morton, 2006)

Morton's description conveys the visceral sensation of playing an instrument that must be given access to the body, unlike instruments such as guitar, violin or piano that are touched but not taken into the body. This inspired piece of cross-modal exposition captures not only the formal similarity between the saxophone and the larval state of the alien in Ridley Scott's famous movie (*Alien*, 1979), but also its tactile similarity to several states of the creature – the face-hugger that forces its tail deep into the chest cavity of the victim and the later emergent stage that grows within the host and then batters through the ribs and chest to enter the world. The sensuality and sexuality of the face-hugger – a kind of monstrous fellatio – are deflected onto/into the sensual/sexual sound of the saxophone, along with the symbiosis of instrument and player locked in a process of (musical) gestation. And the emergent form captures both the painful desire to play and the consuming nature of the experience; too consuming to allow with equanimity or rational control – a monstrous and wonderful parturition – *The Birth of the Cool*. This fully embodied, aching tactile and somehow grief-stricken description is visual in its primary reference but draws simultaneously on the tactile associations of those visuals. None but the most cine-hardened can view *Alien* for the first time (or many times thereafter) without gulping at the prolonged penetration of the face-hugger and recoiling at the emergence of the new-born creature. Morton's writing relies on this cultural experience – an embodied visual and tactile response – in order to create an understanding of the physical, emotional and intellectual relationship between musician and instrument – of compulsion, desire, dread.

The richness of Morton's description is related to not only its multi-sensory appeal but also its evocation of a text that is itself rich in meaning. The likeness between instrument and colonising alien and the notion that the musician willingly allows this invasion of the self echoes many of the stories told by musicians and other artists about their engagement with their art; that it requires a conscious surrender of the self. And the resulting monstrous other – the human-alien hybrid that is born out of the creature's gestation within the human – is an equally evocative representation of music as a cultural practice and performance that engages the individual, but goes beyond the everyday understanding and definition of the self. Morton's description is the other side of the romantic notion of music and the musician, evoking the monstrous otherness of the relationship – its extraordinary power and terrible beauty – and most of all its critical tactility.

In their writing about the performance of music both Tedeschi and Morton focus on its fundamental tactility, effectively deconstructing the abstraction or fetishization of music that has removed it from both performers and audiences. As well both are intensely aware of the material nature of the instrument with which they interact – the sweat-stained, bloodied keys of Tedeschi's piano, Morton's consuming saxophone. In this they bear witness to Schroeder and Rebelo's theorisation of the role of this awareness as a model for interaction with technologies of other kinds: "This approach suggests that, rather than regarding the instrument as a seamless merging with, or a seamless extension of the body, the discontinuity between the performer and the instrument becomes the main concern. In this line of thinking, the idea of seamlessly merging objects, which is often promoted in wearable technologies, neglects this intricate and vital relationship of performer/instrument." (2007: 88) Morton's use of the alien, in particular, eschews any notion that musician and instrument become one seamless whole.

For Schroeder and Rebelo the development of technological interfaces that are effective and powerful comes through this kind of understanding of the fundamentally embodied nature of our interaction with technology, which means recognising the materiality of the specific interface. For too long, they argue, the model for the successful interface has been the instrumental extension to the human body that disappears or becomes invisible to the user, which has been based on the notion of the performer whose instrument becomes an extension of her/himself. They recognize that this has been a way that people have been taught about musical performance and yet, they argue, it is not an accurate depiction of the relationship.

The intricate interaction of performer and instrument is commonly described as one in which the instrument forms an extension to the performer's body. The performing body tends to be misunderstood as one that is extended by certain technologies, such as a musical instrument. The idea of extension erroneously brings with it the idea of transferring of the body onto the instrument, a voicing of one's body; a body drawn out of itself. In this light, engaging with an instrument is seen as a transfer of information from one's body to the instrument, from the body to the world: the formula "from-to" mistakenly becomes of importance (Schroeder, 2005).

In its place they posit a model of interaction that is more like "itching and scratching" which "not only reveal the boundaries of one's own body, but it is also through itching and scratching that the performer is able to acknowledge

strangeness and difference, as well as the resistances that are offered by her instrument.” Through this self-conscious engagement, they argue, “the instruments themselves suggest to us specific ideas of their textures and materiality” (Schroeder and Rebelo, 2007), a conclusion with which both Tedeschi and Morton would undoubtedly agree. However, where Schroeder and Rebelo’s model is still very much located in the embodied individual, Tedeschi and Morton also map the communal/cultural nature of the practice, as noted above. Though it is not the purpose of this paper to explore this analogy between musician and technology user, it might be productive to contemplate how their communal/cultural understanding of the engagement would inform and extend Schroeder and Rebelo’s thinking.

Tedeschi’s and Morton’s identification of the cultural significance of their practice also leads us to another aspect of music, and of sound more generally, that is related to tactility – in both literal and metaphorical senses – which is sound as a form of social control, coercion or solidarity.

Controlling sound: as weapon

The value of working from Tedeschi’s and Morton’s statements is that they’re not dependent on an expressive theory of music that identifies its relationship to performer and to audience in purely affective terms. Instead both explore the tactile materiality of music and of performance. This understanding of music can be extended to sound more generally, as in the work of soundscape theorists, Murray Schafer and Hildegard Westerkamp.

In his book, *The Soundscape* (1994) Schafer identifies sound as an index of social power because of the way it effects people, both metaphorically and physically. Its physical effects or consequences are directly related to touch, as glossed earlier, in that they can include deafness and disorientation. So Schafer has written specifically about the relationship between sound and touch: “Hearing and touch meet where the lower frequencies of available sound pass over to tactile vibrations (at about 20 herz). Hearing is a way of touching at a distance ...” (Schafer, 1994: 11) Schafer also notes where this touch can become painful, describing the range of human hearing as “from zero decibels to approximately 130 decibels (where sound sensation is converted to pain).” (Schafer, 1994: 115) Jacques Attali made the same point in his book, *Noise: The Political Economy of Music* (1985):

... noise is a source of pain. Beyond a certain limit, it becomes an immaterial weapon of death. The ear, which transforms sound signals into electric impulses addressed to the brain, can be damaged, and even destroyed, when the frequency of a sound exceeds 20,000 hertz, or when its intensity exceeds 80 decibels. Diminished intellectual capacity, accelerated respiration and heartbeat, hypertension, slowed digestion, neurosis, altered diction: these are the consequences of excessive sound in the environment. (p. 27)

Because sound has this effect on the human body, Schafer relates the power to inflict it upon others to social power: those able to make loud sound and broadcast it to (or inflict it on, depending on your viewpoint) the community are those with the most power. In medieval times church bells attest to the power of the early Christian Church within Western society. In more recent times this power has accrued to large business corporations and to government, including its police and military agencies.

The notion of sound as a weapon has a much-remarked history, from the biblical story of Joshua bringing down the walls of Jericho with a trumpet blast to contemporary accounts of the development of sonic weapons (Altman, 1999). Virginia Madsen described a recent sonic assault in her paper for the Biennale of Sydney (2008) about the FBI siege of the Branch Davidian Compound led by David Koresh in Waco, Texas in 1993 (see also Madsen 2009). In what may have seemed a relatively harmless method of distraction and extraction – as compared with direct assault with military weapons – the FBI blasted the compound with a cacophony of sound at very high volume in an attempt to force the sect members to surrender and leave the compound. The sounds they used reportedly included the screech of a dentist’s drill, the squeal of rabbits being killed, the chanting of Tibetan monks, and the pop music of *The Carpenters*. Their intent apparently was to cause the Davidians physical discomfort or even pain and to render them mentally unable to concentrate or communicate, and so unable to organize their resistance to the FBI agents. Alan A. Stone’s report into the siege, *Report and Recommendations Concerning the Handling of Incidents Such As the Branch Davidian Standoff in Waco Texas* (1993) explained, and condemned, the strategy:

The pressure strategy as we now know it consisted of shutting off the compound's electricity, putting search lights on the compound all night, playing constant loud noise (including Tibetan prayer chants, the

screaming sounds of rabbits being slaughtered, etc.), tightening the perimeter into a smaller and smaller circle in an overwhelming show of advancing armored force, and using CS gas. The constant stress overload is intended to lead to sleep-deprivation and psychological disorientation. In predisposed individuals the combination of physiological disruption and psychological stress can also lead to mood disturbances, transient hallucinations and paranoid ideation. If the constant noise exceeds 105 decibels, it can produce nerve deafness in children as well as in adults. Presumably, the tactical intent was to cause disruption and emotional chaos within the compound. The FBI hoped to break Koresh's hold over his followers. However, it may have solidified this unconventional group's unity in their common misery, a phenomenon familiar to victimology and group psychology. (p. 14)

An extraordinary feature of this assault is that the compound housed a large number of children who were also subjected to this assault – and to the final massive artillery assault. The report expands on this point:

When asked, the Justice Department was unaware whether the FBI had even questioned whether these intentional stresses would be particularly harmful to the many infants and children in the compound. Apparently, no one asked whether such deleterious measures were appropriate, either as a matter of law enforcement ethics or as a matter of morality, when innocent children were involved. This is not to suggest that the FBI decision-makers were cold-blooded tacticians who took no account of the children; in fact, there are repeated examples showing the concern of the agents, including the commander on the ground. Nevertheless, my opinion is that regardless of their apparent concern the FBI agents did not adequately consider the effects of these tactical actions on the children. (p. 14)

Notoriously, some 76 people (including 21 children) died when the siege was ended by a direct attack by FBI agents in armoured vehicles and in a fire which destroyed the main buildings. Some claim the fire was set on the orders of David Koresh; others that it was the result of FBI action. Stone's report concludes that, whether Koresh ordered the fire to be set or not:

I have concluded that the FBI command failed to give adequate consideration to their own behavioral science and negotiation experts. They also failed to make use of the Agency's own prior successful experience in similar circumstances. They embarked on a misguided and punishing law enforcement strategy that contributed to the tragic ending at Waco. (p. 2)

Part of that strategy was the deployment of extreme sound – sounds that were disturbing in themselves and/or in their sequencing, and which were broadcast at very high volume. As Schafer notes, sound becomes pain at certain volumes – and at certain frequencies. Logically, following the FBI's own reasoning, it might even have been the disorientation caused by the sonic assault that led to the Davidians' unification around Koresh and to their eventual deaths, precisely because it made rational thought impossible.

The same kind of sonic assault is implied in the strategy, "Shock and Awe" deployed by George W. Bush in the U.S. military attack on Baghdad in 2003. This strategy described by Harlan K. Ullman and James P. Wade in their book, *Shock and Awe: Achieving Rapid Dominance* (1997) is based on destroying the enemy's will to act:

The aim of Rapid Dominance is to affect the will, perception, and understanding of the adversary to fit or respond to our strategic policy ends through imposing a regime of Shock and Awe. Clearly, the traditional military aim of destroying, defeating, or neutralizing the adversary's military capability is a fundamental and necessary component of Rapid Dominance. Our intent, however, is to field a range of capabilities to induce sufficient Shock and Awe to render the adversary impotent. This means that physical and psychological effects must be obtained. ("Introduction")

Though the authors do not specify the use of sound as a weapon until later in their exposition, referring here to the comprehensive use of weapons and propaganda to demoralize the enemy, it is clear that the kind of massive bombardment proposed – and subsequently undertaken in Iraq – includes the kind of sonic effects and affects experienced by the soldiers in World War 1 (and subsequent wars), and described in the Lord Peter Wimsey novel discussed earlier. Further, in Iraq many of those exposed to the bombardment – in fact, the major number of those exposed – was not military but civilian.

The result has been massive numbers of civilian dead – men, women and children: according to the Iraqi Health Ministry some 151,000 violent deaths due to the war in 2003-2006 (Iraq Family Health Survey Study Group, 2008), a survey by the British Medical journal, *The Lancet* of the same period records over 600,000 violent deaths (Burnham, Lafta, Doocy, Roberts, 2006).

So again sound is both an embodied experience of terror and pain – The U.S. War of Terror – even as it embodies the memory of the material, physical devastation caused by the weapons with which the sound is associated. One can only imagine the terror of the children of Baghdad as this assault was executed, yet this consideration did not affect the Bush administration strategy – as it had not swayed the FBI agents at Waco. Instead they represent their action as for the ‘greater good’ of the dead or terrified children, the salient point being that they abstract their understanding of the purpose and value of the assault from the material being of the children to some ethical or moral dimension within which they construct the reality of the children’s lives. The result in both cases was a lot of dead children. My point here is that the failure to consider the effect of sound and its material reality (e.g. the weapons that caused it) on Iraqi children (and civilians generally) effectively deconstructs the Bush administration’s avowed concern for the Iraqi people. It shows that the Iraqi people have no material reality within the Bush (Shock and Awe) strategy, but operate as an abstraction, an ideological justification for the strategy and its operation. This is an inversion of Tedeschi’s and Morton’s understandings of sound as music. Where they describe its fundamental materiality, the Bush administration ignore that materiality specifically in order to avoid having to recognise its consequences, which tend to belie their purported aims.

No such evasion can be used with situations such as Waco, where the sound was specifically designed as a weapon. In an article titled “Torture chamber music” (2008) Alan Connor explores the use of music, particularly popular music, in torture. Connor quotes Amnesty International spokesperson, Sara MacNeice:

"It's important to appreciate that this is not about 'music' in any normal sense ... but more like an aural assault on a person designed to intimidate, disorientate and eventually break down a prisoner. Whether it's the use of loud music, extremes of heat or light, painful 'stress' positions or simulations of drowning, these techniques are cruel and inhuman and strictly forbidden under international law."

Connor lists a number of performers whose music has been used in torture, but notes that the semantics of the music is less important than the effect on the subject of the manipulation of her/his hearing. He then refers to firstly a military tactician and then a doctor who treats victims of torture:

Bob Ayers, security expert at Chatham House, says the aim of these techniques is to "destabilize and disorient the suspect in a way that doesn't physically harm the organism. It's not like hearing a Bach symphony, where you can flow along with the music. The idea is to have no variation: the same sounds over and over again."

Dr Michael Peel of the Medical Foundation for the Care of Victims of Torture adds: "Music is used to make the detainee aware that he has no control over what's going on in any of his senses. Deprivation of normal sensory stimulation and lack of control over one's environment is a disempowerment that eventually dehumanises people."

Ayers’ view is commensurate with the strategy of the FBI at Waco and the US troops sonically attacking General Noriega in Panama. This is perceived as an assault that is not essentially harmful even if painfully loud and, as Coonan and Johnson note, offensive to Noriega’s musical sensibility because he is an opera lover and the music projected was heavy Rock (Coonan and Johnson 2002). Peel’s explanation, however, seems to accord with some of the reports by victims of this use of music: Connor quotes detainee, Haj Ali who was bombarded with the opening word of a song: "Babylon... Babylon... Babylon... over and over again. It was so loud I thought my head would burst. It went on for a day and a night." (2008) Ayers’ description (above) of the strategy suggests that the repetition of a particular sound is also significant; known to cause the kind of destabilization and disorientation that Ali records as his physical sense that his head was about to burst. The tactility of Ali’s perception (“my head would burst”) is experienced as a whole body, embodied state: “I thought ...”. In other words, Ali is unable to shield himself from the experience – to refuse to look – which attests to the tactile nature of the sound to which he is exposed, as it colonizes not just his hearing but his whole body. Michael Peel’s explanation is apposite here, as he notes the consequences of the colonization of hearing by sound; that it destroys the individual’s sense that s/he has any control of their body, leading to a sense of being dehumanized. Like Morton, he acknowledges the

sensory complexity of the experience of music/sound and the interconnectedness of the senses in human embodiment – which deconstructs both the fetishization of human being into separate senses and the separation of mind and body that enables a colonizer to act against the body of the colonized for their (moral, ethical, spiritual, political) ‘good’.

Controlling sound: as coercion

Cloonan and Johnson write of the colonizing use of sound:

Unlike our visible presence, we can constantly and instantly modify the radius and character of our acoustic presence so that it is a powerful tool for political negotiation, a way of taking control in defiance of physical space. From the trumpets of Joshua’s army at Jericho to the loudspeakers of US Marines blasting AC/DC at the besieged General Noriega ... sound has been used to flood spaces with power, to oppress and conquer: both Hitler and F.R. Leavis understood the relationship between modern demagoguery and the microphone. (2002)

Their work introduces the final point I address in this paper, which is the use of sound to influence, entertain, cajole, unify. In the mid-1980s Theo van Leeuwen noted that while there was a great deal of critical analysis about how writing and images affect human thinking and feeling, there was very little about music and sound. For van Leeuwen this omission indicated the success of sound, since its manipulation was, therefore, invisible. In recent years sound has begun to receive the critical attention he identified as essential, not least in van Leeuwen’s own study, *Speech, Music, Sound* (1999), and see also Attali (1985), Gorbman (1987), Shepherd (1991), Chion (1994), Schafer (1994), Wishart (1996), Kahn (1999), Bull (2000), de Nora (2000), Kassabian (2001), Bull and Back (2003), van Leeuwen (1989), Wishart (1996), Bandt (2001), Pinch and Trocco (2002), Picker (2003), Sider, Freeman & Sider (2003), Sterne (2003), Toop (2004), Hayward (2004), Bandt, Duffy and MacKinnon (2007). Sound unites people – with each other and/or in a cause – because of its tactility, and because it is shared.

As the report into the Waco siege by Alan Stone notes, it may be that the sonic assault on the compound had the opposite of the desired effect. Rather than creating disorder and disunity amongst Koresh’s followers, it may have bonded them more strongly together and in allegiance to him. As noted above, sound touches the body of the hearer; it penetrates the body and is incorporated into the hearer’s embodiment. When the sound is also associated with specific meanings, those meanings may remain as the slowly dying reverberation of the original sound in the cells of the listener, like shellshock. Alternatively, this association may be used to reinforce ideas and ideologies – like the use of religious music to consolidate listeners into a congregation; of stirring music to rally an army or to unite a rally; the cadences of a stirring orator to inspire an audience. For the inhabitants of the Waco compound, the massive sonic assault may have signified the forces of darkness against which they were massed and so have served to strengthen their allegiance to David Koresh. For Hitler his amplified addresses worked to unite the general public behind a murderous campaign that it seems likely they would individually have abhorred. As van Leeuwen (among others) has shown, sound can be very effective in suturing the individual into a cause, an event, a system of beliefs and feelings or an ideology: for example, van Leeuwen demonstrates how changes to the theme music of the *ABC News* (the Australian national broadcaster) in the mid-1980s both reflects and reinforces ideological changes within Australian society (colonial to post-colonial), positioning the audience as a particular kind of (post-colonial) citizen/subject (van Leeuwen 1999: 60-4). One of the reasons for this effectiveness is that sound ‘touches’ us simultaneously in both physical and metaphorical or metaphysical ways; affecting us bodily, through its vibration of our bodies and emotionally or intellectually or spiritually because of the associations it has for us. By locking together the physical with the emotional and/or intellectual and/or spiritual, sound (as sound, music or voice) is uniquely able to manipulate us; to influence our embodied being – if only to greater resistance or awareness.

Further, as both Tedeschi and Morton showed in different ways, this sonic effect/affect is communal and cultural, not only individual. Sound touches the bodies of its disparate hearers equally, uniting them in a commonality that might not be predicted by other aspects of their being – as anyone who has attended a political rally, rock concert or children’s party might have experienced (though in the latter case, there may be a generational fault-line!). Schafer noted that sound is a way of touching at a distance – and that distance may be one of space, class, sex, gender, age, ethnicity, religion, ideology. So individuals may not only be united behind a cause or in a set of beliefs and associated feelings by sound; they may be united as a culture or class or religion or society. Of course, one of the simplest examples of this is the use of sound in film, where particular sound effects (music, voice, sounds) are used to create particular feelings and ideas in/for the audience, based not on the sonic perception of one individual but on the sound designer/composer’s knowledge of the social and

cultural significance (the social semiotics, if you like) of music and sound. And that perception includes an understanding, stated or implicit, of the ways that sound ‘touches’ and ‘moves’ listeners and audiences; suturing them into stories and events, relating them to each other through a shared human embodiment that is susceptible to the touch of sound.

Conclusion

One of the most striking and disturbing features of Alan Connor’s article on sonic torture is his revelation (via the work of journalist, Justine Sharrock) that U.S. soldiers referred to the use of sound as ‘torture lite’. Along with one of Connor’s respondents, T. Talbot I am tempted to note: “There’s something desperately wrong with a society which can use the phrase “torture lite” like it’s a soft drink. I’m ashamed to be human.” (2008) One of the conclusions of this paper is that we need to be aware of the multisensory, somatic significance of sound; not to underestimate it, as van Leeuwen notes that critics did for many years. Using sound as torture is not ‘lite’; it simply doesn’t mark the body of the sufferer as visibly as do other forms of torture. The consequences of the invisibility of sonic assault for many WW1 soldiers were dire:

If you were an officer you were likely to be sent back home to recuperate. However, the army was less sympathetic to ordinary soldiers with shell-shock. Some senior officers took the view that these men were cowards who were trying to get out of fighting.

Between 1914 and 1918 the British Army identified 80,000 men (2% of those who saw active service) as suffering from shell-shock. A much larger number of soldiers with these symptoms were classified as ‘malingerers’ and sent back to the front-line. In some cases men committed suicide. Others broke down under the pressure and refused to obey the orders of their officers. Some responded to the pressures of shell-shock by deserting. Sometimes soldiers who disobeyed orders got shot on the spot. In some cases, soldiers were court-martialled.

Official figures said that 304 British soldiers were court-martialled and executed. A common punishment for disobeying orders was Field Punishment Number One. This involved the offender being attached to a fixed object for up to two hours a day and for a period up to three months. These men were often put in a place within range of enemy shell-fire.

I have quoted this description at length because it clearly demonstrates both the embodied nature of shell-shock, with its physical, emotional and mental consequences and the way in which cultural factors, such as class, intervene in its disposition. The ordinary soldiers are treated with contempt, as though their embodied being does not have the value of that of an officer – which was doubtless the view of many senior staff. The sadistic treatment of some of these men – torturing them by pegging them out as sacrificial animals – is an over-determined response that shows the underside of the military psyche; unwilling to acknowledge the complex embodied being of its own men, much less that of the enemy, senior staff respond with a kind of literal over-kill, ritualistically exorcising the anguished embodiment they refuse to acknowledge.

With the history of Waco, of the bombardment of Baghdad and now of Guantanamo Bay prisoners such as Haj Ali reporting the use of sonic torture it is crucial to recognize how sound is being used against individuals and communities to control and colonize them. As I have noted, there is a long cultural history of the use of sound as a weapon, and more recently serious critical analysis of the power of sound and of the sound of power – identifying both how sound is used to create identity and solidarity and who is socially able to generate sound. One of the most recent formal explanations of its use is Ullman and Wade’s *Shock and Awe* strategy (1996) deployed by George W. Bush in Iraq:

Britain’s Special Air Service provides the “SAS” example and is distinct from the Blitzkreig or Sun Tzu categories because it focuses on depriving an adversary of its senses in order to impose Shock and Awe. The image here is the hostage rescue team employing stun grenades to incapacitate an adversary, but on a far larger scale. The stun grenade produces blinding light and deafening noise. The result shocks and confuses the adversary and makes him senseless. The aim in this example of achieving Shock and Awe is to produce so much light and sound or the converse, to deprive the adversary of all senses, and therefore to disable and to disarm. Without senses, the adversary becomes impotent and entirely vulnerable.

This strategy confirms the understanding of the musicians discussed earlier, that the senses are interrelated and that sound is

a whole body experience, which is also fundamentally about connection and community. *Shock and Awe* represents the military use of this understanding and re-theorization of the body/mind relationship. Further their specification of the senses as a military target must give theorists of the senses pause for thought.

There are many other uses to which this deconstructive understanding of embodiment might be put, uses which focus on the ways in which this understanding of embodiment, of the relationship between touch and sound, of the relationship between individual and community might be used for purposes that are productive rather than destructive – to generate new understandings rather than to colonize and oppress. I am ending the paper hopefully with the work of another musician, David Moss whose gloss on Touch presents a statement about difference that is counter to that of Ullman and Wade. Where for them the manipulation of the senses is a means of conquering, pacifying and immobilizing the ‘other’, for Moss (as for Tedeschi and Morton) the interconnectedness of the senses, as represented in the multimodal manifestations of touch is a way of recognizing and celebrating, not suppressing difference and forging new pathways between people and communities:

TOUCH

This is the central concept-image-action for sensual exchange!

Someone creates something: touches pen to paper, brush to canvas, hand to violin, fingers to ivory keys, palm skin to drum skin, feet to floor. TOUCH is the moment of contact, the memory of contact, the wish for contact, and contact to memory and desire (past/future). TOUCH is transference. Why do you want to own a Monet or a Warhol? Because we want to physically share the same space with an artist, dancer, actor, musician whom we love. We want to breathe their molecules.

TOUCH is the release valve, the go-button, the point-of-no-return, the crossroads, the balancing point, the motor that activates all other qualities. TOUCH is the pathway tracer, the joiner of similars and the revealer of (and reveler in) differences. (Moss, 2001)

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1 We might want to argue with Welsh's description of hearing as wholly passive, however; we may not have ear-lids, but we do selectively hear sounds and our choice of sounds is highly significant – an argument that needs to be explored at greater length.

2 Plato among other early Greek theorists proposed an emission theory of light whereby rays from the eyes illuminated objects, enabling us to see; a more actively embodied notion of seeing than contemporary scientific notions

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