



Sound Studies

An Interdisciplinary Journal

ISSN: 2055-1940 (Print) 2055-1959 (Online) Journal homepage: <https://www.tandfonline.com/loi/rfso20>

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To cite this article: James E. K. Parker (2019): Sonic lawfare: on the jurisprudence of weaponised sound, Sound Studies, DOI: [10.1080/20551940.2018.1564458](https://doi.org/10.1080/20551940.2018.1564458)

To link to this article: <https://doi.org/10.1080/20551940.2018.1564458>



Published online: 20 Feb 2019.



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Sonic lawfare: on the jurisprudence of weaponised sound

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ABSTRACT

This article suggests that the growing literature on sonic warfare has not been as sensitive to the work of law and legal institutions as it might be, and that it is exemplary in this respect of a lot of work in sound studies more generally. Just as jurisprudence must learn to think sonically, sound studies must endeavour to listen jurisprudentially. Across a series of examples – some well-known, others less so – the article draws out some key elements of the jurisprudence of weaponised sound. It shows how law is necessarily implicated in the story of sonic warfare, and not just insofar as it is prohibitive or emancipatory. Law doesn't simply oppose violence; it authorises and channels it, and increasingly towards the acoustic. In this respect, it is doing more than just expressing or clearing a path for the expression of other forms of power. Law itself is a form of power that, by means of complex institutional architectures across multiple jurisdictions, crucially shapes our sonic worlds.

ARTICLE HISTORY

Received 23 April 2018

Accepted 26 December 2018

KEYWORDS

Sonic warfare;
thanatosonics; music torture;
law; jurisprudence; lawfare

The soundscape is a battlefield. The ear is vulnerable, along with the rest of the vibrating body. Listening, in both its physiological and cognitive dimensions, can be commandeered and weaponised; hearing rendered a mechanism of assault, coercion and control. And through it all, law is there at every turn. Contemporary sonic warfare is a co-production (Jasanoff 2004) in which law is less war's other than its medium. This article responds to the growing literature on acoustic violence and the weaponisation of sound. What I want to suggest is that this literature has not always been as sensitive to the work of law and legal institutions as it might be. I want to show what happens once familiar problems are reframed as matters of jurisprudence, and so draw out new directions for the field. In one sense, this is quite a narrow intervention. But my hope is that it will resonate more broadly, because it seems to me that the literature on sonic warfare is exemplary in this respect of a lot of work in sound studies more general.

Of course, I am not suggesting that sound studies has ignored law entirely, just that it has very rarely been a central concern. Turn to the index of any of the discipline's major collections and you'll find that terms like "Capitalism", "Gender", "Race", "War" and "Religion" feature prominently, whereas "Law" and its more obvious synonyms are nowhere to be seen (Erlmann 2004; Cox and Warner 2004; Sterne 2012; Pinch and Bijsterveld 2012; Goddard, Halligan, and Hegarty 2012; Bull and Back 2003). To date, law has been of interest to sound studies mostly in relation to the histories and politics of

noise abatement, litigation around matters of incitement or freedom of expression, and the relationship between copyright and the nature and circulation of music. But even then, from the perspective of the more critical end of contemporary legal thinking, the stories told can often seem quite conventional: law regulates sound, or attempts to, and, when it does, it is heavy-handed and slow on the uptake. The juridical imaginary here is often confined to an interest in state-positing rules or international treaties, which are understood to operate relatively mechanically, as if that were the extent of legal practice or the only possible avenue of jurisprudential enquiry. In the alternative, law hardly merits comment at all, so completely is it subsumed under the general rubric of culture. Law, in this way of thinking, is always a symptom or expression of other structures, forces and institutions with little or no specificity or agency of its own. It is no longer controversial to point out that any given soundscape is a complex mediation of sound and sense; that it has as much to do with civilization and history as nature. But the sense in which this reconfigured soundscape is always also a lawscape is rarely explored (Philippopoulos-Mihalopoulos 2014). Moreover, as a discipline, sound studies has concerned itself with a diverse range of sonic environments – cars and clinics, rainforests and malls, city streets and concert halls – but hardly ever courtrooms. Gavels knock (Parker 2018), oaths are sworn, evidence is heard, judgment pronounced, and all this increasingly into microphones, through headsets and via “video link” (McKay 2018) – and yet the “judicial soundscape” remains largely unaudited (Parker 2015a). As ever, there are exceptions.¹ Nevertheless, if sound studies really is an “interdisciplinary ferment” (Sterne 2012), it suffers a distinct lack of jurisprudence.

One way of understanding sound studies’ relative lack of interest in law and legal institutions would be as the mirror image of law’s own inattention to sound and listening. On the rare occasions they do feature in legal scholarship, matters of acoustics are invariably framed narrowly and uncritically. Legal scholars working on the law of noise pollution, freedom of expression or copyright almost never bring a theoretically sophisticated account of sound to the table. Laws are made *about* sound, but how sound and listening are conceived for such purposes is barely reflected upon. While the more critical and socio-legal strands of contemporary jurisprudence have followed the rest of the humanities in their various “turns” – towards the text, the visual, space and so on – the rumblings of a comparable “turn to sound” in legal scholarship are only just audible.

If a wall divides the two disciplines, therefore, it has been erected by both sides. What I want to do in this article is remove a few bricks, so that each might be more audible to the other. I begin with an account of the field of sonic warfare,² in which I attempt to capture and distil certain common matters of concern along with some of the more influential ways of thinking about them. This part of the article is mostly summative although, of course, some of my own preoccupations and positions will come through. By and large, however, I want to echo and so thematise the absence of legal questions from the way these stories are told, so that I can move on, in the second part, to explore how law is implicated in these stories, and in ways that the field has either missed or left underdeveloped. In doing so, I want to draw out a set of jurisprudential questions for those working on the weaponisation of sound and listening. But I do so in the hope that these questions will also have critical purchase in the field of sound studies more generally.

Sonic warfare

Explosive sound

On 13 April 2017, a US cargo plane dropped the largest non-nuclear bomb ever used in combat over the Achin district of Nangarhar, Afghanistan. The GBU-43/B Massive Ordnance Air Blast (MOAB), or “mother of all bombs” as it is colloquially known, detonated before hitting the ground, ensuring that the explosive energy emitted – equivalent to more than 11 tonnes of TNT – was distributed relatively uniformly across as wide an area as possible. In the days after the attack, it was reported that at least 90 ISIS fighters had been killed along with two civilians: a teacher and his son. But these were not the only victims of the bombing. According to one resident of Shaddle Bazar, a small town about a mile and a half from the epicentre of the blast: “The earth felt like a boat in a storm. I thought my house was being bombed. Last year a drone strike targeted a house next to mine, but this time it felt like the heavens were falling. The children and women were very scared ... My ears were deaf for a while. My windows and doors are broken. There are cracks in the walls” (Engel Rasmussen 2017). For the mayor of Achin, “there is no doubt that Isis are brutal and that they have committed atrocities ... But I don’t see why the bomb was dropped. It terrorised our people. My relatives thought the end of the world had come” (Engel Rasmussen 2017). For another resident, it was simply “the sound of hell” (Qazizai and Khan 2017).

Extreme sound is capable of such serious physical and psychological effects that, over Nicaragua in 1984, over Gaza in 2005 and 2006, and over Lebanon in 2008 (Stern 2008), US and Israeli Air Forces dispensed with bombs entirely, preferring instead to unleash “sonic booms” on the residents below. The 2006 campaign was particularly protracted in this respect: five weeks of nightly fly-overs at low altitude and above the speed of sound, all in response to the abduction of Corporal Gilad Shalit by Hamas. Asked about the rationale behind this strategy, Israeli Prime Minister Ehud Olmert responded: “[T]housands of residents in southern Israel live in fear and discomfort, so I gave instructions that nobody will sleep at night in the meantime in Gaza” (“Sonic Booms” 2016). But it wasn’t just a matter of sleepless nights. Palestinians described the effect of the booms as “being hit by a wall of air” (McGreal 2005). There were reports of shattered windows, doors blown from hinges, ear pain, nosebleeds and even miscarriages resulting from the physical and psychological trauma sustained (McGreal 2005). “The sound is terrifying”, one doctor explained:

My daughter usually jumps into bed with me, shivering with fear. Then both of us end up crouching on the floor. My heart races, yet I try to pacify my daughter, to make her feel safe. But when the booms sound, I flinch and scream. My daughter feels my fear and knows that we need to pacify each other. I am a doctor, and mature, middle-aged woman, but with sonic booming, I become hysterical. (El-Farra 2006)

This is the extreme edge of what J Martin Daughtry calls *thanatosonics*: sound’s capacity for and intimacy with death and destruction. “What we call ‘sound’”, Daughtry explains, “is the aurally apprehensible presence of compression waves moving through a medium”: the air in a valley, the bedrock of a city, a wall, a window, a bed, a child (Daughtry 2014). If these compression waves are sufficiently powerful, they can do serious damage to any “medium” they colonise. In the case of the human body, the fragile organs of the inner ear

are especially vulnerable. But every part of us can be made to vibrate. “The compression wave of a large explosion is so ‘big’ and so ‘heavy’”, Daughtry writes, “it asserts its presence so forcefully, that it can permanently deafen and concuss those who are exposed to it” (Daughtry 2014).³ Indeed, there is mounting evidence that acoustic force is a major factor in so-called traumatic brain injury, when the blast wave of a bomb or IED shakes the brain against the wall of the skull (Daughtry 2014, 38). If a person is already vulnerable for reasons of age or infirmity, this acoustic force may even be enough to kill. Hearing loss is much more common though (US Department of Veteran Affairs 2018).⁴ By 2014, more than 900,000 US veterans were already receiving disability compensation for hearing loss, and nearly 1.3 million for tinnitus. Moreover, many who scored normally on hearing tests had difficulty understanding speech due to a neurological condition known as “auditory processing disorder”, which is often associated with blast exposure (US Department of Veterans Affairs 2018).

At extreme volumes, sound wounds. But for anyone who enjoys what Daughtry calls “the luxury of distance” (Daughtry 2014, 38), it also terrorises (A dubious luxury then). Cognitively, the sudden loudness of explosive sound heralds death and destruction. It speaks of one’s own vulnerability as well as that of family, friends, colleagues and loved ones. It expresses the continuing reality of military occupation and asserts the “sonic dominance” of another state or insurgent force (Henriques 2011). But before and alongside all that, it also triggers autonomic nervous and hormonal responses: the production of adrenaline and cortisone, a dramatically increased heart rate, shaking, involuntary urination, sweat. Though repeated exposure can sometimes lead to a dulling of the body’s stress response such that, paradoxically, the more often a person is subjected to sounds like these, the less immediately vulnerable they become, the reverse is just as likely. Even a single traumatic exposure can lead to hyper-alertness and anxiety along with protracted bouts of sleeplessness and exhaustion (Daughtry 2015, 99). As with traumatic brain injury, explosive sound is a factor in traumas resulting in PTSD (Rosenfeld et al. 2013), which currently affects as many as 20% of US veterans of Iraq or Afghanistan in any given year (US Department of Veteran Affairs 2016). No comparable figures are available in relation to Iraqi or Afghan populations, but one would surely expect matters to be worse, not better.

The sound of imminent deadly attack

Not all wartime sound is explosive; or “big” and “heavy” enough to wound; or loud, sudden and close enough to inflict the specific forms of terror evidenced above. Even the report of a gun firing is typically only capable of deafening the person wielding it. To everyone else within earshot, the sound may yield tactical information: the location of a sniper or the exact weapon being used. But most of all, as the sound of gunfire gets steadily normalised, day after day of repeated exposure, it begins to recede into what Daughtry calls the “audible inaudible”: “a conceptual space that house[s] sounds so distant and/or ubiquitous that they cease to draw the attention of the experienced auditor” (Daughtry 2015, 77). Distant gunfire may not deafen, but it can contribute to an atmosphere of persistent ambient threat. The same might be said of certain vehicular sounds, the amplified voices of communication systems and loudspeakers, indeed of any sound that comes to characterise a given wartime soundscape (Daughtry 2015). In

contrast to the assaultive force of blast waves and sonic booms, this form of violence is slower and more cumulative: the violence of being made to inhabit a sonic environment saturated with the possibility of “imminent deadly attack” (Schuppli 2014, 383).

This dynamic is particularly clear in the case of armed drones, which have become increasingly common features of the airspace over Afghanistan, Iraq, Syria, Somalia, Libya, Yemen and the Federally Administered Tribal Areas (FATA) of Northwest Pakistan over the last decade; both for the purposes of surveillance and bombing. It is hard to know exactly how common drones are in these regions, but reports of round-the-clock surveillance are common and seemingly confirmed by the available statistics (Schuppli 2014, 383). They are also full of testimony about the psychoacoustic dimensions of the experience: the cognitive and pre-cognitive effects of prolonged exposure to the “buzzing, mosquito-like sound [drones] make” (Schuppli 2014, 382), along with everything this sound portends (“Psychological Terror?” 2013). According to one survivor of a drone strike in Datta Khel, FATA Pakistan, their “constant noise ... has driven many villagers to insanity” (Schuppli 2014, 382). “Everyone is scared all the time”, explained a victim who lost both his legs in a drone attack. “When you hear the drone circling in the sky, you think it might strike you. We’re always scared. We always have this fear in our head” (*Living Under Drones* 2012). Another man “described the reaction to the sound of the drones as ‘a wave of terror’ coming over the community. ‘Children, grown-up people, women, they are terrified ... They scream in terror’” (*Living Under Drones* 2012).

In 2013, Dr Peter Schaapveld, a London-based forensic psychologist, testified before a British parliamentary subcommittee that such reports are also borne out clinically. Nearly three-quarters of those seen by Schaapveld in Yemen were suffering “full blown PTSD”, with significant comorbidity of symptoms of Anxiety, Depression and other severe psychological conditions. In almost every case, the “triggering incident” had been a drone strike. But it was the drones’ continuing audible presence that exacerbated symptoms and served to prevent recovery. The situation was particularly bad in relation to children. Attachment disorders, hypervigilance, anger, loss of interest in pleasurable activities and schooling, as well as more specific phobias of aircraft and fear of loud noises, were all common. One eight-year-old girl interviewed “frequently vomits at the sounds of drones and airplanes”, Schaapveld explained. “Indeed, she vomited as she passed the airport on her journey to the clinic” (“Psychological Terror?” 2013). The fear of drones, he concluded, “is traumatising an entire generation” (Salama 2014). Such is the effect of what Grégoire Chamayou calls “permanent lethal surveillance”. Far from administering death in precise, surgical doses as their evangelists claim, drones produce a kind of “psychic imprisonment within a perimeter no longer defined by bars, barriers, and walls, but by the endless circling of flying watch towers up above” (Chamayou 2015).

Futility music

What of prisons though? And the peculiar violences of the carceral soundscape? The use of music by US forces in the context of so-called “enhanced interrogation” at Guantánamo Bay, Camp Cropper and elsewhere is well known. Still, some examples bear repeating. Most famously, the logs detailing the interrogation of Mohammed al-Qahtani at Guantánamo show that music was a central and particularly brutal feature of his captivity. Music to wake him, music to keep him awake, music to humiliate, music to punish, music to disorient,

music to isolate, music for short periods, music for hours on end, Arabic music, Western music, instrumental music, relaxation music, Christine Aguilera, white noise (Zagorin and Duffy 2005; “Interrogation Log Detainee 063” 2006): all with the intent of inducing a state of “futility”, a “feeling of hopelessness and helplessness on the part of the source”, as the current version of the army’s “human intelligence” field manual puts it (Department of the Army 2006; Schmidt and Furlow 2005).

The technique works in at least two ways, often simultaneously. On one level, it is about establishing total control over the detainee’s soundscape. The precise music doesn’t matter. Any sound will do, so long as it is loud enough, because the idea is to produce an experience of subjection, dependence and dislocation from time and space, to compromise the detainee’s acoustic agency and to drown out their inner thoughts. On another level, the choice of music is crucial. When Qahtani was forced to listen to Arabic music for hours on end, this was done specifically to prey on his conviction that such music was forbidden under Islamic law, and thereby to attack his Muslim identity and produce a “conscious state of sin” (Cusick 2008). In this respect, Suzanne Cusick suggests, it wasn’t so much his ears being addressed as his soul (Cusick 2008). By contrast, when a prisoner is subjected to hour after hour of “Western music”, whether Christine Aguilera or any of the artists reported by other detainees (Meat Loaf, the Bee Gees, Aerosmith, Britney, Metallica), the music’s cultural associations – its indexicality precisely *as* Western – is clearly doing important work. As sound, it may produce a sense of isolation and subjugation, but as music it dramatically underscores who the detainee is being held by as well, perhaps, as what their captor stands for – the traditions and values which they embody and represent.

Not that there is anything exceptional about either the US or the “global war on terror” where these practices are concerned. The use of music in detention has a long and diverse history (Grant 2013, 2014), and virtually identical techniques were already being employed across the world from as early as the mid-twentieth century: in Greek prison camps during the Civil War, and again from 1967 under the military Junta; in British prisons in Northern Ireland in the early 1970s; in Brazil, later that decade; in the Israeli-occupied territories during the 1990s; in Spain, Chile, Turkey, Yugoslavia, Dubai and elsewhere too (Chornik 2013; Grant 2012, 2013, 2014; Papaeti 2012; Papaeti 2013; Ireland v. United Kingdom; HRW 1994; Rejali 2009, 360–368). Here is one survivor describing his experience at a prison in the West Bank in 1994: “When you are tied to the pipe, and it is very quiet, you hear the music and you feel like you are going to die. You are standing, hood on your head, and the music is very loud, and you are very scared. The music is strange, like you are in a nightmare, unnatural”. “I still dream often of the ‘terror music’”, he remembered. “Sometimes, I wake up hearing it” (HRW 1994, 193).

Deathly silence

At Saydnaya, the notorious Syrian military prison where some 18,000 people have been executed since 2011, it isn’t music that’s terrifying. It’s the silence, which is brutally enforced. “In the prison, there is complete silence”, one former detainee told Amnesty International, “the absence of all sound. If you throw a needle, you will hear it ... It is a kind of silence you can’t conceive” (Amnesty International 2017, 36). “In Saydnaya, silence is the master”, another survivor explained to Lawrence Abu Hamdan:

You'd be there in total silence for two hours and then all of a sudden you hear "vvrrruuu", the shaft opens and the beatings begin. You hear the beatings but you don't hear the voices of those being beaten. To scream while you're being beaten is forbidden. In other prisons the guard wouldn't leave the prisoner alone until he screams, but Saydnaya is totally opposite. If you scream the beatings would intensify. So we could always know if there were new arrivals to the prison if you hear their screams of pain. (Abu Hamdan 2017)

In Abu Hamdan's analysis, the silence is at once *evidence* of the violence being enacted at Saydnaya and a particularly horrible *form* of violence itself. As with the use of music in detention, this kind of silence involves a certain dislocation from the world, a denial of acoustic agency and a gradual assault on the prisoner's mind and body. But that doesn't mean the two techniques are interchangeable or that they involve identical logics. What makes Saydnaya and other silent prisons like it⁵ different is that detainees are forced to become the instruments of their own and each other's torture, to produce the very (auditory) conditions of their mutual suffering: a terrible complicity which surely involves a certain violence of its own. Moreover, whereas music dislocates by reducing the audibility of environmental sounds, by drowning them out, silence amplifies. It produces an excruciating form of hyper-attention whereby even the quietest sound can be petrifying. "In this silence, detainees develop an acute sensitivity to sound", Abu Hamdan explains. "The constant fear of an impending attack makes every footstep sound like a car crash". Here is another survivor: "We heard him say 'who made the sound? Come forward or I will kill you all'. One of the detainees confessed and the guard said 'I'm going to take you to the angel of death'. All we could hear were hits landing on his body from a distance without a single cry of pain". In Saydnaya, the border between whisper and speech, between sound and silence, is quite literally the border between life and death (Abu Hamdan 2017).

Uneasy listening

From the explosive sound of the MOAB to Saydnaya's oppressive silence, this has been a brief and brutal inventory of a few extreme examples of sound's weaponisation in the contemporary moment. Except that, as Steve Goodman points out, "the techniques of sonic warfare have now percolated into the everyday".⁶ One of the clearest examples of this movement or extension is the Long Range Acoustic Device (LRAD), which was originally developed in response to the bombing of the USS Cole in October 2000, but was quickly marketed to military and police forces around the world (Parker 2015b). The LRAD can be used in two ways. In "communication mode", it can be connected to either a microphone or media player to "issue clear, authoritative verbal commands" over distances ranging from half a kilometre to over three and a half (LRAD Corporation 2015). But in "alert" or "deterrent mode",⁷ the LRAD can also be used to emit an oscillating high-pitched tone at ear-splittingly loud volumes, typically to deter approaching ships or to disperse protestors. The vehicle-mounted LRAD 2000X has a maximum continuous output of 162dB at one metre's distance: more than enough to cause eardrum rupture at close proximity or significant hearing damage if you are a little further away ("LRAD 2000X" 2017). But even the handheld LRAD 100X can achieve 137dB, which is well above the threshold of pain and perfectly capable of causing hearing loss with prolonged exposure or by virtue of individual susceptibility.

The LRAD seems to have been used by police for the first time in Georgia in 2007, and for the first time in the US at protests relating to the G-20 Summit in Pittsburgh in 2009. Karen Piper was there that day. “It was terrible”, she explained. “When it first hit me I felt nauseous and dizzy and had an excruciating headache” (Silvey 2011). For months, Piper suffered a constant ringing in her ears, and was later diagnosed with permanent hearing loss due to nerve damage. This was not an isolated incident. LRADs were used to disperse protestors at the Toronto G-20 in 2012, in Ferguson following the police shooting of Michael Brown in August 2014 and again in New York later the same year after the police killing of Eric Garner, resulting in more allegations of hearing damage (Edrei v. City of New York). No doubt they continue to be used in similar ways elsewhere too. According to its manufacturers’ promotional materials, LRADs are now “in service” in more than 70 countries worldwide.

But Goodman isn’t just talking about LRADs when he worries about the militarisation of sound in everyday life, and the problem with LRADs isn’t just their capacity to injure. The LRAD is simply the highest profile and most extreme example of a whole range of techniques aimed at the coercion, management and control of bodies through sound and listening. Yes, it can wound. But the LRAD is at its most troubling politically precisely to the extent that it falls just short of injury: erasing agency and subjectivity to render everyone before it mute biology, forcing them to clutch their ears and flee; a biopolitics of frequency and amplitude. Whether or not lasting injury results, those in its way will have been subjected to the sonic dominance of the state (Henriques 2011). And this kind of sonic dominance is continuous with a whole range of practices being taken up by states and corporations in other peacetime contexts too.

Take the Mosquito. In its original incarnation, the device was designed to exploit a peculiarity of human audition – the fact that a person’s ability to hear very high-pitch frequencies tends to fade with age – to deter young people from occupying space in certain ways or at certain times. Play a tone high and loud enough, and it will be extremely unpleasant to any undesirable teenagers – but also, of course, to animals, infants and young children – in the vicinity and yet completely inaudible to anyone a little older. Soon enough, however, the company started branching out. “The new Mosquito MK4 Multi-Age now has two functions”, it explained. “Either set the device to 17KHz to disperse groups of troublesome teenagers or set it to 8KHz to disperse people of any age from areas where loitering can be an issue such as subway terminals, car parks or any areas where people feel insecure at night due to other people loitering in the shadows etc” (MST: Moving Sound Technologies 2012). Homeless people could now be targeted too. Today, the Mosquito’s manufacturers claim to have sold “many thousands” to homeowners, schools, businesses and local authorities in over a dozen countries. By 2010, there were already more than 5000 devices in the UK alone, more than anywhere else in Europe (Hill 2010). No doubt endorsements from the likes of then British Home Secretary Alan Johnson helped,⁸ because the device has not been without controversy. Apart from the many complaints by young people concerning unpleasant physiological symptoms – dizziness, headaches and nausea – of exposure to the device, critics have also taken issue with its more subtle affective and psychopolitical dimensions. “It makes young people feel as if their presence is nothing other than a nuisance”, explained Amy Lee Fraioli, chair of the Scottish Youth Parliament, after one was installed at a train station in Hamilton in 2017. “A lot of young people pass through that station to get to work and university or school and they’ll be affected by this and

they're not doing anything wrong at all apart from going about their daily business" ("Anger Over Hamilton Station" 2017). And for anyone concerned about such direct and discriminatory forms of audible coercion, in 2008 the company launched the Music Mosquito which, rather than targeting teenagers' superior hearing to direct their use of space, exploits their imagined intolerance for "Royalty free Classical or Chill-out music" instead: a politics of genre now. By 2008, this technique was already nothing new: Beethoven, Mozart, Barry Manilow and others having been famously mobilised in this way since the early 1990s (Akiyama 2010). And even this was simply the inversion of a logic that has long been deployed in cafes, bars, malls and so on to encourage us to relax, drink and spend; that is, to congregate rather than disperse (Sterne 1997). But if the Mosquito is not necessarily innovative, it is instructive nevertheless. Remove it from its immediate political contexts – vandalism, graffiti and the demonisation of youth – and situate it elsewhere instead – alongside police deployments of the LRAD, the use of sound and silence in detention, the acoustic experience of drones, bombs, sonic booms and the many other examples of weaponised sound that I have not addressed here – and another politics emerges. The differences begin to seem like ones of degree rather than type. There is a continuity between the streets of Pittsburgh, London and the confines of Guantánamo Bay, between a train station in Scotland and Datta Khel, in FATA Pakistan, even as the degrees of violence inflicted vary wildly. This continuity has to do with the emergence and proliferation of a new – or newly widespread and newly self-conscious – technique of power. Sonic warfare: the manipulation of our sonic environments and listening bodies for the purposes of inflicting violence, terror, coercion and control.

Sonic lawfare

Where is law through all this? Certainly, in Goodman and Daughtry's influential accounts, law is simply absent. For others, when law does appear, the role imagined for it is often quite limited and instrumental. Law is a technique of prohibition, the thinking goes. So, if on the author's reading the practice in question is already prohibited, law's rhetorical weight and secular virtue can be enlisted to condemn and call for enforcement. If, on the other hand, the relevant doctrine is ambiguous in some way or simply fails to capture the conduct being considered, the call is instead for reform. Law is either irrelevant or emancipatory; those are the two roles most commonly imagined for it. What I want to suggest in this section is that neither option is adequate: that law is not only crucial to the story of weaponised sound, but generative of it; as much a part of the problem as the solution (Kennedy 2002). Sonic warfare is always also a matter of sonic lawfare.

The legality question

As a way in to all this, let me start with a deceptively simple question. Which, if any, of the practices discussed above are legal? As I work briefly through each example, I'm going to be more schematic now, though hardly exhaustive. What I want to convey is just how complex the legality question can often be, and moreover that this is not (just) because lawyers are pedants. Law itself is unavoidably indeterminate, and this indeterminacy has far reaching analytical and political consequences both in relation to sonic warfare specifically and for sound studies in general.

- (1) To begin with the MOAB then, its deployment by the US in April 2017 might have violated a number of basic principles of international humanitarian law (*ius in bello*, the law of war), most obviously: the principles of distinction, proportionality and military necessity (codified in Additional Protocol I to the Geneva Conventions⁹), along with the more specific norms of customary international law concerning particular weapons.¹⁰ There are a few immediate jurisprudential problems: both of doctrine and of evidence. First, it's unclear whether these rules extend to any auditory or psychological harm suffered by civilians within earshot of the MOAB's blast, even if this could be shown to be profound. Second, it's even less clear how to balance this harm against any "military advantage" achieved by the attack, as several of the principles require. Although some of these questions were considered in a 2003 review of the MOAB's legality for the US Department of Defence (DOD),¹¹ when the report claims that the "potential psychological effect of the weapon" – including from the "tremendous noise of the explosion" – would not constitute suffering for the purposes of the relevant doctrine, it does so without justification or analysis (Fiscus 2003). Moreover, the possibility of widespread and potentially lifelong deafness resulting from the blast is simply never addressed. And the report is necessarily silent on the possible military benefits of bombing Nangarhar in 2017. So, it is not just that none of these questions has yet been considered by any international legal body, or that they probably never will. Even if they were, there is no reason to assume that this report's reasoning (or lack of it) would be accepted.
- (2) When it comes to the military use of sonic booms, matters aren't any simpler. When Nicaragua complained to the International Court of Justice that between 7 and 11 November 1984, a US plane had flown low over several cities "producing loud sonic booms and shattering glass windows, to exert psychological pressure on the Nicaraguan Government and population", the matter was only ever considered by the Court as a possible airspace violation, so that the specific question of sonic violence was completely missed (Nicaragua v. United States ¶¶ 87–89). Twenty years later the Special Rapporteur on Human Rights in the Palestinian Territories claimed across two reports that Israel's use of sonic booms over Gaza constituted a war crime, since the practice violated both the principles of distinction and proportionality, along with the prohibitions on spreading terror among civilian populations and on the destruction of property not justified by military necessity (Dugard 2006, 2008). The claim is certainly plausible. But when the matter came before the Israeli High Court of Justice, things proved controversial. Whereas the NGOs bringing the application argued that the sonic booms had been deployed in violation of a whole range of norms of the law of war, including but not limited to those raised by the Special Rapporteur,¹² lawyers for the state claimed the practice didn't even constitute an "attack", lawful or otherwise¹³; and even if they did that (i) it wasn't *primarily* intended to terrorise and (ii) its effects were merely psychological or extremely minor (State Response: HCJ 10265/05; Lieblich 2014; Schuppli 2014). In the end, the Court deemed it unnecessary to decide. Whatever we might think of the arguments' merits, the wheels of justice turned so slowly on this occasion that by the time the High Court got around to passing judgment, the state had long ceased its campaign of flyovers and no determination on their legality was ever reached (Physicians for Human Rights v. Minister of Defense).

- (3) So far, we have been concerned predominantly with international humanitarian law: the law of war. With the auditory dimensions of US drone activity in Africa and the Middle East, that may no longer be right, since one of the things unmanned aerial vehicles do is dramatically reconfigure the conduct and meaning of war itself (Chamayou and Lloyd 2015; Lewis and Crawford 2012). Legally speaking, everything turns on the circumstances of their deployment, and in particular whether this deployment is taken to be in the context of an “armed conflict”, which depends in turn on the campaign’s duration and intensity, along with the nature and identities of the individuals or groups being targeted or surveilled (Balendra 2007; *Living Under Drones* 2012, 110–111). If there is an armed conflict, many of the same doctrinal questions addressed above would apply. If not, then the body of doctrine that has so far framed our thinking falls away, leaving the matter to be addressed according to the norms of US domestic and international human rights law: the latter of which, crucially, does not attract universal jurisdiction, so that an action based on US ratification of the International Covenant on Civil and Political Rights¹⁴ would have to be heard by the International Court of Justice, which – by virtue of Article 38 of its Rules of Court – would in turn require US consent. Not only is such consent extremely unlikely to be given in practice, both this and the domestic route entail enormous and complex bodies of treaty, statute and case law that would utterly reconfigure any doctrinal analysis of the auditory experience of living under drones.
- (4) When it comes to the use of music in detention, there is more relevant precedent, but this doesn’t make answering the legality question much easier. In 1971, the British government established a committee of the Privy Council to report on the legality of five interrogation techniques used by the British military on prisoners detained without trial in Northern Ireland, including prolonged subjection to noise.¹⁵ The majority report (authored by two of the three committee members) ruled that, together, these techniques did not constitute either torture or “cruel, inhuman or degrading treatment” (CIDT) for the purposes of a Joint Directive on Military Interrogation which incorporated these prohibitions from various international legal instruments¹⁶; whereas the minority report (authored by Lord Gardiner alone) found that, whether or not they did, they were in breach of other domestic laws concerning detention anyway.¹⁷ But that was just the minority. And when Ireland appealed the majority decision to the European Court of Human Rights, the Court held that, although the measures did not constitute “full blown” torture, they were at least a form of CIDT (*Ireland v. United Kingdom*, 167). In 1997, following reports from the likes of Human Rights Watch (HRW 1994), the UN Committee Against Torture went one step further, determining that a similar set of techniques practiced by Israel did reach the threshold for torture where they were performed together (CAT 1997). But notice that in both of these examples music is only being considered in combination with other practices, so that it remains unclear how much weight it is being given on its own. And notice too that this is all before September 11 and the onset of the so-called “war on terror”. Because, when it comes to the US’ “enhanced interrogation” programme, a whole new range of questions are suddenly in play.

When the US ratified the UN Convention Against Torture in 1994, they did so under certain “reservations, declarations and understandings”.¹⁸ One of the most important things these did was purport to modify the Convention definition for US purposes in several ways (Convention Against Torture, art. 1). First, in order to constitute torture, the severe mental pain or suffering inflicted on any detainee needed to be “prolonged”. Second, it needed to have been “specifically intended” to be prolonged. Third, this specifically intended prolonged severe mental pain or suffering must also have resulted from “procedures calculated to disrupt profoundly the senses or the personality”.¹⁹ That is, the US claimed to narrow the definition of torture on all fronts so that less conduct would be caught. In 2002, a DOD legal brief argued that interrogation techniques intended to deprive detainees of what it called “auditory stimuli” should not be construed legally as “calculated to disrupt ... the senses or the personality” so that the threshold for torture was not met (Beaver 2005).²⁰ And, in 2004, following increasingly public allegations of abuse against detainees held at Guantanamo, an internal report by the FBI specifically considered the use of “futility music” and concluded that the technique had not only been authorised, but could continue subject to the development of guidelines regarding the duration of detainees’ exposure (Schmidt and Furlow 2005, 9, Allegation 4).

If US officials clearly regarded these techniques as legal, therefore, there is nevertheless reason to be doubtful, and not just because all the analysis here seems so obviously motivated (Luban 2007). The validity of the “reservations, declarations and understandings” required to sustain these arguments is highly controversial as a matter of law. Alberto Gonzales and John Yoo may have thought they were valid,²¹ but a whole range of other international lawyers disagree on the basis that torture is *jus cogens*: a non-derogable norm of customary international law (Belgium v. Senegal, ¶ 99). Indeed, similar objections were raised to the UN by the governments of Finland, Germany, Sweden and the Netherlands in 1996.²²

Even when President Obama issued Executive Order 13491 on assuming office in 2009, purporting to signal “a clean and necessary break with Bush-era detainee abuse” (Roehm 2014) and so “promote the safe, lawful, and humane treatment of individuals in US custody” in line with its international obligations, it’s far from clear that this precluded music’s use in detention and interrogation contexts. According to the order, detainees would no longer be subjected to “any interrogation technique or approach, or any treatment related to interrogation, that is not authorised by and listed in Army Field Manual 2-22.3”.²³ But this manual continues to recommend the very same “futility approaches” that appeared in its predecessor, in often identical language, and despite the international precedents considered above (Department of the Army 1992, 3–18, 2006, 8–13).

- (5) As for Saydnaya and the brutally enforced silence there, of course there is an argument by analogy with music torture. In practice though, were President Assad or some other official involved in the prison’s running ever to be brought before an International Court or Tribunal, it’s not obvious that this silence would get a significant look in. Even though Amnesty did raise it in their 2017 recent report on the topic, when it comes to their legal analysis, matters of acoustics

quickly fall away and the focus is – perhaps unsurprisingly – on the many and terrible beatings, starvation and deaths (Amnesty International 2017). Next to these, it seems, the silence pales by comparison; almost as if to address it at all would be to trivialise the rest. In this respect, Amnest has ample precedent. The most recent version of the UN Standard Minimum Rules for the Treatment or Prisoners (A/RES/70/175) – which contains provisions addressing everything from natural light to food, sanitation, exercise, clothing and bedding – does not address acoustic conditions at all.²⁴

- (6) With the LRAD, the legality question entirely depends on when, where and how the device is deployed. Though it had been used by the US military since at least 2003, the LRAD was only subjected to internal legal review in 2007, determining that, whether it was used as a “communication” device or a “non-lethal weapon”, it would not violate the law of war. Even if it was used intentionally to cause “discomfort to the listener”, this would apparently fall “well short of permanent damage to the ear” (a claim contradicted by existing independent studies: Altmann 2001, 177–178) and would therefore ‘not violate the legal threshold of “superfluous injury or unnecessary suffering” provided by Article 35 of Additional Protocol I of the Geneva Conventions (JAG 2007). When Karen Piper sued the City of Pittsburgh precisely because of the permanent damage it caused to her hearing, she did so on a whole range of grounds with nothing whatsoever to do with the Geneva Conventions: constitutional grounds mostly, including infringement of her rights to peaceable assembly, to freedom of movement and to be free from unreasonable seizures, all of which have complex bodies of law around them (Complaint, Piper v. City of Pittsburgh). Whether a court would have accepted these claims, however, we have no way of knowing since Piper chose to settle out of court rather than proceed to trial (“City of Pittsburgh Settles” 2012). When litigation arose in relation to possible LRAD use at the Toronto G20, this time the proceeding did make it to court. The sitting judge accepted that, were the device to be used above levels specified as dangerous in Ontario’s Occupational Health and Safety Act,²⁵ it might constitute a breach of the right to life, liberty and security of a person at section 7 of the Canadian Charter of Rights and Freedoms.²⁶ But he preferred not to resolve the question of whether the LRAD was also a “weapon” for the purposes of the Police Services Act,²⁷ because this was only an interlocutory injunction, and so wasn’t, apparently, the appropriate forum (Canadian Civil Liberties Association v. Toronto Police Service, ¶ 38). Even though the Toronto Police Service was temporarily enjoined from using the LRAD’s alert function until their standard operating procedures were amended (Canadian Civil Liberties Association v. Toronto Police Service, ¶ 4), it’s unclear how compliance in this respect could ever be assessed or enforced in practice.

Back in the US, proceedings concerning LRAD use by the NYPD at a Black Lives Matter protest in 2014 are ongoing (Tempey 2017). At a preliminary hearing, following a motion to dismiss by the City of New York, Judge Robert Sweet ruled that “amplified sound is no different than other tools in law enforcement’s arsenal”, so was in principle capable of constituting an excessive use of force for the purposes of the Fourth and Fourteenth Amendments of the US Constitution (Edrei v. City of New York). How this matter will be decided, or whether the parties will settle prior to judgment,

remains to be seen. But it is worth noting that in none of these proceedings has the argument yet been made that the LRAD should be illegal *even when* its use falls short of causing physical injury. Even if a judge were to find for the plaintiffs, this would likely result in police forces simply being required to modify any existing operating guidelines so that the power to coerce and manage the movement of bodies by means of sheer acoustic force would remain.

- (7) Though some versions of the Mosquito have been prohibited by several local authorities in the UK, Europe and elsewhere, only Belgium has so-far moved to legislate a state-wide ban (Wach 2010, para. 13). In 2008 the UN Committee on the Rights of the Child recommended that states “reconsider” the device’s legality insofar as it “may violate” the rights of children to freedom of movement and peaceful assembly enshrined in the Convention on the Rights of the Child (CRC 2008). In 2010, the Council of Europe went further, arguing for a Europe-wide prohibition on similar grounds (Recommendation 1930 2010). In 2016, a community legal service in Queensland Australia successfully pressured a local shopping centre into switching off their device on the basis of unlawful discrimination (Robertson 2016). We could note a couple of things. First, none of these examples completely answers the legality question so that, in 2010, for instance, the British government simply rejected the UN’s advice, ignoring the discrimination question entirely and justifying the Mosquito’s use on the basis of a clutch of health and safety laws and environmental regulations with which it was supposedly compliant.²⁸ Second, even where discrimination arguments have been mobilised, this has invariably been on the grounds of age rather than, say, mental health, economic or social status meaning that the legality of the Mosquito’s “multi-age” and “music” functions, when used to target the homeless and other, older undesirables, has barely been addressed. Consider the logic. If the discrimination plays out at the level of physiology and frequency to target children, then it may have a certain juridical purchase, even if that doesn’t result in an outright ban. If, however, an individual or business mobilises political, economic or cultural factors in its targeting of vulnerable ears, the legality question isn’t even asked. Either way, the Mosquito’s manufacturer is happy to maintain on its website that the device is “100% legal to own and use”.²⁹ Indeed, the juridico-political claim is deliberately inverted. “If you want to reclaim your right to a peaceful existence”, the company enjoins, “buy your Mosquito Anti-Loitering Device now!” (“Anti-Loitering Devices” 2018).

Law’s indeterminacy

Are the techniques of sonic warfare legal? Maybe. Maybe not. It’s far from self-evident, even to someone with a certain experience in the arcane methods of finding, reading and applying the law. Moreover, all the preceding discussion is the barest tip of the iceberg. There are so many other possible issues and so many different ways of approaching the legality question in each case. Partly this is a function of all the potentially relevant texts and doctrines that I have failed to consider. “To say there is a rule or a court is only the beginning”, David Kennedy writes:

Determining the law governing military operations is not a simple matter of looking things up in a book, particularly for coalition operations, or for campaigns that stretch the battlespace across numerous jurisdictions. There will be private law, national regulation, treaties of various kinds, and more. For humanitarians, the national rules limiting military tactics will differ, as will the willingness of various jurisdictions to enforce legal rules. (Kennedy 2006, 35–36)

The copy of the Geneva Conventions here on my desk runs to some 250 pages; the commentary next to it, another 16,000; the decision in the Nicaragua case, 277; the Torture Papers, more than a 1000 pages again. But the books of the law run to many more volumes than that; indeed, to many libraries: a vast hypertext. “It is a literal impossibility to know the law”, Peter Goodrich explains, “even if one expended an entire existence in legal repositories” (Goodrich 1990, 186–187). Of course, law’s indeterminacy isn’t just a matter of page numbers or word count. Nor is it simply a matter of poor drafting, lack of doctrinal “clarity”, language’s inherent open texture, or the subtle work of *différance* and the “trace” (Derrida 1982, 1976), these matters having been endlessly parsed and debated in the jurisprudential literature (Derrida 1990, 973; Goodrich 1984a, 1984b; Schlag 1990; Kennedy 1991, 1997; Koskenniemi 2006). Law’s indeterminacy plays out too at the level of evidence, in the production, contestation and acceptance of facts and opinions about facts, both in and out of courts, so that before and alongside all the doctrinal complexities there are also material questions – what evidence or testimony can be marshalled? (Weizman, *der Kulturen der Welt*, and Franke 2014; Latour 2010; Pottage 2012, 168), aesthetic questions – how is it being presented? (Manderson 2000), epistemological questions – how should all this be understood? (Jasanoff 1997; Weizman, *der Welt*, and Franke 2014), and many more besides: all with enormous consequences for how a given controversy plays out. Add to this the contingencies of procedure from one jurisdiction to the next, along with the politics and political economy of which actions are brought, whether the plaintiff settles or is made to settle, who escapes indictment, pleads guilty or insists on going to trial, and you begin to get some sense not only of how deep law’s indeterminacy goes but also of the real thickness of law’s institutional life (Parker 2015a; Riles 2001; Dorsett and McVeigh 2012).

Where is sound being used in this way? What is the legal status of that place? What bodies of law apply there? Within those bodies, which rules apply, how do they relate to each other, what do they mean and how do you know? Was the US’ reservation to the Convention Against Torture valid? Is this a problem of freedom of movement or discrimination, and if so of what kind? What is the relationship between Toronto’s Occupational Health and Safety Act and the Canadian Charter when it comes to police powers? Does it matter whether we think of this device as a “weapon” for the purposes of this body of doctrine? In what ways does it matter? How exactly has sound been weaponised in this situation? By who? For how long? Who was harmed or affected? Were they adults or children? Civilians or combatants? Legally, what is the difference? And what was the intention in this respect? What evidence do we have of any of this? Is this evidence credible? What is its source? How is it being presented? Framed by which experts? What is the legal status or precedential value of the source being invoked? Is it an internal review? A report by an NGO? A decision by a domestic or international court? In what forum is the matter being argued? Before which particular judge? Argued by which lawyers? The legality question is never just one question, but all these and more.

The fact that such questions matter and that so many of them are so difficult to answer – the fact of law’s indeterminacy – doesn’t mean that, in law, anything goes, or that law is simply a

handmaiden to other forces. But it does have several other important consequences. First, that the complexity of the legality question can never be resolved by clearer doctrine, better definitions or new precedents. And this in turn means that law reform is not the answer many wish it to be. Second, that – far from being the logical and hermetic “system of rules” it is often presented as, both in orthodox jurisprudence and elsewhere³⁰ – law is both highly permeable and deeply political. But it is political in quite a specific way since, whatever one’s agenda, it is still necessary to navigate the complex terrain of law’s institutional life (Riles 2005).

If politics is being juridified here (or if it always was), this juridification presents both opportunities and risks (Teubner 1987). For anyone interested in challenging or resisting the weaponisation of sound, law’s indeterminacy offers many opportunities for strategic intervention. For all the idiosyncrasies and uncertainties of doctrine, evidence, procedure, etc., the legality question can never be resolved on legal grounds alone. It depends too on *law’s sonic imagination* (Sterne 2012, 5–7; Parker 2015a, 36–37). Here is a way to reconstruct the literature on sonic warfare in a more jurisprudential register then: as an exercise in sonic consciousness raising, a contribution to the *nomos* (Cover 1983, 1986) that, even when it fails to address law explicitly, suggests new ways of thinking about sound’s capacity for violence or coercion, to be taken up by legal actors and institutions in due course. This is sound studies in redemptive mode: humanising law in its inattention to sound and listening. And it is crucial work. Jurisprudence needs sound studies. But it’s also crucial to recognise that the same point could be made in exactly the opposite way: that law’s lack of sonic imagination is easily exploited, that clichés and lazy assumptions about sound or music are ready and waiting to be mobilised, that sonic warfare is able to proliferate as a technique of power partly because of and by means of law. What the existing literature on sonic warfare has largely missed, in other words, is law’s generativity (Kennedy 2006, 32). Sonic warfare emerges from and into legal worlds.

Law’s generativity

We can see this in all sorts of ways. With music torture, it’s clear that US lawyers deliberately exploited law’s indeterminacy along with the relative impoverishment of our sonic imaginations as a strategy of the war on terror. This is a perfect example of what, in 2001, Major General Charles J. Dunlap Jr began calling lawfare: “the use of law as a weapon of war” (Dunlap 2001); “the strategy of using – or misusing – law ... to achieve an operational objective” (Dunlap 2008),³¹ like the ability to torture and get away with torturing people. The point is easily seen when you look at the Torture Papers, but it can be extended. Darius Rejali, for instance, makes a much more general point concerning the distinction between so-called “clean” and “scarring” interrogation techniques (Rejali 2009). “Clean” methods of interrogation – methods that work on the mind and the interior of the body, that harm but don’t leave a mark, like music torture – are of course nothing new. But according to Rejali, they became widespread in the second half of the twentieth century. The way the story is usually told, they were refined collaboratively by British and North American psychologists and the CIA in the aftermath of World War II, and then put into circulation via a notorious interrogation manual known as KUBARK (Cusick 2008). What this way of telling the story misses, however, is the fact that these techniques were worth developing because of the normative world out of and into which they emerged. As Rejali shows, “clean” interrogation methods didn’t proliferate just anywhere, but predominantly in democratic, treaty signing, rule of law observing, supposedly human rights championing

states like Great Britain, Israel and the US. And when they were employed elsewhere, this was partly out of an aspiration to be seen as acting in accordance with these same norms. For Rejali, this was because such clean interrogation practices are much more palatable to the public than techniques that scar. They leave less evidence on the victim's body, even if the pain, suffering or torment experienced is equally bad or worse, as countless survivors have attested. These techniques proliferated, therefore, not despite the Geneva Conventions, human rights norms and their sedimentation in public monitoring practices by NGOs, but partly *because* of them. "Public monitoring", Rejali writes, "leads institutions that favor painful coercion to use and combine clean torture techniques to evade detection, and, to the extent that public monitoring is not only greater in democracies, but that public monitoring of human rights is a core value in modern democracies, it is the case that where we find democracies torturing today we will also be more likely to find stealthy torture" (Rejali 2009, 8).

Music torture is a product of law and lawfare then, at least as much as developments in psychology or military strategy. But we could go even further and expand the point about law's generativity right across the battlefield. Consider the so-called "combatant's privilege", a "hoary and formerly esoteric doctrine of *jus in bello*" that is nevertheless also foundational to it (Berman 2004, 3). What the privilege does is to place some violent actors and actions substantially outside the purview of "normal" criminal and human rights law. It says: this killing, this aerial bombardment, this sonic attack that might otherwise be illegal, because it takes place between certain kinds of actors in a certain kind of conflict, is in principle lawful, unless some other norm of the law of war says otherwise. It is utterly misleading, therefore, "to see law's relationship to war as primarily one of the limitation of organised violence, and even more misleading to see the laws of war as historically progressing toward an ever-greater limitation of violence" (Berman 2004, 4). Because "by granting the combatants privilege, law ... facilitates war – or, rather, certain kinds of war. The privilege is a central feature of the ever-renewed process of legally constructing war as an arena of permissible violence" (Berman 2004, 12).³² Thus, for Eyal Weizman, "the moderation of violence is part of the very logic of violence. Humanitarianism, human rights and international humanitarian law (IHL), when abused by state, supra-state and military action, have become the crucial means by which the economy of violence is calculated and managed" (Weizman 2011). Law doesn't oppose violence; it authorises and channels it (Dorsett and McVeigh 2012). And one of the many ways it has channelled it in the last 50 years or so is towards methods that exploit sound's capacity for violence since these are less likely to attract further prohibition.

It's easy to envisage how this sort of argument might play out in relation to each of the other examples considered here. The explosive force of bombs and booms, the malevolent hum of circling drones,³³ the LRAD's piercing siren, the Mosquito's unbearable buzz: if these are effective as techniques of violence, power and coercion, that is because legal practices and institutions – in their necessary indeterminacy and with their impoverished sonic imaginations – made it so. They are effective because it is easy to *weaponise* this indeterminacy and these impoverished imaginations, to mobilise humanitarian norms of "non-lethality" in New York or labour laws relating to health and safety in London, and in so doing to construct the weaponisation of sound as the lesser evil; at the very same time, moreover, as the repertoires of power are being expanded and their visibility reduced. Only subsequently, only occasionally, and only with limited power do concerned citizens, doctors, activists, academics and lawyers come along to attempt to limit this lawful violence. But it's not that law, flush with emancipatory potential, is playing catch up to the accelerating

emergence of new technologies and techniques of violence (Hurlbut 2015). Law ushered them into being.

Conclusion

Sonic warfare is an increasingly prevalent and so politically urgent form of power. If the circumstances are right, sound can kill, but it routinely wounds, terrorises and coerces. Though the global distribution of weaponised sound is far from uniform, so that its worst effects tend to be felt in areas of the world most affected by war and imperialism, it is also a problem in times of relative peace. In terms of how we might confront this form of power, law is one possible site of action. But any such activity demands careful attention to the intricacies and indeterminacy of law's complex institutional life, which is both more intricate and more indeterminate than many – including scholars working in sound studies – realise. On the one hand, this presents an opportunity. Law's sonic imagination is at least as important a site of intervention as any doctrine, style of argument or rule of procedure. But sound studies' "juridical imaginary" could also do with some work (MacNeil 2012, 9). Law is not just prohibitive but generative, not just emancipatory but complicit. It doesn't simply oppose violence but authorises and channels it, and increasingly towards the acoustic. In this respect, law is doing more than just expressing or clearing a path for other forms of power. Law itself is a form of power that, by means of complex institutional architectures (of vocabulary, doctrine, procedure, modes of giving and apprehending evidence, and forms of rhetoric) and across multiple jurisdictions, crucially shapes our sonic worlds. Like any tradition, jurisprudence has its share of internal disputes: theoretical, methodological, political, ethical, etc. But the version I have attempted to sketch here broadly aligns with the more critical tendencies I take to be at the heart of sound studies (Sterne 2012, 5). In this respect, the two are natural allies. Just as jurisprudence must learn to *think sonically*, sound studies must endeavour to *listen jurisprudentially*. As far as sonic warfare is concerned, this means recognising that law is also at the heart of this story; that the emergence of sonic warfare cannot be explained simply by recourse to techno-science, politics, culture, changing listening practices and sonic imaginaries; that it requires careful engagement with legal norms and institutions; that it isn't just sound being weaponised, but law too; that the one cannot happen without the other.

Notes

1. I am thinking particularly of the work of Mladen Dolar, Peter Szendy, Lily Hirsch, Lawrence Abu Hamdan, M. J. Grant and Susan Schuppli, who have all been particularly explicit about drawing out the complex relations between law, sound and listening: Dolar (2006); Szendy and Nancy (2008); Hirsch (2012); Abu Hamdan (2014); Grant (2012); Schuppli (2014).
2. I prefer Steve Goodman's phrase over other possible candidates to describe the field of inquiry – in particular, Daughtry's related terms "thanatosonics" and "belliphonics" – because it is deliberately broad. Despite important differences in how they conceive of sound's weaponisation, Goodman's term, I think, is intended to cover everything captured by Daughtry's, but also sound's capacity for more subtle forms of intimidation, violence and control which Daughtry has been less interested in exploring: Goodman (2012); Daughtry (2014, 2015).
3. See also Volcler (2013), esp. chap. 1.

4. For an earlier but comprehensive study, see Humes, Joellenbeck, and Durch (2006).
5. Frow (1999), discussing the silent “Separate Prison” at Port Arthur, in what is now known as Tasmania. The prison was built in 1848–1849, based on principles derived from Jeremy Bentham’s famous writings on the panopticon.
6. By which he means peacetime, since for many people, war actually *is* the everyday, as Goodman is well aware: Goodman (2012, 5).
7. These are deliberate euphemisms which render biopolitics and physical harm as mere communication for politico-legal advantage.
8. Mosquito Anti-Loitering Device: see Anti-Loitering Devices (2018).
9. Protocol I to the Geneva Conventions.
10. See the ICRC’s “IHL Database” (2018).
11. As mandated by Protocol I to the Geneva Conventions, art. 36.
12. State Response: HCJ 10,265/05 (submitted to the Israeli High Court of Justice, unpublished). See also Lieblich (2014, 198).
13. Protocol I to the Geneva Conventions, art. 49(1).
14. Arguing, say, a breach of Article 7 (the prohibition on cruel, inhuman, or degrading treatment or punishment), Article 9(1) (right to liberty and security), or Article 17 (right to freedom from arbitrary or unlawful interference with privacy, family and home): International Covenant on Civil and Political Rights.
15. It is normally assumed that music was not used in interrogation and torture practices in Northern Ireland but, based on new testimony, Grant suggests otherwise: Grant (2014, 18, n19).
16. “The Majority Report” in *Report of the Committee of Privy Counsellors* 1972, 1–7.
17. “The Minority Report” in *Report of the Committee of Privy Counsellors* 1972, 11–22.
18. US Reservations and Understandings Upon Ratification of the Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment: see “Declarations and Reservations” (2018).
19. US Reservations: see “Declarations and Reservations”.
20. This is where Suzanne Cusick (2008) – in her otherwise exemplary work on music torture – stops, appearing to take Lt. Col. Beaver’s position as authoritative.
21. Letter regarding “the views of our Office concerning the legality, under international law, of interrogation methods to be used ... on captured al Qaeda operatives”: Yoo (2005), 218.
22. See “Declarations and Reservations”.
23. Executive Order 13,491: see <http://www.presidency.ucsb.edu/ws/?pid=85669>.
24. I am grateful to the reviewer for drawing my attention to this point.
25. Occupational Health and Safety Act, R.S.O. 1990, c. O.1.
26. Canadian Charter of Rights and Freedoms, § 7.
27. R.R.O (1990), Reg. 926: Equipment and Use of Force, § 14.
28. Joint Committee on Human Rights 2008–2009, 24, citing the Health and Safety at Work Act 1974, Control of Noise at Work Regulations 2005 and the Control of Pollution Act 1974.
29. Mosquito Anti-Loitering Device: see “Anti-Loitering Devices”.
30. For orthodox accounts of law as a system of rules, see Hart (1994); Kelsen (1967), (Raz 1980). For a reading of this orthodoxy in relation to the heretical realist and critical legal traditions, which framed themselves in contrast to it, see Manderson (2001).
31. On lawfare, see also Kittrie (2016), Luban (2008), Morrissey (2011).
32. See also Lorca (2012).
33. This precise point is made in relation to drones in Lewis and Crawford (2012).

Acknowledgment

Much of this essay was written during a visiting fellowship at the Program for Science, Technology and Society at the Harvard Kennedy School for Government. My sincerest thanks to Sheila Jasanoff for being such a generous host and mentor during my time there, and to my fellow fellows whose comments and camaraderie were invaluable. I would like to thank Arnulf Lorca, Lys Kulamadayil,

Karen Crawley, Tom Andrews, Adil Khan and both reviewers for their comments on various drafts. Finally, thanks to Joel Stern for the opportunity to present some of these ideas publicly and for the ongoing collaboration and friendship.

Disclosure statement

No potential conflict of interest was reported by the author.

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