Abstract

This essay looks at the emergence and development, through technology, of the modern auditory world and asks what its existence in the evolving matrices of time, space and the human body, can offer to our understanding of matter and material culture today. The first part explores the materialisation of time in phonographic sound as an instance of the fragmentation of modern life, and how this displaced the temporal experience of the premodern world. The second part looks at the impact of magnetic tape recording – its materiality and malleability – which permitted sound artists to produce multitemporal audio collages that advanced the modern soundscape into the realm of Benjamin's 'dialectical images'. The essay concludes with a consideration of how the material culture of sound ends in the human body – its final materialism – just as the old sound objects of analogue technology appear to be dematerialised.

Fragments of Time and Memory:

Matter, Media and the Modern Auditory World

John Scanlan[1]

ABSTRACT

This essay looks at the emergence and development, through technology, of the modern auditory world and asks what its existence in the evolving matrices of time, space and the human body, can offer to our understanding of matter and material culture today. The first part explores the materialisation of time in phonographic sound as an instance of the fragmentation of modern life, and how this displaced the temporal experience of the premodern world. The second part looks at the impact of magnetic tape recording – its materiality and malleability – which permitted sound artists to produce multitemporal audio collages that advanced the modern soundscape into the realm of Benjamin's 'dialectical images'. The essay concludes with a consideration of how the material culture of sound ends in the human body – its final materialism – just as the old sound objects of analogue technology appear to be dematerialised.

Keywords: everyday life; memory; Walter Benjamin; soundscapes; audio technologies; dema-terialisation

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The evidence of material life – its detritus, fragments and traces – is emblematic of a temporality that is increasingly defined by 'everydayness'. We live in a time not only marked by reduced horizons on the future and a distant history, but – and not without coincidence – the evidence of ever-greater monuments to obsolescence (Scanlan, 2005). But, curiously, within the detritus of the intense passion for novelty that marks contemporary society, we are bequeathed also a different kind of matter in the form of fragments of time and memory. A photograph or a pop song, to cite two everyday examples, may possess a power far in excess of the modest intentions of their creators because they have the capacity to transcend time and place.

For Walter Benjamin, recuperation of traces and fragments held not only a significant clue to the nature of time and memory in modernity, but promised also an awakening that would recast how history and progress might be understood. If we still live in an undeniably material culture – which shares much with Benjamin's modernity – it is no less true that we live in a time that is increasingly marked by intangible phenomena. From the invisible channels of a global economy almost wrecked by the trade in 'virtual' products, whose names – 'derivatives', 'futures', 'swaps' – reveal the likelihood of their *materialising* as less than their chances of

remaining as mere tokens of some intangible potential, to a cultural life that often seems driven by passing affective states – mood, feeling, emotion – everyday life undergoes a process of dematerialisation.

In this essay I want to try and enlarge our understanding of matter and material culture by looking at how media technology – and particularly the media of sound – has changed the way we occupy time, and at the kind of effects this has had on memory and self-identity. Sound, as Emily Thompson (2002: 12) writes, has 'the mysterious ability to melt into air'; it seems to be, indeed, a strange kind of 'weightless matter' (Kittler, 1999: 94). Bridging the realms of the material and the immaterial, the auditory world exists at the intersections of time, space and body. But, through its technological mediations, it has had a marked effect at different times on each of these experiential categories – one that is directly related to the material culture of the auditory world.

TIME MATERIALISED

No sooner is sound recorded and preserved – whether the sound is a voice, music or birdsong – than it is made material as the fragment of a once continuous flow of time, now abstracted. 'In one way or another,' Jonathan Sterne (2009: 57) writes, recording 'destroys sound's ephemeral qualities.' Thus, it is useful to remember, as Friedrich A. Kittler (1999) noted, that audio recording technologies are essentially writing machines (Fig. 1). And as with other forms of inscription, such as photography, recorded sound displaces presence. As such, the act of inscription (on paper, wax, and so on) permits a ghostly presence to become part of how we then perceive ourselves and the world around us. In particular, Kittler (1999: 86) adds, the machine that preserves the trace of sound 'relieves people of their memories' and inaugurates 'a linguistic hodgepodge' that makes its products – voice, music – more than mere writing.

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1. Thomas Edison with his Phonograph, 1877.

What is referred to as the 'post-phonographic' world is one we take for granted. And, in the absence of such forms of inscription or recording, memory often relied on 'inner gymnastics, invisible labours of concentration', which, to moderns, are 'most strange' (Yates, 1966: 16); or, in terms of the transmission of experience, the kind of repetition that was, as Pierre Nora (1989: 13) wrote, 'passed down by unspoken traditions, in the body's inherent self-knowledge' and 'in unstudied re-flexes'. But writing machines had always promised a painless repetition that might overcome the time-intensive labour of oral tradition which, to paraphrase Kittler, takes the weight off memory. There is, therefore, a certain technological determin-

ism inherent in how we understand the nature of memory. And it was because the archaic or traditional forms of remembering took so much effort to master (and retained such a small world of experience) that they were no longer suited to a fast-changing modernity that was always expanding the world of possible experience.

In Benjamin's short essay of 1936, 'The Storyteller', the replacement of traditional verbal form of communication with newer and more impersonal media forms (such as the novel and the newspaper) is viewed as just one of the ways in which the modern world would begin to separate memory from presence. As Benjamin noted, it was the storyteller who gave life to tradition – and thus, to the past – which, in an important sense, linked storytelling with mortality. The 'communicability of experience' that had once been born of the sustained efforts of memory, Benjamin (1992: 93-94) suggested, gave authority to the 'natural history' that stories could not help but express. Benjamin's use of this term, 'natural history', refers to a human continuity with the realm of the dead (generations of ancestors) that was brought to life through representations of the past. This idea signals also a recognition that human progress, no matter how much it tries, can never ultimately escape a temporality we associate with nature, and with cycles of generation and decay. Thus, by contrast with traditional communication, modern media technologies signal the possibility of eluding the grip of death. But this is at the expense of authentic memory which, in modern society, would be remade through a host of technologies that severed our connection to the past, thus enabling us to be thrust ever more certainly into the maelstrom of a continually moving present.

Benjamin is perhaps exemplary in exploring the association between media, the materiality of temporal existence, and memory to suggest that those objects and phenomena that seemed to capture time (obsolete products, the world of the kitsch and the banal, and so on) don't just provide simple aids to memory. What interested him rather more were the phantasmagorical dimensions of the material past as it was carried into the present.

In this sense, the materialisation of sound and music – its existence on wax cylinders, vinyl records, tape and other hard formats – seems to create a soundscape that necessarily develops a subjective consciousness of sound, and a receptivity to it that has always also been pursued as a passion, as something that engages memory and emotion. The material objects of the auditory world take us into a 'soundscape' which, as Emily Thompson (2002: 1) writes, depends on a human relation to space; it is both 'a physical environment and way of perceiving that environment'. The historical development of audio technology has not only altered the soundscape, but also our access to, and expectations of, it. Thus, each new advance in sound media alters the human relationship to a changing soundscape that is driven by the very material form of sound. 'Sound conscious' consumers, Thompson (2002: 233-34) says, sought sound of a particular type: 'Clear and focused, it issued directly toward them with little opportunity to reflect and reverberate off the surfaces of the room in which it was generated.' The apparent artificiality of the technologically-mediated soundscape reflects the power of material objects, more generally, to – as Michel Serres (Serres and Latour, 1995: 60) has remarked – 'reveal a time that is gathered together, with multiple pleats . . . the obsolete, the contemporary, and the futuristic'. We understand this multitemporal soundscape against the background of the chronic time that was overturned in modernity.

Benjamin's storyteller figure, for instance, takes us back to the traditional world and the distinctiveness of its collective experience. Such a traditional soundscape is beautifully evoked in Alain Corbin's *Village Bells.* Here, Corbin captures a world approaching modernity and on the cusp of the spatio-temporal upheavals that it would unleash, revealing the hitherto overlooked centrality of sound, and – in particular – of the ways in which village bells marked both spatial and human boundaries. 'The crucial functions of the bell tower', Corbin noted, were to 'raise the alarm and ensure the preservation of the community':

> It was important to ensure that no part of that territory remained obdurately deaf to public announcements, alarms, or commands, and that there were no fragments of isolated space in which the auditory identity was ill-defined and threatened to impede rapid assembly. (Corbin, 1998: 96-97)

This was a soundscape, in other words, caught within the rhythms of a world bound by the unity of experience, sentiment and place: what was heard depended on, and could not be separated from, one's physical proximity to the content of experience – its objects and phenomena. Yet, for all that it bound the individual within a collective that was defined by place, the premodern soundscape is defined not by space, but by time. Sound is there and then it is gone; its repetitions reflect the largely unchanging nature of life and remain always rooted in temporal presence.

When phonographic technology arrives, in the nineteenth century, into a soundscape once defined by temporal duration and presence, it releases the grip of that world, which was now supplemented by the uncanny fragments of mediated sound. Like so many other modern phenomena, these fragments of time and memory are just sound isolated – perhaps a voice, or music never heard in person – snatched from another time and place. The effect of the phonograph to those first exposed to it would be more radical than we can easily understand today, precisely because 'to record sound is to toy with the present, undo origin, and realign memory' (LaBelle, 2006: 24) in ways that were radically new in human experience.

As far back as Plato's dialogues, the dangers a memory that was externalised in material form had also produced a fear of writing, as Jacques Derrida (1981) has suggested. In allowing language and thought to be stored – materialised – in a form external to the self, Derrida argues, writing or inscription was seen clearly as destructive of presence. Its effect was to institute the 'mnemotechnical auxiliary' of

a bad, inauthentic, memory (1995: 234). Yet, those fears did not prevent early moderns who mourned the disappearance of the ancient world from seeing in the practice of writing quite the opposite – a means of access to a past that in all other respects was lost (Assmann, 1996). But, such is the tension between remembering and forgetting, always inherent in mediated experience: to record or inscribe is to preserve time and experience, but also, in a sense, to forget in the very act of 'outsourcing' memory.

What complicates the phonograph's relation to time and memory further is that, like the camera, the phonograph 'seemed to inscribe or "capture" sound indiscriminately, capaciously – anything from noise to music – without regard to speaker or source' (Gitlemann 2006: 18-19). It is a machine that provides access to what Benjamin (1997: 243) termed, in relation to photography, an 'optical unconscious'. In other words, what the machine unintentionally identifies is a world that often comes to exist independently of any human awareness of it, let alone any intention to capture or make something of it. Its contents may rise up without warning. Even the phantasms and unwelcome memories of the Freudian unconscious, Kittler (1999: 89) argues, must be seen to formulate a 'media logic'.

One of the best illustrations of this *optical* unconscious is seen in Michelangelo Antonioni's 1965 movie, *Blow Up,* a film about a fashion photographer who ends up tormented by a small detail on a photograph he took one afternoon in park. After repeatedly enlarging a tiny section of the original image that has been bothering him, the photographer realises suspects that he – or, we should say, the camera – has photographed the presence of a killer waiting in some bushes, mere moments before the act of murder. Where Freud's unconscious points to a kind of mysterious undergrowth in a subject's past, Benjamin's notion posits the writing machine – camera, phonograph, tape machine – as a device that gives material reality to the invisible and imperceptible: it reveals itself as a 'constellation'. As Gerhard Richter (2002: 66) writes, it was 'the level of inscription, specifically the abil-

ity of the apparatus ... to register aspects of a material reality' that demonstrated for Benjamin that the camera, with its access to phenomena that pass us by, would become – like media in general – the source of our consciousness.

Much the same applies with the auditory unconscious. As David Toop notes in *Haunted Weather,* even those silences that constitute our many social rituals are – once materialised as recorded sound – no longer just silence. To listen to the historical recordings of the minute's silence on long past Armistice Day ceremonies, Toop (2004: 42) notes, reveals that what is thought of an absence, 'the withdrawal of noise (in all its senses) is replaced by a louder phenomenon, a focusing of attention'. In these 'silences' we hear the noise of passing time. Thus, the material existence of the past ensures it can 'return virtually any sound back again and again into the sensorium and into the historical register' (Kahn, 1999: 4). When EMI Records, for instance, released new versions of The Beatles' recordings on Compact Disc, the clarity of cleaned-up ('remastered') recordings, as if wiping clean the dirt on the surface of an old master, revealed previously unnoticed details, including – to the amusement of many – the sound of Ringo Starr's kick drum pedal, which now squeaked its way into the historical register.

For all its revelations, phonographic technology 'produced objects that could be consumed only in their manufactured form' (Hayles, 1977: 77). It was not until the development of magnetic tape in the late 1930s – and its increasing use in the 1940s and 50s – that sound became *material* in a plastic sense – that is, like clay or paint – thereby advancing its artistic potential.

SPACE WARPED

Media remake human memory as a kind of cultural kaleidoscope. The potential to go from experiencing displaced time, a *real* that is absent, in phonography, to the polychromic auditory world introduced by magnetic tape, takes the materiality of

sound yet further into 'reverie, myth, and fantasies of cosmic journeys' (LaBelle, 2006: 27). The use of magnetic tape would produce a soundscape littered with what Benjamin (1999) termed 'dialectical images.'

Magnetic tape, unlike the hard format of early recordable sound media, was characterised by its pliability and the fact that it afforded greater artistic potential – it could be cut, spliced, looped and doubled – to produce 'powerful and paradoxical technoconceptual' syntheses employing 'repetition and mutation, presence and delay' (Hayles, 1977: 77).

In France during the late 1940s and 1950s Pierre Schaeffer developed a technique that was later called *musique concrète* (see, e.g., Holmes, 2002: 77-84) (Fig. 2). Alongside others in the *Group de Recherche de Musique Concrète* he employed magnetic tape technology to 'harness sound's intrinsic ambiguity or malleability'. This produced a new kind of music that played upon 'the technological mechanics, physics and inherent nuance of sounds as revealed through the properties of phonograph records, magnetic tape and the recording studio' (LaBelle, 2006: 25). The object of *musique concrète* was the real environment of sound, and in practice, it sought to utilise fragments of 'noise' (or non-musical sounds) to create an electroacoustic equivalent of a Kurt Schwitters collage. For visual artists, as George Steiner wrote, the goal of collage was to mine the detritus of everyday life for its aesthetic potential. Thus Schwitters would compose using the fragments of everyday life: 'used tram tickets, cloakroom tokens, beer mats, scraps of newspaper, candy wrappers, splinters of glass and metal, wood-shavings, chicken-wire, bits of discarded string,' and so on (2002: 275). In *musique concrète,* as Pierre Schaeffer recalled, the aim was much the same. Its own 'real' consisted of such phenomena as 'thunderstorms, steam-engines, waterfalls, [and] steel foundries,' which were recorded and then 'manipulated to form sound structures' (Hodgkinson, 2001: 34).
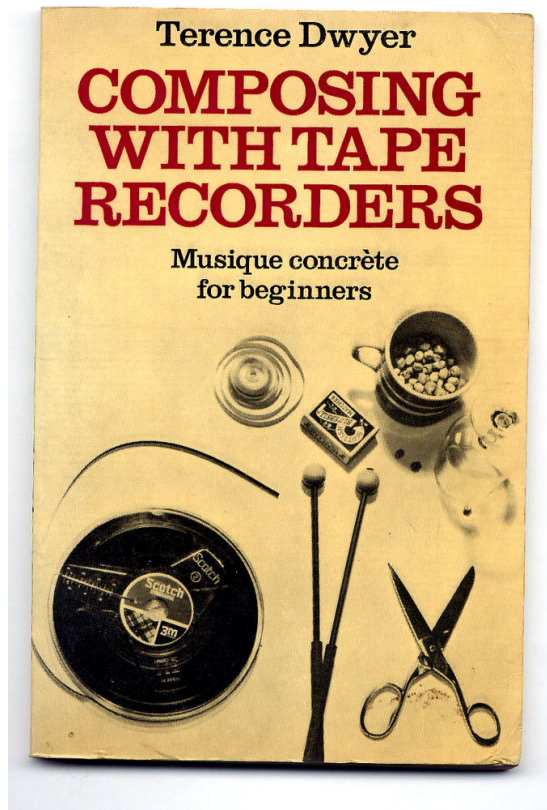
2. 'it is possible for the amateur to create his own new sounds and to compose music from everyday noises.'

Unlike the contemporaneous experiments with sound being produced in Germany by the movement that went by the name of *Elektronische Musik*, bricolage was more important in *musique concrète* than composition; plundering the auditory unconscious more of a method than synthesizing sounds that a listener could not associate with the real lived environment (de La Fuente, 2009: 145). Sound's capacity to warp time, space and memory was particularly marked when it came to the use of the human voice.

In the early tape works of Steve Reich (most notably two mid-60s pieces, 'Come Out' and 'It's Gonna Rain'), the human voice was made to 'mutate and transform kaleidoscopically' under the action of machine agency, slipping in and

out of sync, 'to capture poignant, contradictory moments in the sonic equivalent of what Benjamin referred to as "the dialectical image"' (Gopinath, 2009: 123).

In Benjamin's work, as Ben Highmore (2002: 61) observes, 'everyday life registers the process of modernization as an incessant accumulation of debris'. And it was through the medium of debris, raised to the level of the aesthetic, that he thought we might be awakened from the dreamworld of modernity's perpetual present. The possibility of a new consciousness of time and progress lay behind his own *Arcades Project,* which itself piled up fragments (quotations, observations and aphorisms) in a kind of literary montage inspired by the ideas of Surrealism. Benjamin thought that such fragments, when placed in the right combinations and juxtapositions, would allow the dead world of modernity past to come into its own (1999: 469).

The use of the term 'dialectical image' should not be taken to refer simply to 'images' in a visual, or photographic, sense. Rather the word 'image' here refers to something closer to *thought-image* – perhaps a kind of dreamlike synthesis: 'the realization of dream elements in the course of waking up is the canon of dialectics.' The dialectical image thus fuses time, experience and memory to suggest new possibilities or an otherwise concealed reality in which things put on 'their true – surrealist – face' (1999: 464).

Brian Eno and David Byrne's 1981 album, *My Life in the Bush of Ghosts* is one remarkable example of how this can be understood in terms of the materiality of auditory culture. Described at one stage as a kind of 'garbage disco' because it was composed of a variety of found sounds, the album was a collection of audio collages that took the form of popular song.   Following the tradition of *musique concrète*, everyday objects found lying around the studio – cardboard boxes, ashtrays, and tins – were used in place of traditional musical instruments. As had been the case with Steve Reich's early tape works, Eno and Byrne also featured the voice prominently – audio fragments of radio evangelists, spiritual singers, politicians

and, on one piece, 'an unidentified exorcist'. The album was significant in advancing the aesthetics of everyday life, and its fragments, into a popular music still hamstrung by notions of authenticity. Significantly, its intention was to allow its creators the possibilities of forgetting themselves and disappearing into the auditory unconscious that was the metaphorical 'bush of ghosts' to make 'a series of recordings based on an imaginary culture' that might have 'a Borges-like quality' (Byrne, 2005).

Against the claims of an aesthetics of authenticity, *My Life in the Bush of Ghosts* worked by effacing the voice and throwing discrete fragments against a musical backdrop that they did not seem to belong with. Its revelation seemed to be that technology renders our world into fragments – it *fragments* selves – and that this was how we should listen to it, hear its weird, warped music. What Eno and Byrne recognised, like Benjamin, was that their creative intentions counted less than what might be found in the 'bush of ghosts', an expression that stood as a metaphor for the limitless possibilities of the auditory world opened up by magnetic tape. Everything, *My Life in the Bush of Ghosts* suggests, is part of a chain of chance. Sound, music and voice possess us and take us places we would never have imagined could be reached.

Eno and Byrne may have conceived of their work as a Borges-like fiction, but what the album enacted equally was akin to a Benjaminian understanding of memory as the 'ability to interpolate endlessly' in the past (McCole, 1993: 262). They did this precisely by inserting the detritus of their cultural world – particularly the 'weightless matter' of radio broadcasts – into the present to alter its form.

THE BODY IMMERSED

The artists and musicians who experimented with the spatial qualities of sound in order to manipulate and create a new synthetic auditory world were also predomi-

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nantly in search of a means to escape the artistic 'I' and engage with an auditory unconscious that had been revealed by the earliest phonographic technology. Yet, with respect to how their works were received and consumed, they nonetheless presented a subjectivity that aimed to connect with that of the listener. Of their fragments, in other words, they made wholes – works of art, pieces of music. But, as a result of the most recent advances in audio and communications technology, the subjectivity of the artist or performer is no longer necessarily the subjectivity of the listener or consumer. Consumers of recorded music, in particular, can, and now do, mash-up their own world of sound.

In contemporary life, the digitisation of sound informs how we occupy and create the auditory world: sound objects, seemingly dematerialised, merge with technological hardware (computers, mobile media players) in a more perfect kind of synchronicity than ever before, to give birth to a way of being that is defined less by old ideas of experience as temporal duration, than it is by a kind of sensory immersion, or immediacy. As Fredric Jameson (2003: 712) has argued, the apparatus of new media and communications technology appears in our lives, increasingly, as a form of 'the promotion and transfiguration of the synchronic'; that is to say, as the means for being in a continuous temporal present, rather than the 'being-in-time' of experience. Portable audio devices allow us to 'surf' what Harvie Ferguson calls the 'selfless non-identity' of a present in which *feeling* and *mood* become the sensual counterpart to the fragmentation of life (2009: 153-90). This is one form of the 'phenomenological reduction' to the present which, in turn, becomes reduced to the sensations of the body (Jameson, 2003: 713; Ferguson, 2009: 164). And it is in feeling and mood – in the body, in other words – that sound is now materialised.

What, though, of the material culture that sustains the immersed body? The potential offered by the post-phonographic auditory world was that the machine and the material artefact enhanced 'the structuring of perceptual experience in terms

of a solitary rather than a collective subject' (Crary, 1999: 31-32). While that tendency towards a fragmented world has continued apace, the soundscape *in your head* will now often be totally unrelated to place. Today, as Michael Bull (2009: 83) has stated, 'the majority of westerners possess the technology to create their own private mobile auditory world wherever they go.' The kind of immersion in the now that this permits has even given rise to a new cultural phenomenon, 'iPod oblivion', which seems to afflict growing numbers of urban dwellers, and has been blamed for a number of traffic-related deaths caused by iPod wearing pedestrians absent-mindedly wandering into traffic (Leonard, 2007).

But with the materialisation of sound in the human body goes the dematerialisation of the old auditory world. Digitisation and, especially, mobile technologies seem to have dissolved the physical reality of the analogue sound world, which was weighed down with actual hard, solid, matter (Fig. 3). But beyond the simple facts of data storage, which have, for instance, rendered the long playing album as an object and as an idea increasingly obsolete to all but a minority of vinyl aficionados, it is the possibility of accessing vast virtual libraries of audio content that contributes most to the fragmentation of experience, and thus, its reduction to a succession of present moments. Thus, the idea of playing an album from beginning to end in the sequence intended by the artist is 'being thrown out in favour of allowing machines to choose songs at random, which then often leads to unexpected, magical juxtapositions of music' (Kahney, 2005: 20).

More remarkable than the disappearance of what would once have been thousands of pieces of matter into a device that takes up less space than a pack of cigarettes, is the increasing emergence 'of what has been termed the Celestial Jukebox: a networked library of all the music ever recorded, available instantly, anywhere, anytime' (Kahney, 2005: 20). The logical possibility of this plenitude would seem to be one of the clearest indications that new media technologies maintain their hold because they can so effectively service the kind of passion that

3. Music dematerialised. Apple billboard, 2005.

seeks 'the comfort of oblivion' (Ferguson, 2009: 165). As Peter Krapp (2004: xi) notes, while new media technologies make 'unprecedented forms of storage and access possible, the resulting mega-archive' may appear 'as the fulfilment of ancient fantasies of complete presence'. Indeed, as Jameson suggests, the phenomenological reduction to the present that characterizes much of contemporary life finds its only support in the notion of the eternal – to be out of time, in other

words, can be nothing else (2003: 712). When the new media apparatus, with its limitless content and potential for repetition, itself embodies a kind of 'agency' (Van Elferen, 2009: 121), we see something of the kind of perpetual motion machine – reaching for eternity – that had been associated with the possibilities of machines and automata for millennia (Tiffany, 2000: 55).

Alongside the promise of network society – particularly in the positive potential of its new social media – there is, nonetheless, a technological drive towards the temporal fragmentation of 'experience' as a kind of being-in-the-moment. This both sustains and accelerates the development of the entire ecology of new media, which promises the kind of encounters that are immersive and synchronic, thus heralding the 'end of temporality' (Jameson, 2003). Such an end is found, as Ferguson (2009: 165) notes, in a host of 'saturated phenomena' – one instance of which might be the so-called Celestial Jukebox – which 'overwhelm the living moment with content ... and enter memory in the attenuated form of "having taken place" while preserving nothing of the moment itself'. New media technologies enable us to access and orchestrate a continual flow of bits and pieces that may take numerous forms – auditory, visual or textual, and so on – but which produce a flow of sounds, images and thoughts that reconfigure memory and experience.

The transformation of sound from an object of *experience* out there in the world to an object of *innerspace* illustrates one aspect of the materialisation of the everyday. Where the everyday, for Benjamin, was found in the material remnants of modern culture, for us it is seen in a fragmentation of experience that is produced, in large measure, by new media technologies. While this fragmentation has its origins in the material forms of media – 'in the memories of machines and surfaces' (Sterne, 2009: 57) – it was that very materiality that connected us first to a world of auditory, ethereal, traces. The modern auditory world, therefore, releases us through its early material forms into a much more expansive imaginary auditory space that exists somewhere between the material and the immaterial. In the obliv-

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ion of the continual present that media technology now allows us to engage with, time and memory are multitemporal, bent into forms that suit the purposes of unknown passions.

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[1] JOHN SCANLAN is Senior Lecturer in Sociology and Cultural Studies at Manchester Metropolitan University. His most recent book is *On Garbage* (2005). He is the co-editor of the forthcoming volume, *The World Turned Inside Out: Waste, Ruin, and Excess in History and Culture* (2010) and is currently working on a book titled *A Philosophy of Memory,* which will be published by Reaktion Books. Address: John Scanlan, Dept. of Sociology, Manchester Metropolitan University, Oxford Road, Manchester, M15 6LL, UK. Tel.: +44 (0)161 247 3465. E-mail address: j.scanlan@mmu.ac.uk.