

BY SEAN LOWRY

Sounds like contemporary art

At a time in which many art institutions are staging exhibitions and events that address the place of music in contemporary art, and while many artists appear to be incorporating musical elements into their work, it is perhaps timely to readdress the relationship between music and visually-centred cultural formations. This relationship is obviously neither new nor clearly demarcated, but given the tendency for artists to reject discrete aesthetic objects and traditional gallery formats in favour of dynamic spatially and temporally expanded contexts, coupled with the fact that anything can now potentially become art once it occupies the structural 'place' of art, it is understandable that something as central to human experience as music would play an important role. Looking back to historical resonances between figures such as Marcel Duchamp, Nam June Paik and John Cage, through to popularly known figures such as David Byrne, Laurie Anderson and Malcolm

McLaren, the spaces in-between the worlds of art and music are already well populated. But what has inspired this more recent proliferation of artistic and curatorial projects employing music as a central thematic? Is there something particular to music that reflects contemporaneity more readily than visual communication? Does the temporal basis of music play a role as artists reflect a return to narrative? Does music satisfy a transcendental yearning attenuated by the demands of critical seriousness? Such questions invite discussion of many issues beyond the scope of this text, including but not limited to differences between music and sound, expectations of musical literacy, and whether or not the presence of entertainment value necessarily implies an absence of criticality. This text seeks to elucidate the role of music in creating, adding or shifting meaning within visually-centred cultural formations. From metaphorical to metonymic connotations, nar-

rative to database correlations, and allegorical to formalist applications, this relationship will be demonstrated as both extending and responding to broader cultural conditions.

Echoing the shift in attitudes and accessibility to technology in music production (where once elite synthesizers and computers became standard DIY), digital technologies are now central to visual cultural production and dissemination. A chief beneficiary of the relationship between art and technology is time-based art, a broad ephemeral arena that invited experimentation long before the introduction of digital technology. Outside of cinema, and predating flux-films, perhaps the most significant meditation on duration appeared in 1952 with John Cage's *4'33"*, a composition consisting of three movements in which no notes are performed. Here, silence is neither subject nor consequence. Instead, silence is used as a structural device in order to set up a temporal context in which happenstance and individual perception can provide content. Cage's work continues to influence artists and musicians alike. In 2004, online prankster Brian Flemming even mashed together copyrighted silence available on iTunes to form an, 'illegal cover version'.¹ But temporality in art is of course not limited to explicit marking. Instead, works designed to bear the physical traces of time, such as Duchamp's *The Bride Stripped Bare by Her Bachelors, Even (The Large Glass)*, (1915–23), which marked time through a process of 'dust breeding', have also extended art's temporal parameters. But with the advent of readily accessible audiovisual technologies, temporal documentation would become commonplace. During the late-twentieth century, a proliferation of performances, events, installations and video emphasised the role of temporality. Through various technologies that sustain

the art action, performative arts were freed of the necessity for a physical audience. With such technologies came an increased capacity for fictional distortion. Meanwhile, popular music, which had exploded following the expansion of broadcast and communication technologies to become a ubiquitous cultural presence, was also absorbed into this expanded field. For many artists, these new variables were accepted by default into their work. For others, the ubiquitous affect of music demanded a critical response.

It is no secret that commercial media employs music to trigger emotional responses in the viewer. Narrative structures are imposed and manipulated using sound to maintain audience interest and accommodate advertising. Intended responses might range from patriotic fervour, to the evocation of childhood memory, or a life before exile. In addition to the use of music in established media contexts, online gaming and social media also now routinely employ music to extend fictional or narrative affect. Many contemporary artists aim to make this relationship a critical subject. Puerto Rico-based Jennifer Allora and Guillermo Calzadilla, for example, address the interplay between music and militarism. In *Clamour* (2006), which is best described as a strange hybrid of a sculpture and a concert, unseen musicians are heard performing war music from different times and places in a strange bunker-like cave in which guns are substituted for trumpets or flutes. Such strategies are bidirectional, with expanded formats also co-opted by commercial media in order to seduce cynical audiences brought up within a discourse of realism.

Just as cinema and television once provided new forms of experience, the computer now provides a site for audiovisual dissemina-

tion. Anyone who has watched television with the sound turned down whilst listening to music can acknowledge that complex patterns and sequences can emerge from interacting events. French composer and theoretician Michel Chion describes such audio-visual synchronicity in terms of 'synchresis' (derived from synchronism and synthesis), which he defines as a 'spontaneous and irresistible mental fusion, completely free of any logic, that happens between a sound and a visual when these occur at exactly the same time'.² If time can be manipulated in multiple ways within single-channel video, the possibilities are extended significantly with the addition of multiple channels. Australian artist Wade Marynowsky's installation, *Autonomous Improvisation v.1* (2007), in which an automated Pianola and multiple video sequences of artists and musicians are randomly triggered, is an exemplar of chance-based interaction. For Albanian artist Anri Sala, a chance encounter with the 'architecture' of a Texas truck stop inspired *Air Cushioned Ride* (2007). Listening to baroque music on the radio as he wove in and around trucks, he noticed that signals from a country music station started to interfere in response to the moving architectures around him. For Sala, it is important to acknowledge that places 'produce their own soundtrack'.³ Sala later had both the soundtrack played live by a Baroque trio and Country and Western band, and exhibited the score itself, demonstrating how permutations rather than singular destinations epitomise contemporary cultural production. For French critic and curator Nicolas Bourriaud, DJ and artist alike now perform the 'task of selecting cultural objects and inserting them into new contexts', effectively substituting 'end points' for 'moments' in an 'infinite chain of contributions'.⁴ Interestingly, Sala delivers

the exhibition format itself in a conventional musical format, with individual works not played simultaneously but in sequence, echoing movements in a musical composition.

Many artists are interested in the way in which sound influences viewer expectations. If a visual sequence starts with the sound of an aircraft, and then the aircraft appears, something is confirmed. If the viewer never sees the aircraft, something is left suspended. Given that sound exerts a powerful influence over visual perception, altering established relationships can profoundly affect interpretation. Australian artist Philip Brophy has long recognised this relationship. His series of pop video mutations, *Evaporated Music*, utilise existing music videos which are then rescored, the original sound track replaced with eerie gasps and sounds or quadraphonic death metal. Every on-screen movement is synched, dislocating viewer expectations.

Music certainly extends an artist's repertoire of possibilities. Furthermore, the open nature of digital networks emphasises cultural forms that are never resolved. Consequently, conventional perceptions of narrative have been significantly challenged. For US-based Russian theorist Lev Manovich, new media technologies emphasise the database over the narrative sequence as the key driver of contemporary culture.⁵ With cultural information structured in networked systems, conceptions of temporality rarely involve a clearly demarcated beginning or end. In this sense, narrative possibilities are expanded in accordance with multiple thematic connections, with elements linked multi-dimensionally in terms of conceptual proximity rather than any single linear sequence. Considering that the database represents the world as a collection of items, whereas narrative presents 'a cause-and-effect trajectory', they are, as Manovich

contests, 'natural enemies'.⁶ Yet, before we pit novel and cinema against blogosphere and gaming we can recognise in music a cultural formation that already straddles this divide.⁷ Music provides a conduit between sequential and relational information. Moreover, it can uncannily alter the temporal experience of perception – particularly once we overwrite any prior experiential memory of musical elements. Cultural formations that do present a traditional narrative often present that sequence as only one selection within many possible sequences. Database relationships beg us to consider the qualities that group elements together. The fact that they are experienced in a sequence is a consequence of the inextricable relationship between perception and time. Even the compositional or organisational logic of montaged musical elements in absurd juxtaposition must be read temporally. Some artists employ production devices that normally support narrative structures that are stripped away, or otherwise invert dominant tendencies in advertising and music video by replacing musical timing with visually determined cues. A good example of a database composition is found in U.S. artist Christian Marclay's *Video Quartet* (2002), a four-channel video installation consisting of hundreds of audiovisual samples taken from popular and historical cinema. From a soprano's trill, to clashing cymbals, guitar feedback, gunshots, strings, whistles and slamming doors, this disparate audiovisual juxtaposition required several assistants to produce a pre-production archive. Here, multiple cinematic moments, all containing musical performances or causally connected sound effects once used as part of a narrative sequence, are all re-presented within a dense vertically layered audiovisual composition, divorced from their original narrative contexts, albeit a

fleeting or ghostly evocation of their respective paternities.

Dynamic video and new media installation practices have compounded the role of the artist as facilitator of experience. The convergence of sensorial and conceptual fields is often termed postconceptual art. Although music is typically read as principally constituting a sensorial element, it can also constitute part of a semiotic strategy. Here, a false dichotomy often exists between aesthetic experience and social critique or transformation. At any rate, the presence of a sensorial element in a work should not negate its intellectual dimension. If this were the case, artists would be reduced to stripping sensorial elements to produce an anti-theatricality, which, with no independent essence, remains theatrical. Ultimately, the very reason for presenting ideas within the 'vehicular medium'⁸ of art is to 'instantiate ... experiencing the idea'.⁹ After all, art (including literature and music) can provide the mind's most immediate, intimate and intuitive way of thinking about human experience.

Given that much art exists in oscillation between the allegorical and the concrete, like any other element, music can potentially participate in both metaphorical and metonymic constructions of meaning. Metaphor is a trope in which two unrelated signs are mapped together based on analogy. Literal meaning plays no functional role. Instead, recognition produces pleasure in the comprehension of a relationship between two unrelated elements. This consciousness-changing experience, in which difference is unified, results in a third thought or idea. The *affect* of metaphorical analogy is often critiqued for suppressing or colouring cultural, ethical or political realities. Given that music can exert a powerful influence over visual experience, it is useful to dis-

tinguish between art that seeks to reveal this relationship, and that which seeks to exploit it. Where music might render one object impotent via the association of camp ridicule, it can also potentially inflate another via an indirect association with power. In this way, music, via an indirect process of metaphorical conflation, can render one image funnier, another more patriotic or tragic. This power has long been recognised. Just as Nietzsche despised the nationalistic evocations of Wagner, he also revered the Dionysian spirit of music as an expression of irrational exuberance. Metonyms, on the other hand, are governed by consensual cultural agreement and therefore function more directly as symbols. Here, the question arises as to whether or not an artist can simply 'report' an audiovisual relationship between music and image in a disinterested manner, and if so, how does that constitute artistic expression? Just as the name 'Mozart' is a metonym for Mozart's music, some music evokes metonymic associations. Happy Birthday, The Alphabet Song, or Zorba the Greek, are widely recognisable as symbols of events or places (not that their use is entirely immune to cultural bias or historical distortion).¹⁰

Just as mimetic qualities have been historically associated with photography, a reputation for facticity has also been attributed to sound recording. Related to the instrumental use of the moving image, and auxiliary to its representational plausibility, is the development of documentary codes which aim for realism, typically using unbroken hand-held footage coupled with live sound in order to imply an unmediated representation of reality. Here, associations with the accountability and forensic objectivity of science are reinforced. Yet as soon as the background audio is altered in order to remove happenstance that

might influence disinterested interpretation, a game of persuasion is played. Ultimately, any recorded sound or image is a fragment and therefore a fiction. Artists have long recognised the potential of audiovisual media to blur the relationship between truth and fiction. Like photography, sound recording is an inherently paradoxical form of representation – it simultaneously captures reality yet maintains a fictional distance. By framing and limiting the field of peripheral perception to a fragment designed to signify the whole, the artist can employ a limited metonymy. Metaphor and metonymy aside, a central aim for many contemporary artists is to reveal the viewer/listener's identity as the ultimate locus of meaning, a collage of texts, forms, signs, and acquired behavioural patterns that permit individual identification with a cultural, racial, or national community. In this instance, the self-identification of art as inherently fictional enables an active performative critique of other cultural formations.

Another attraction for artists in music is a potential to collude the attitude, humour and attention span of popular cultural formations within the drier reflexivity of contemporary art. Many artists adapt signifiers from popular culture in order to address social issues. For Cuban-American artist Luis Gispert, for whom hip-hop forms a contemporary Baroque, pop-cultural familiarities reveal strange cultural codes despite their ubiquity. Musical subcultures such as hip-hop can certainly provide a microcosm of broader cultural conflicts. Being a hybrid cultural formation, it is telling that Western attitudes to music copyright in hip-hop have tended to privilege (white) melody over (black) rhythm. Further to the disintegration of singular conceptions of authorship, the union of art and popular music is also one that invites and

encourages collaboration. Well-known collaborations between artists and musicians include Douglas Gordon with Chicks on Speed, Nathalie Djurberg with Hans Berg, Matthew Barney with Björk, and Chris Cunningham with Richard D James (aka Aphex Twin). Such collaborations can take widely divergent forms. Where Gordon moves behind the mirror to become a pop star, Djurberg produces clay animation videos accompanied by Berg's compositions. With both artists and musicians performing the role of project instigator, these works also reach an audience within both spheres. On the downside, some cross-disciplinary relationships have historically involved one sphere cannibalising or subverting the other. From outright cross-cultural exploitation to Malcolm McLaren versus the Sex Pistols, history is littered with disputes lost in translation.

Like art, popular music no longer aims so readily for universality.¹¹ Splintered classifications, such as 'dub step', or 'death metal', might mean one thing to a specialised audience, yet something else altogether to a general audience. The specialist will invariably recognise nuances unavailable to others. With any interdisciplinary coupling, a clash between speciality and generality is inevitable. British artist Phil Collins' video trilogy, *The World Won't Listen* (2005), which is based on a 1986 compilation album of the same name by The Smiths, features fans in Turkey, Columbia, and Indonesia performing karaoke versions of the album. Obsessive fans, many unable to speak English but nonetheless word perfect in Mancunian gloom, reveal regional idiosyncrasies within popular culture's universality. Where generalists claim that art that matters rises out of specificity, specialists are comfortable in the margins orbiting collapsed centres. The specialised

discipline invariably fragments further, resulting in smaller (but now globally connected) audiences. Specialists typically treat those who attempt to translate their field into something widely communicable with disdain. Perhaps, in such an age of information overload, the construction of individually prejudicial boundaries is paradoxically that which maintains diversity. Information overload can certainly potentially limit conditions that enable depth of meaning within individuals. Yet as Nietzsche noted, as we get older we invariably find the world less specifically interesting yet more generally interesting. With less dead time and fewer mysteries, it seems harder than ever to become ensconced within a single discipline. To the generalist, a whole discipline is substitutable. For the partisan, the subtlest of permutations contain interest. Although both kinds of cultural formations respond to the play of sameness and difference, the specificities of disciplinaryity can certainly invite a loss of perspective regarding wider cultural relevance. Although it is often the partisan working at the coalface of the all-important push against universality, in the heat of a turf war it also useful to remember that it is only art.

The proliferation of easy access to the tools of cultural production has produced a generation of prosumers, too busy producing to consume, yet all staking a claim on other people's time.¹² Why should anyone take time away from his or her own individually circumscribed journey to experience someone else's? For Adorno's disciples, differences between cultural goods offer little more than a manipulation of taste and pseudo-individualisation, and as a consequence, all popular music and culture is a commercial invention. Yet avant-garde art and institutional critique has also speculated upon the economies and

ideologies of site in ways that mirror the futures market. Art's existence within the matrix of capitalism invariably necessitates the collusion of artists. We can ultimately only frame our critique from within. Therefore, to contest Adorno's disciples, a popular cultural manifestation such as punk rock can potentially be modeled as analogous with conceptualism. Interesting hybrid formations can certainly occur outside of established formations in popular culture. Sydney-based 'dickhead industrial'¹³ outfit Thug, with their terrifying 1980s performances of drunken distorted lo-fi pulsating noise epitomised such a possibility. The Father's Day 1987 release of *Dad*,¹⁴ which contained the lyrics: 'He's looking good / Do it now / Fuck your Dad!' underscored their poetic pointlessness. Thug's live performances would often degenerate into members attacking each other and the audience with the support band's equipment. During one performance organised and witnessed by the writer in 1987, the 'seriously stupid' black-clad gothic audience was completely covered in flour, toilet paper and beer.¹⁵

Finally, there is another characteristic that attracts artists to music. Just as seminal visual abstractionists such as Kandinsky recognised, aside from the arbitrary inclusion of lyrics and the symbolic value of cultural references, style, and form, music is essentially abstract. Even explicitly programmatic music makes no claim to literally represent the world. Interestingly, this is something that does not seem to have troubled popular perception in the same way that visual forms of abstraction have. In this sense, the relationship between instrumental music and lyric is potentially no more or less literally meaningful than the relationship between music and image. Considering that meaning is produced within the play of difference and

subsequent friction between elements, music can constitute both an element within a work and a medium in and of itself. Like musicians, artists are often less focused upon the specific origin of fragments but rather upon their translocation and manipulation. As with any juxtaposition of elements, provenance may or may not be important within the construction of meaning. At any rate, the relationship formed between individual elements is what matters. Meaning can be fluid, ambiguous, or follow a linguistic logic. Both exactly produced and prosaic fragments can be attributed a role. Meaning is bound by context, yet context is boundless.

Just as we seldom see text without attention-seeking headers, fonts, images or hyperlinks, music is rarely experienced without visual stimulation, not to mention a background of extraneous noise. Consequently, it is often more flirtatious forms of music that are experienced within audiovisual environments. The kind of music that demands concentrated listening has arguably become an anachronistic luxury. As Brian Eno observed regarding his inspiration for *Music for Airports* (1978), although musicians expect to be in the foreground, music is more likely to provide a soundtrack to other events, places, and activities. As a consequence, music forms part of the spatial and architectural mood of a place, time or memory. It is only when we make an investment in concentrating attention unsolicited by other stimuli toward a text, image or piece of music that we experience meaning-making according to older principles. Otherwise, it is likely that contemporary culture's correlate of the narrative form – the database – will extend and fracture narrative possibilities into multiple thematic connections structured according to a multi-temporal logic. Considering that we now readily

accept reality as 'constituted by a multiplicity of spatialised temporalities'¹⁶ and history as having always moved at differing and overlapping velocities, artist and audience alike now experience multiple relational possibilities continuously recycled through the accumulation of culture across time and space.¹⁷ A narrative sequence can only ever claim to be a subjective representational simulation of an individually circumscribed journey through ever-expanding options.

Jörg Heiser recently described a phenomenon he calls 'super-hybridity', in which hybridised forms of production move 'beyond the point where it's about a fixed set of cultural genealogies and instead has turned into a kind of computational aggregate of multiple influences and sources'.¹⁸ Edward Colles has described a similar phenomenon in terms of 'superabundance'¹⁹. Musician Ilmar Taimre, citing inspiration from Hermann Hesse's *The Glass Bead Game* (1943) and the ideas of Henri Bergson, Gilles Deleuze and Félix Guattari, describes his classical 'mash-up' compositions incorporating obscure quotations or hidden allusions as fleeting 'crystallisations ... of an infinite set of potential variations which are latent ... in a higher-level virtual realm (a kind of musical ur-mythos)'.²⁰ This vast realm exceeds even the boundless tracts of our accumulated cultural history. Such cultural conditions certainly imply a wandering course rather than a fixed point. But any journey invariably creates a narrative. As Manovich concedes, despite the fact that 'the database form may be inherent to new media', our desire to transcend the indexical with some form of narrative remains, albeit a narrative that is significantly 'different from the narratives we have seen or read before'.²¹ This desire is perhaps inevitable, for as British artist Richard Grayson has put it, 'humans

have a fundamental desire for pattern-making grand narrative, be that scientific, artistic or occult'.²² In short, all perception involves temporality by default, for humans appear to be wired to aggregate simultaneous sensory perceptions into coherent cause/effect interpretations.²³ After years of channel surfing and hyperlink browsing, audiences are accustomed to moving between multiple narratives. Furthermore, following the social and political impact of an interactive blogosphere, they are also less inclined to expect the construction of narrative to be a one-way street. An individual's experience of musical elements in an artwork is now likely to accommodate awareness that the person next to them is experiencing it differently. Contemporary culture, in an era of endlessly remixed versions and multiple audiovisual pairings, from the online tinkering of online prosumers to the barrage of institutionalised media, contains no singular destination. The historical trajectory that destroyed hierarchies of form appears irreversible. We are no longer in a period of clear formal or dialectical distinction but rather one of fractured interdisciplinary recycling. Given that reconstruction has overtaken ironic quotation, quotation has become habit, and both meticulously produced and found elements are attributed a role in the construction of meaning, music simply constitutes another element in the artist's palette.

NOTES

1. Brian Flemming, *Silence (remix)*, personal blog, 6 March 2004, <http://www.brianflemming.org/archives/000619.html>, accessed 14 September 2010.

2. Michel Chion, *Audio-Vision: Sound on Screen*, edited and translated by Claudia Gorbman with a foreword by Walter Murch, Columbia University Press, New York, 1994, pp. xviii–xix. The quotation uses Murch's translation of Chion's original French. A different English translation of the same passage is given by Gorbman on p. 63.

3. Anri Sala quoted in notes to accompany 'Jeff Wall/Anri Sala', Marian Goodman Gallery: New York, 23 February – 31 March 2007, <http://www.mariangoodman.com/exhibitions/2007-02-23-jeff-wall-anri-sala/>, accessed 3 September 2010.

4. Nicolas Bourriaud, *Postproduction*, Lukas & Stenberg, New York, 2002, p. 13.

5. Lev Manovich, 'The database', *Language of New Media*, MIT Press, Cambridge, Mass., 2001, pp. 218–43, reprinted in Z. Kocur & S. Leung (eds), *Theory in Contemporary Art since 1985*, Blackwell Publishing, Malden, Mass., 2005, p. 408.

6. *ibid.*, p. 413.

7. For Australian musician Ilmar Taimre, 'The database form is also evident in certain types of music (such as multi-layered mash-ups), in which dense vertical layering of multiple sound streams, each saturated with many dimensions of meaning, co-exist but are still readily perceivable and mentally decomposable into their constituent parts, challenging the usual conception of music as a purely horizontally unfolding art form'. From an email exchange with the author, 15 September 2010.

8. David Davies, *Art as Performance*, Blackwell Publishing, Malden, Mass., 2004, p. 59.

9. Elisabeth Schellekens, 'The aesthetic value of ideas', in Peter Goldie and Elisabeth Schellekens (eds), *Philosophy & Conceptual Art*, Oxford University Press, Oxford, 2009, pp. 80–1.

10. 'While such "brute force" musical/conceptual associations are perhaps *de rigueur* in some socially and politically charged art, other contemporary usages of musical metonymy are just as likely to draw on the less obvious, partly submerged, linkages latent in the multivalent saturation of most symbols in the twenty-first century. Here the current revival of interest in collage – visual and musical – is also pertinent.' Ilmar Taimre, from an email exchange with the author, 15 September 2010.

11. Articulation of ideas presented in this paragraph adapted from music critic Simon Reynolds, *Blissblog*, 21 September 2005, http://blissout.blogspot.com/2005_09_01_archive.html, accessed 14 September 2010.

12. *ibid.*

13. In the words of Australian industrial artist Mark N, *Dad* represents a 'defining moment in Australian "dick-head music" history'. Mark N, 'Mark N selects – part two', *Cyclicdefrost* #014, July 2006, <http://www.cyclicdefrost.com/article.php?article=1232>, accessed 14 July 2007.

14. THUG: Dad/Thug, Black Eye Records: Australia, 1987: BLACK4: 7.

15. 'The Inferno' was a weekly experimental performance event organised by the writer and Nick Endusa every Wednesday between July and December, 1987 at the Hip Hop Club, Oxford St, Darlinghurst, NSW, Australia, featuring Thug, Moist, Butchered Babies, Tex Perkins, Box the Jesuit, Sean Lowry, Nick Space Tree and Mark Turner.

16. Jan Verwoert, 'Apropos appropriation: why stealing images today feels different', *Tate Triennial 2006: New British Art*, exhibition catalogue, Tate Publishing, London, <http://www.artandresearch.org.uk/v1n2/verwoert.html>, accessed 4 March 2010.

17. Adapted from an unpublished working paper by Ilmar Taimre and Sean Lowry, 2010.

18. Jörg Heiser, 'State of the art', *Frieze* 133, September 2010 (editorial).

19. Edward Colless, 'Superabundance', *Broadsheet: Contemporary Art and Culture*, vol. 33, no. 4, 2004, pp. 16–8.

20. Ilmar Taimre, 'Composing "Latent Music" by mashing up obscure quotations from western art music: some notes towards an exegetical framework', unpublished working paper, 2008. Taimre draws particular attention to the following passage from Hermann Hesse, *The glass bead game*, trans. Richard and Clara Winston, Jonathan Cape, London, 1970, p. 15:

'The Glass Bead Game is thus a mode of playing with the total contents and values of our culture... All the insights, noble thoughts, and works of art that the human race has produced in its creative arts, all that subsequent periods of scholarly study have reduced to concepts and converted into intellectual property – on all this immense body of intellectual values the Glass Bead Game Player plays like an organist on an organ. And this organ has attained an almost unimaginable perfection; its manuals and pedals range over the entire intellectual cosmos; its stops are almost beyond number. Theoretically this instrument is capable of reproducing in the Game the entire intellectual content of the universe.'

21. Manovich, *op. cit.*

22. Richard Grayson interviewed by Jacqueline Millner, 'Sydney Biennale 2002: Tripping over a zeitgeist', <http://www.realttimearts.net/rt48/millner.html>, accessed 21 June 2002.

23. Articulation of these ideas developed in an email exchange with Ilmar Taimre, 15 September 2009.

Branding exercises: material for a project on maps, memory and the 'physicality' of light