

HYPERRHIZ: NEW MEDIA CULTURES . ISSN 1555-9351

MAIN MENU

- [home](#)
- [about](#)
- [current issue](#)
- [previous issues](#)
- [the blog report](#)
- [review s](#)
- [submit](#)

SEARCH

[« HYPERRHIZ.08](#)

Century of change? Media arts then and now

Darren Tofts

Professor in Media & Communications
 Swinburne University of Technology
 Melbourne

Abstract

The formative years of 20th century modernism were all about speed: the speed of progress, the rapidity with which technological change metamorphosed into the art of the new. Under the grip of what Hugh Kenner called "the mechanic muse", art went techno. How do we characterize the media and experimental art practices of the early 21st century? At a time of increasing technological sophistication, are we witnessing a neo-modernist period of accelerated novelty? Is the new still capable of shocking? Or are we asking the wrong kinds of questions of the new millennium?

The world has changed less since the time of Jesus Christ than it has in the last thirty years

— Charles Péguy, 1913

... not only is the historical avant-garde a thing of the past, but it is useless to try to revive it under any guise...

— Andreas Huyssen, 1986

These quotations can be read as decisive and evocative bookmarks of the rise and fall of twentieth century modernity. The French writer Charles Péguy was marveling, with typical cosmopolitan urbanity, at the speed with which the modern world was taking shape. Grand, sweeping gestures of this kind were indicative of the sense of change that characterized the modern imagination. A continent away, the American writer Henry Adams was equally sensitive to the consequences of such change, observing that the "child born in 1900 would... be born into a new world which would not be a unity but a multiple" (Adams in Ellmann and Feidelson, 1965, 427). Adams' "multiverse" captured the dizzying sense of accelerated change that modernity represented, as well as its dramatic, epochal transition from one stage of human history to the commencement of another.

Forged out of the crucible of technological, scientific and artistic change, the modernist avant-garde gave rise to the most intense period of artistic innovation and experimentation in history. Cubism alone represented the most radical departure from a visual orthodoxy virtually unchanged since the Renaissance and, despite its extraordinary impact on visual culture, was only one of many revolutionary incursions of the avant-garde imagination. An emblematic cubist work, Fernand Léger's *Ballet Mécanique* (1924), is a paean to the modernist obsession with the machine and speed. The film is an allegory of the passage from the pastoral age of steam to the dynamism of automation and the relentless poetry, so beloved of Marinetti and the Futurists, of pistons, gears and mechanical force. Reveling in the new visual language of cinematic montage, *Ballet Mécanique* is an artwork very much under the spell of what Hugh Kenner called "the mechanic muse".

Kenner's *The Mechanic Muse* (1987) documents in detail the extent to which artists incorporated references to new technologies in their work, as well as transformed it in direct response to technology and the overwhelming sensation of a changing world. From T.S. Eliot's references to telephones, escalators and train travel, to James Joyce's portrait of the modern city as a machine of interacting components, Kenner reveals how technology modified people's behaviour in subliminal, yet enveloping

ways: "an office typist of 1910 could not have imagined how her 1880 counterpart used to spend the day" (Kenner, 1987, 9). Joyce was certainly of the most daring artists of the period and summed up the responsibility of the artist to reflect and embody the new multiverse of twentieth century life: "The

important thing is not what we write, but how we write, and in my opinion the modern writer must be an adventurer above all, willing to take every risk [...] In other words, we must write dangerously" (quoted in Hart, 1974, 95). Joyce's manifesto-like invocation to write dangerously echoes the reckless delirium of speed and abandon of Marinetti's portrait of the motor car in full flight, on the way to an inevitable crash. The exhilaration of risk associated with the new economy of speed was also distilled in the epiphany experienced by the Russian novelist Maxim Gorky, having witnessed the Lumière Brothers' *Arrival of a Train* in 1895:

Suddenly there is a click, everything vanishes and a railway train appears on the screen. It darts like an arrow straight towards you— watch out! It seems as though it is about to rush into the darkness where you are sitting and reduce you to a mangled sack of skin... and destroy this hall and this building, so full of wine, women, music and vice, and turn it into fragments and dust (Christie, 1994, 15).

The famous and largely apocryphal story of the first cinema goers fleeing the theatre as the Lumière Brothers' train casually pulled up to the station does condense the temper of the times. The fact that this legend very quickly became the subject matter of subsequent films attests to the potent mix of exhilaration and terror associated with modern art's dramatic assault on tradition. Ezra Pound's rallying catch cry, "make it new", characterized the volatile, energetically restless sensibility of the modern artist.

Writing as the world anticipated the coming of a new millennium, let alone century, the cultural critic Andreas Huyssen served the death notice on the cult of the new that had so inspired Péguy. Huyssen was no less aware than his predecessors that dramatic technological change helped initiate the avant-garde and "its radical break with tradition" (Huyssen, 1986, 15). Writing on the cusp of another revolution precipitated by technology, Huyssen was lamenting the loss of a particular conception of the historical avant-garde whose artistic innovations, ground in decisive, monumental artworks, had become subsumed into late twentieth century, Western mass-mediated culture (15). The avant-garde, as Huyssen conceived it, was the familiar portrait of modernity captured and described by a host of writers including Edmund Wilson (*Axel's Castle*, 1931), Herbert Read (*Art Now*, 1933), José Ortega Y Gasset (*The Dehumanization of Art*, 1956) and Stephen Spender (*The Struggle of the Modern*, 1963). Huyssen's position was typical of a particular conception of postmodernism that by the late 1980s had become orthodoxy within visual art criticism and literary and cultural studies. The "grand narratives" of Read and others held no sway in the age of globalization and consumer culture. This was a critique of modernity also argued in the work of Lyotard (1984), Jameson (1984) and others, in which the radical force of the historical avant-garde had been "absorbed and co-opted", in Huyssen's words, "by Hollywood film, television, advertising, industrial design, and architecture" (15).

Unwittingly, though, Huyssen's sense of loss for the decline and fall of radical modernity was somewhat premature. As the new millennium dawned a little over a decade later, another period of rapid technological change and a different kind of experimental art movement was in full swing. Ironically, its driving technological force, multimedia, echoed Henry Adams' resonant prefix for the complex modern world of the early twentieth century. In historiographic terms, the "digital age" that dawned at the end of the twentieth century and consolidated at the start of the twenty-first was the extension of the "mechanical paradise" of modernity itself (Hughes, 1993, 9), complete with its own artistic innovation precipitated by the "new media" of the day. Among the first critics to identify this connection was the late Nicholas Zurbrugg. Writing specifically of the development of emerging art forms "multiplied and modified by new electronic technologies" (Zurbrugg, 1994, 10), Zurbrugg optimistically cautioned against the apocalyptic decrees of theorists such as Huyssen, observing that "the cultural cartographer should look beyond fashionable myths of extinction, neutralization and decline, and recognise the positive potential of the interplay between the new electronic arts" (19). In the following year the Canadian critic Donald Theall solidified this connection in his *Beyond the Word*, one of the first and most detailed accounts of the continuities between modernity and the "Information Age" (Theall, 1995, 7). For Theall, the emerging cyber age was a kind of "paramodernism", the extension of an essentially unfinished project of "radical modernity". Hence, Theall eschewed notions of the postmodern, as Huyssen and others have described it, as a movement that comes *after* the modern. He traces the paramodern age of the Internet back to 1880 and a "period of history which experienced the development of electricity, the final closing of the world's frontiers, the discovery of atomic fission, ultra-rapid transportation, and instantaneous worldwide communication" (5).

This cartography of the modern evidences the overlaps and continuities of the electro-mechanical and the digital age (a confluence to which I shall return directly). But it also underlines a curious feature of epochal change that Robert Hughes has written about in relation to art history. In the final chapter of *Shock of the New* (suggestively titled, in the spirit of Huyssen, "The Future that Was"), Hughes suggests

that cycles of creativity and exhaustion "so often fall between the years '90 and '30" (Hughes, 1993, 425). Most chronologies of modernism are certainly framed within this forty-year time span. However the same histories are quick to caution that such historical framing is a periodic convenience that satisfies the needs of history itself. Furthermore, the very concept of modernism has a substantial prehistory, or rather potential prehistories, as well as resonances well into the late twentieth century (see Bradbury and McFarlane, 1976). One of the modern movement's key writers, Virginia Woolf, famously quipped on

this very subject in 1924 in an equally famous essay on history, innovation and the contemporary novel: "On or about December 1910 human character changed" (Woolf, 1966).

Hughes' image of cycles of exhaustion and creativity is especially interesting in relation to the continuities, identified by Zurbrugg, Theall and others, linking the 1890s and 1990s. In an influential essay of 1967, entitled "The Literature of Exhaustion", the American critic and novelist John Barth used the metaphor of exhaustion to account for the shift from modern to postmodern sensibilities in the arts. He was quick to dissociate the concept of exhaustion from any negative connotations associated with the "used-upness of certain forms", underlining it as the flip side or necessary condition of revived creative energy in the arts (Barth, 1967, 29). Singling out the "intermedia" arts associated with avant-garde movements such as Fluxus, Barth unwittingly anticipated the deeper reach of his "exhaustion of certain possibilities" that would emerge two decades later as the creative artistic flourish of a new 90-30 timeframe.

*

The prescience of Barth's optimism for a *post*-modern period of renewed artistic experimentation was further signaled in "The Literature of Replenishment", an essay he wrote in 1980 as a riposte to "The Literature of Exhaustion". It is revealing to illustrate in more detail the synchronicity of the mechanical and digital revolutions, since it discloses a series of largely unrecognized parallels. This perception of a common grounding in technological innovation heightens the argument, advanced by Zurbrugg and Theall, that the digital arts were the successors of an earlier phase of techno-artistic experimentation, a continuity of radical modernism, rather than a departure from it.

If the Eiffel Tower was the symbolic beacon of modernism, an altogether different and largely invisible sentinel for the age of information captivated the world's attention. The Internet was a truly global phenomenon not simply because of its capacity as a trans-national network, but also as a result of its mythic connotations of the new frontier of cyberspace. Media studies captions such as the Third Media Age lacked the élan of "cyberspace" and associated concepts such as virtual reality and disembodied telepresence, while beguiling, nonetheless heralded a new phase of humanity. Comparable in its *fin de siècle* excitement to the 1890s, the digital age might not have had a singular impresario like Marinetti, but West Coast visionaries such as Howard Rheingold and Timothy Leary did their best to ignite a new post-human order by singing the body electronic. The little magazines that fuelled the consciousness of artistic modernism, such as *The Egoist*, *Transition* and *Blast*, also found their avatars in *Wired*, *21C* and *Mondo 2000*. From cyberpunk to virtual homesteading, to William Gibson's matrix, the fetish of cyberculture as transcendence by technological means was the equivalent of modernism's ecstatic embrace of the machine as the agent of epochal change.

During the late 1980s and well into the 1990s, a host of cultural theorists, academics, technologists and social historians set about the retrospective task of writing the contemporary into history. As with all histories, this involved seeking continuities with the past. Until this time, the idea of a possible digital history was largely unknown. With the benefit of hindsight, of course, it seemed to have always been there. By the mid 90s, obscure nineteenth century figures such as George Boole and Charles Babbage became indispensable progenitors of the digital age. Prior to their resuscitation from the smog and grit of the industrial revolution, they were largely unknown outside the rarefied, or at least specialist disciplines of computing, cybernetics and information systems. Yet both Babbage and Boole were part of the prehistory of modernism's long march towards the complexity and conceptual sophistication that set it apart from the industrial age. Part of this legacy, realized after the fact, was how profoundly their impact underpinned another revolution and the evolution of the technology at its centre, the digital computer. The following table reveals how closely aligned the dual histories of the machine and the digital actually were. Moreover, it reveals how until the domestication of the personal computer and the Internet in the 1990s, a potential history of what would come to be called the digital age or cyberculture, was waiting to be written from within the history of modernism itself:

Modernism [1]

Cyberculture [2]

		1804	Power loom with an automatic card reader Joseph Marie Jacquard
		1822	Difference and analytic engines Charles Babbage
1830	Telegraph Samuel Morse and Joseph Henry	1830	Telegraph Samuel Morse and Joseph Henry
1839	Photography Talbot, Niépce and Daguerre	1839	Photography Talbot, Niépce and Daguerre
		1843	Programs & subroutines for the Analytic Engine

Programs of education for the twenty-first century

Ada Augusta Byron

		1854	Algebra from logic, truth tables George Boole
1866	Typewriter Sholes, Glidden and others	1866	Typewriter Sholes, Glidden and others
1876	Telephone Alexander Graham Bell	1876	Telephone Alexander Graham Bell
1882	Recoiling machine gun		
1884	Steam turbine Charles Parsons		
1888	Kodak Box camera George Eastman	1888	Kodak Box camera George Eastman
	Electric motor Nikola Tesla		
	Pneumatic tyre John Dunlop		
		1890	Punch card reader and tabulating machine Herman Hollerith
1892	Diesel engine Rudolf Diesel		
1893	Motor car Henry Ford		
1894	Cinematograph Lumière Brothers	1894	Cinematograph Lumière Brothers
1895	Radio telegraphy Guglielmo Marconi	1895	Radio telegraphy Guglielmo Marconi

Boole and Babbage clearly don't feature in Hughes' chronicle of modern techno-scientific innovation. But nor do Jacquard and Hollerith and their respective inventions were pivotal in the development of mass-production techniques that accelerated the textile and other manufacturing industries. In this we can extrapolate a secret, or at least unofficial history of the digital age that was entwined within the electro-mechanical developments and scientific discoveries that led to the notion of the modern world. The coincidence of these apparently separate technological histories, "discovered" as the digital age sought its ancestry, heightens the assertion that the latter constituted an extension of radical modernity. It also supports Greil Marcus' perception of the provisionality of history, its narrative status as something that "works" rather than what is "true" (Rodman, 1993, 296). As Marcus observes in his history of punk, *Lipstick Traces*, "serendipity is where you find it" (Marcus, 1989, 93).

Throughout the twentieth century the realization of nineteenth century intimations of what would come to be known as computing machinery was also largely unwritten. This history is substantial and continuous and although on the reading list of every student of cyberculture by the mid 1990s, was also inconspicuous as far as cultural histories of the modern period. Beyond the disciplines of IT and the electronic arts, there was clearly little attention to the developing history of computer-based art, certainly within the humanities and social sciences. All histories, after all, have to be written. The key dates, events and innovations identified in the timeline produced by the online Digital Art Museum, for example, attest to a slowly maturing interface between the arts and computing, from John Whitney's use of the analogue computer to make animation in 1958, to Edward Zajac's computer-generated film in 1963 and

the institution of SIGGRAPH in 1969. This history clearly made sense during the 1990s and the conspicuous popularity of multimedia art. But its continuity, of course, was the manifestation of a richer and more extensive longevity of art and technology. The ascendancy of the computer-based, multimedia art paradigm enunciated one of the more radical of modernity's interventions into artistic experimentation with technology, the kinetic arts associated with the Bauhaus.

The Bauhaus movement is well known and features prominently in histories of modernism. The idea of synthesizing electro-mechanical processes with "fine and applied arts and architecture" captured the idea of a distinctively modern and "homogenous culture based on the difficult rapport between art and science, man and the machine" (Popper, 1993, 11). László Moholy-Nagy's constructivist sculptures not only represented the Bauhaus principle of integrating art and technology, but established the principle of working with multiple media drawn from industrial and mechanical contexts that were not intrinsically

aesthetic in origin— the doctrine of art as machine.

Frank Popper, in his influential *Art of the Electronic Age*, portrays very neatly the passage whereby the "machine aesthetic" of the Bauhaus coursed through the twentieth century as a determined, largely underground current (Popper, 1993, 11). Its eventual springing forth in the last decade of the century as the art of its time echoes Moholy-Nagy's aphorism of 1922 that to "be a user of machines is to be of the spirit of this century". In this the multimedia arts were a revival of an earlier techno-futurist spirit and the manifestation of another 90-30 cycle of creativity and exhaustion.

This convergence of the 1890s and the 1990s in the name of technology was notably crystallized in 1996. Centennial celebrations for the invention of the cinema had been in full swing throughout the globe, commemorating the opening of Georges Méliès' first purpose built cinema on the 4th of April, 1896. In March 1996 the Museum of Contemporary Art in Sydney exhibited *Phantasmagoria: Pre-cinema to virtuality* as part of its tribute to the centenary of cinema. *Phantasmagoria* presented the first comprehensive retrospective of Méliès' films in Australia, as well as a series of works that celebrated their impact on audio-visual culture. Coinciding with *Phantasmagoria*, the MCA commissioned a companion exhibition to deepen and underline its historical connections with another, more recent development in the history of new media. *Burning the Interface: International Artists' CD-ROM* was the first major survey exhibition of artists working with interactive multimedia. Curated by Mike Leggett and Linda Michael, it was designed to introduce the general gallery going public to emerging art forms associated with the highly conspicuous and much-hyped interactive media. At a time when exposure to artists' CD ROMs was almost exclusively the province of electronic arts events and the specialist audience they attracted, *Burning the Interface* connected the more popular Esperanto of interactive media, such as computer games, the nascent world wide web and multimedia encyclopedias, with new artistic practices that used the same software responsible for popular examples of domestic multimedia such as Lucas Arts' *Sam and Max Hit the Road* or Microsoft's *Encarta*.

The specific identification of an emerging art form, comparable in significance and dramatic impact to that of the cinema one hundred years previously, was heightened by curators Peter Callas and David Watson in their Introduction to the *Phantasmagoria* exhibition catalogue:

"Magic. Wonderment. Dread. Cinema and 'new' media. A potent collision is under way as dire and delightful foretastes of a digital future fuse with centenary celebrations for the ancient art of cinema" (Callas & Watson, 1996, 1).

A portent of the significance of this alignment was noted in 1990 by Jonathan Crary, in his *Techniques of the Observer*, where he reflects that the book "was written in the midst of a transformation in the nature of visibility probably more profound than the break that separates medieval imagery from Renaissance perspective" (Crary, 1990, 1).

Complementing its substantial Méliès retrospective, *Phantasmagoria* featured recent work by new media artists Agnes Hegedüs, Toshio Iwai and Tony Oursler, and clearly situated their work within the magic and spectacle of Méliès' pioneering cinema. Indeed, Callas and Watson explicitly noted that the innovative work of these new media artists "revive awe and delight as well as reflection and speculation in ways which help us re-imagine the impact experienced by the first film audiences in Méliès' 'magic cinema'" (Callas & Watson, 6). If early cinema was a historical context in which it was appropriate to situate these contemporary artists working with interactive media, it was also evident to both Callas and Watson that if Méliès were "alive today, [he] would not hesitate to embrace high definition television or the digital delights offered by computer graphics and virtual reality" (Callas & Watson, 6). Five years later, this confluence of new media art and early cinematic experimentation would become institutionalized knowledge with the publication of Lev Manovich's highly influential *Language of New Media* in 2001. For Manovich, Georges Méliès was the precursor of the digital artist. Cinema, he asserted, "has found a new life as the toolbox of the computer user... Cinema's aesthetic strategies have become basic organizational principles of computer software" (Manovich, 2001, 86).

Certainly within Australia, as elsewhere in the world, the connection between interactive multimedia and film had been an ongoing source of preoccupation and debate. Its ostensible grounding in audio-vision precipitated a lively dialogue about how the film industry might benefit from the affordances of the digital paradigm. Given that cinema was still the dominant form of mass media it was predictable that the film industry would embrace multimedia and seek to develop its "creative potential" (Hill, 1995). This fascination certainly continued into the new century and the explicit location of the digital arts as the putative heir apparent, or at the very least successor of the early cinema, was consolidated by writers such as Manovich. This insight was in fact signified serendipitously, *pace* Marcus, in the year of the publication of *The Language of New Media*, since the auratic year 2001 had, for the previous thirty years, already been sanctioned by the cinema as the future. Ian Christie had made a similar observation in the BBC televisual adaptation of his book *The Last Machine: Early Cinema and the Birth of the Modern World* (1994). In describing the advent of the cinema as a "rehearsal for the modern world", Christie perhaps unwittingly intuited a double inflection and another rehearsal for the advent of a new century and age of new media.

By the time *The Language of New Media* was published, interactive multimedia had lost its veneer of the new and had leveled out into a persistent, utilitarian presence in culture. That is, it was unspectacular and virtually invisible, like the railway tracks and public transport infrastructure of modernity that were succeeded by the more personal motor car. Beyond its modernist splash at the start of the 1990s, renovation, rather than innovation, became the ubiquitous norm; a vernacular expectation of software upgrades, faster processors, better web site design, higher bandwidth, improved "user friendliness" and, more recently, the personalized interfaces of social networking, such as MySpace and Facebook. *Mondo 2000* and *21C* had both ceased publication and *Wired* had become just another electronics magazine. Compared with the sustained fervour associated with the rapacious introduction of new technologies a century earlier, the excitement of multimedia was narrower in range and relatively short-lived. Part of this was largely due to the obvious fact that the digital paradigm emerged out of a culture that was already highly technologised. The Internet would not have been conceivable without the conceptual and technological infrastructure of the telecommunications age that contoured the twentieth century. It was very much, as Trevor Barr has persuasively articulated, a converged medium (Barr, 2000, 22).

The Internet's galvanizing of the Information Age was certainly comparable to the impact of analogue media such as cinema and television for the machine age. As a component of a wired, networked world contoured by technology, it altered our overall relationship to fundamental concepts such as social relations, presence and time. In this it precipitated what McKenzie Wark has described as "third nature", the expectation that instantaneous and multiple communications and presence at a distance are intuitive, everyday phenomena that we take absolutely for granted (Wark, 1993, 163). That is, co-presence, being here and there at the same time (what Marshall McLuhan had called "allatonce") was part of the business of being human and no longer the province of external technology. However dramatic it was in its significance for global communications, the Internet could not shock in the way that the cinema or television did, since it extended and intensified an already stable set of cultural expectations about telecommunications that had modified our perception of time and distance for at least fifty years; what Wark calls the techniques of "telesthesia", or sensing at a distance (163). For the first audiences of film and television, this was, however, something very new and very strange.

New media and its associated arts were decisive and engaging in that they allowed a kind of participation that the majority of residual art forms, from literature to the cinema and television, did not. As I have argued elsewhere, it was the precipitation of a new conception of the audience and of participation that made new media arts stand out as decisive incursions into the vocabulary of art generally, rather than any specific genre such as net art, interactive fiction or immersive virtual reality (Tofts, 2005a, 13-14). Furthermore, the consciousness of the enormity of modernism itself and the concept of the "century of change" meant that the twentieth century didn't necessarily have many more surprises that would have the power to shock in the manner of the motor car or the telephone. The digital computer, the Internet, new media arts and epochal notions such as cyberspace were exactly the kinds of outcomes to be expected from a technological history grounded in the convergence of telecommunications (telegraph, telephone), screens (camera, cinema, television) and keyboards (typewriter, monitor). In other words, all of the available technical infrastructure, as well as communications concepts, were ready for convergence into a single paradigm within the history of modernity itself.

Renovation, rather than innovation, then, was the vibe of new media technology as the clock anxiously ticked over into the new millennium. Indeed, the hysteria surrounding the Y2K disaster was the closest thing to shock that the digital age could muster, a perverse homage to previous millenarian fears of apocalypse. But how did media artists respond to the challenge of working with technology that had largely become invisible, ordinary and entirely domesticated? If the nature of radical modernism is progress and change, what forces of aesthetic invention have been at work in the first decade of the new century?

*

At the time of writing this piece, the world momentarily held its breath once again as a new technology threatened global devastation. On September 10th 2008 the Large Hadron Collider was "turned on" by CERN scientists. Amid the tongue in cheek anxiety of the media and dire warnings from scientists of the dangers of smashing atoms at velocities approximating the speed of light, very few people seemed to have noticed that this prodigious experiment formed another arc stretching back to the early twentieth century. Designed with the explicit objective of testing the speculative postulations of Einstein and Planck about the nature of quantum conditions, the Large Hadron Collider was yet another instance of a historical continuity with an unfinished project of radical modernity. Apart from its direct engagement with the very questions of force and matter that fuelled modernism's fascination with time and space, the large Hadron Collider is without question the largest operational device ever built by humans. The age of the machine, it seems, was not done with yet.

What had happened to media art between these moments of potential technological calamity? Rather than present a catalogue of key artists or representative artworks, it is more compelling to offer illustrative

accounts of the ways in which the poetics of interactivity associated with the 1990s have converged with the contemporary global ecology of mobility and its associated networks of distribution across different media and spaces. In other words, what, when and where is the space-time of contemporary media arts practice? The spectacular novelty of computer-based interaction associated with the multimedia arts of the previous decade decentred the experience of art from the gallery as a culturally sanctioned art space. Multimedia enabled the dramatic domestication of our experience of art and shifted the vectors of participation away from collective to more individualized forms of encounter and engagement. The eventual maturity of the Internet by the late 90s accelerated this dislocation of a historical legacy of shared, public participation in the experience of art. The online gallery rivaled the built environment as the primary and exclusive space of exhibition for digital art works and was no longer a secondary representation of work to be encountered elsewhere.

This re-orientation of the nature of art space has been modified by and subsumed within the broader vernacular of social networks associated with mobile telephony and a revamped "Web 2.0" manifestation of the Internet. If artists' CD ROMs and web-based works were the indicative art forms of the late 90s, the network, conceived as a cross-media space-time of integrated technologies and environments, has emerged as the "aesthesia" of contemporary media arts practice. Lisa Gye, Anna Munster and Ingrid Richardson have persuasively captured the techno-philosophical character of "art now", asserting that it is "online, on the street, on a screen and coming at you from a million different places". The concept that galvanizes this expanding field of "computational culture" is that of the distributed network, in that it "concerns experiences that are sensed, lived and produced in more than one place and time" (Gye, Munster & Richardson, 2005). The more pervasive inflections of the computer and the digital from ten years ago have given way to what Geert Lovink and Anna Munster have called "relays of entwined and fragmented techno-social networks" (Munster & Lovink, 2005). Distributed aesthetics has replaced digital aesthetics as the poetic of contemporary techno-artistic practice. Artists working within this intermedia field of distributed relations represent forces of invention and creative vision that elevate media art beyond the vernacular and utilitarian presence of digital technology I have previously described. In this they continue a tradition of radical modernity which forges unforeseen and innovative aesthetic potential out of ubiquitous residual and emerging media that are not intrinsically artistic in their application.

I have selected three examples to demonstrate this assertion of the innovative forces at work within the concept of distributed aesthetics. As practitioners of media art, each in turn evidences the creative interplay of exhaustion and creativity I have detailed previously. The work I shall identify here is indicative of techno-arts practices that intimate a continuation of radical modernity's desire to innovate within the context of a distributed, cross-media landscape of conspicuous remediation. The concept of remediation is drawn from Jay David Bolter's and Richard Grusin's work and specifically addresses the interface between novelty and renovation that I have been developing in this discussion. For Bolter and Grusin, the modernist credo of the new only has any meaning in the age of new media if we reconceptualise it as an implicit reworking of extant media, rather than a persistent push for dramatic novelty, as was the case at the start of the twentieth century. Remediation carries with it a range of nuances to do with renovating and redefining previous media, to such an extent that the concept of innovation has to be understood as always already refashioning residual media (Bolter and Grusin, 1999, 59). Remediation as a concept offers a more positive and creatively energized inflection of the idea of technological renovation. It also captures Barth's and Hughes' generative formula of exhaustion/creativity as an iterative historical and technological process. In terms of contemporary media arts practice, then, artists are remediators who innovate by embracing, inhabiting and exploiting the oscillations and relations between media, rather than seeking the latest killer application which, in the twenty-first century world of remediation, is a false grail. As Bolter and Grusin assert in their closing remarks to *Remediation*: "The true novelty would be a new medium that did not refer for its meaning to other media at all. For our culture, such mediation without remediation seems to be impossible" (271).

Blast Theory

Blast Theory is a well-known UK based collective led by three artists, Matt Adams, Ju Row Farr and Nick Tandavanitj. Working together since the early 1990s, their collaborative practice has consistently explored "questions about the meaning of interaction and, especially, its limitations" (Blast Theory). Their work of the last ten years has pushed and expanded the boundaries of what we understand interactivity to be, but more importantly where and with whom it occurs and what it can become. It is this sense of imminence, of precipitating change rather than responding to it, that situates Blast Theory as a significant force within contemporary media arts practice.

Blast Theory have no fixed artistic palette, nor do they work within singular spaces. The province of their largely performative and time-based work is the mixed reality of interconnected media with which we are constantly immersed on a daily basis. Integrating the built and online environment via mobile phone and web-based interfaces, Blast Theory works generate alternative vectors between artists, art and audiences that are direct expressions of the distributed conditions in which artists now work and most of us live our daily lives. *Can You See Me Now* (2001) critically responds to the ubiquity of mobile telephony and its penetration "into the hands of poorer users, rural users, teenagers and other demographics usually excluded from new technologies". From within the architecture of a tactical pursuit

game, it converges players within actual locations (the Blast Theory "runners" on the streets of Sheffield) and virtual, telematic spaces (anyone anywhere in the world), integrating ambiguous and unprecedented relations between individuals occupying different co-ordinates of place and time. Through the use of tracking satellites, hand-held computers and a web-based interface, *Can You See Me Now* simulates the conditions of mobility without the use of mobiles.

A related work, *I Like Frank*, was premiered at the 2004 Adelaide Fringe Festival and was promoted as "the world's first 3G mixed reality game". The objective of this work was to allow participants to test the "possibilities of a new hybrid space" using the latest generation mobile phone as the navigational hub of a find and pursuit locative game, the relevant clues and artefacts of which were planted in different locations throughout Adelaide. The progression from *Can You See Me Now* to *I Like Frank* attests to the deceptive progress of media such as the 3G phone, which merely remediates a range of available media rather than introduces something new. What is conspicuous and intriguing about the two works is the artists' inventive use of media "against itself", to use Gerald Graff's famous phrase. That is, it evidences the inquisitive force of the avant-garde sensibility applied to conditions of change, of a kind not dissimilar to Méliès' intuition of the marvelous wonder that can be achieved through the cut in film.

The innovative force of Blast Theory performances lies in their highly self-conscious foregrounding of the pervasiveness of ubiquitous media literacy and its power to forge remote individuals into deterritorialized social networks. This heightens the premise that art, any more than communication, no longer requires a shared and fixed time-space. This is potentially problematic in that it points to the atomizing effect of participatory culture, in which individual choice, rather than common interest, determines when something can be experienced in the name of art or popular entertainment (Tofts, 2005b). Blast Theory's work, however, responds to this discretionary aspect of individualized time and space by creatively contouring the potential of distributed media networks to converging temporary shared time-spaces.

Blast Theory's work represents the confluence of notions such as distribution associated with technological networks and French theorist Nicolas Bourriaud's concept of "relational aesthetics". Relational aesthetics emerged in the 1990s as an influential idea for thinking about alternative models of art, spectatorship and participation based around staged and even impromptu events that foreground relations rather than objects. Bourriaud's work does not specifically speak to conditions of digital, networked culture. Much of the work on which his theories have been based in fact relate to site specific or performative art events that explicitly rely upon audience interaction and participation. However relational aesthetics can be thought of as a useful starting point for thinking about distribution as it applies to networked culture specifically, since it addresses the concept of art being defined by social interaction that may or may not require specific locations in and times at which to occur (see Tofts, 2005b).

Out-of-Sync

Inhabiting the street, as a matrix of technologically mediated relations elsewhere, has been Blast Theory's modus operandi in the name of a remediated distributed aesthetics. The same can be said for the collaborative works of Sydney based artists Maria Miranda and Norie Neumark, collectively known as Out-of-Sync. The street is after all the emblem of mediation itself, of transit between here and there, the *dérive* or pedestrian space of unexpected social encounter. Miranda and Neumark work within cross media environments that are designed to capture the unpredictable and multiplex conditions associated with distributed social networks. *Talking About the Weather* (2005-ongoing) is a conscious response to global warming and the intimate relations between micro and macro conditions. It begins from the premise that talking about the weather is one of the most idiomatic forms of social exchange in shared real time. It conceptually expands upon this to elicit the implications of this particularly human form of interaction for an age in which breath has come to have a more sinister meaning than Plato's psyche. CO2 emissions from the collective exhalations of the world's individuals play just as profound a role in contributing to climate change as big industry, so accordingly the goal of the project is to garner the world's largest collection of breath. *Talking About the Weather* is an indicative remediated work in that it combines installation, performance, audio-visual and online components into an integrated concept. It fuses the *realpolitik* of speaking with real people about pressing social and environmental issues with the "pataphysical mode of an imaginary solution for an actual problem" (Miranda & Neumark). The performative dimension of the work involved the artists "performing" the roles of Australian tourists abroad in different European cities, inviting passers-by to donate their breath to what will be the largest collection of CO2 *not* to be exhaled into the environment. Capturing each donation via video, the work occupies a fascinating interstitial zone between real time and mediated time, between "documentary and documentation" (Miranda and Neumark). The donation process in cities such as Delft and Amsterdam was entirely unrehearsed and spontaneous, with hereby donors responded with varying degrees of puzzlement, enthusiasm and irritation. It draws on as well as explores notions of private and social identity and the increasingly malleable boundaries between both spheres, resulting in a manifold, "hybrid private-collective model of subjectivity" associated with cross-mediated networked conditions (Jaspers, 2007, 2). A 2008 iteration of *Talking About the Weather* conducted in *Second Life* underlined the current popularity and ubiquity of virtual social worlds as components of a mixed reality understanding of what we mean by "the social" in the new millennium.

Second Life is arguably the most pervasive and popular outcome of the cybercultural romance with virtual reality, which in itself was a fetishized avatar of the very idea of telepresence. The increasingly supple and subtle exchanges between our digital and actual selves in socially embedded virtual worlds like *Second Life* (from e-commerce to art events and education) attests to the interplay between real and simulated realities that we take for granted within remediated economies of presence (it's not surprising to note that Miranda and Neumark conducted a performance of *Talking About the Weather* in *Second Life* in April 2008) [3]. But the metaphysical blurring between reality and simulation it evokes is itself a remediation of the modernist fascination with the status of the real under technological and mechanical conditions. If we think of the virtual as being central to the overall project of mimesis and mediation generally, as the "paradoxical confirmation of what's not there" (Finegan, 2008, 8), then we arrive at an entirely different *Searching for rue Simon-Crubellier* (2004-2006) is described by the artists as

a process-based, interdisciplinary and conceptual work. It is an actual search for an imaginary place — exploring actual and imagined relations to place. In searching for rue Simon-Crubellier, the work poses the question: is it possible to bring something that does not exist into existence by searching for it? (Miranda & Neumark)

As in *Talking About the Weather*, Miranda and Neumark are once again Australian tourists, this time in Paris. However their quarry is nothing as ambient as breath, but it is certainly as elusive. Documenting each interview with passers-by, they ask for directions to a fictitious location, number 11 rue Simon-Crubellier in the 17th arrondissement; an address made famous as the building/puzzle at the centre of George Perec's novel *Life: a User's Manual* (1978). Located in the city of modernity itself, *Searching for rue Simon-Crubellier* is profoundly concerned with remediation as much as it is constituted by remediated technologies, including a gallery installation and Google search data pointing to the exact location of its fabulatory street (suggested, appropriately, by the interview subjects themselves). In streets once *détourned* by Guy Debord and the Situationists using maps from different international cities, Miranda and Neumark carve out a psychogeography of Paris that hovers between real, imagined and simulated conditions of being. It is very much a parable of the virtual in that it explores "actual and imagined relations to place" filtered by embodied and technologically mediated conditions (Miranda and Neumark, 2008, 7). In an age dominated by mixed realities, this work asks an even more profound question than the whereabouts of rue Simon-Crubellier: in the twenty-first century culture of remediated mixed reality, is there any meaningful difference between built and virtual environments?

In the spirit of Jorge Luis Borges, as much as the pataphysician Alfred Jarry, I would not be in the least surprised if on their next tour of Paris the map will have occupied the territory and Miranda and Neumark will indeed happen upon 11 rue Simon-Crubellier. As with Baird's first live transmission of television images in a London department store in 1925, something strange and wonderful will have entered the world and altered forever the way we both perceive and relate to it. And it is this manifestation of the strange and wonderful that presages our third artist.

Zoe Beloff

Contemporary media artists are undertaking the important work of defamiliarising the strange wonder associated with remediation, recuperating it from the habitude of daily perception. New York based artist Zoe Beloff is interested in the queerness of remediation and what it brings to presence. Beloff's installation-based works explore its history and its insinuation into our collective psyche over time. They are powerfully disruptive in that they come at a time when technological sophistication is absolutely taken for granted as a condition of twenty-first century life, in which improvements in "functionality" are queuing up faster than we can actually accommodate them into our myriad devices. To confront us with the significance of what we have forgotten in the name of third nature, Beloff takes us back to the origins of audio-visual media. *The Ideoplastic Materializations of Eva C* (2004) is a four-channel surround sound installation that revisits the nineteenth century fascination with spiritualism and its intimate connection with the idea of mediation as a form of communication between the living and the dead. It is well known that nineteenth century ghost shows and phantasmagoria formed part of the prehistory of cinema. *The Ideoplastic Materializations of Eva C* looks to that other spectacle of the otherworldly, the séance, as a means of foregrounding the very idea of mediation as a paradoxical intercession between absent others, across time and space. Beloff's work elegantly captures this paradox that underlines and dramatizes the strangeness of communication at a distance. Referencing ten séances conducted by the French medium Eva C from 1910 to 1914, Beloff appropriately utilizes "dead media" (I have deliberately drawn on Bruce Sterling's term here as much as its necromantic connotation) [4]. In this work Beloff creates a pre-cinematic diorama as a theatrical interface into which stereoscopic projection, using polarizing lenses, casts an image on to a transparent screen to create the illusion of a ghostly presence; an emanation or transmission "here" from "there". Beloff has said of this work that it "investigates a space where technology intersects with unconscious desire" (Beloff) and it is clear that it elicits the broader techno-social desire of modernity to embrace and resolve the paradox of communication at a distance. The séance is for Beloff an unsung chapter in the history of interactive media, "a model for a new form of storytelling that includes the audience, its circle extending from the virtual sitters to the real viewers who are drawn into a private drama" (Beloff).

"The Ideoplastic Materializations of Eva C" can be read as an allegory of modernity's fascination with technologies of presence and their intimate connection with spectral conditions; the voice, the phantom, ectoplasm. From telegraphy to telephony and virtual reality, the techniques of telesthesia, of sensing at a distance, manifest these psychic phenomena as analogue and digital avatars of presence. Beloff's source material involved ten images of Eva C's séances photographed and annotated by Baron Von Schrenk Notzing. The title of the book in which these images were published in 1914 sounds as much like a theoretical text on remediation as much as a documentation of the paranormal: "Phenomena of materialisation: a contribution to mediumistic teleplastics". It is hardly surprising, then, that links between séances and psychic phenomena, the figure of the medium and electricity that we encounter in Beloff's work, have also been explored in recent years by scholars such as Jeffrey Sconce (2000), Clément Chéroux et al., (2005) Marina Warner (2006) and Martyn Jolly (2006). We can conclude from this concentration of interest in the history of the paranormal and mediation that the first decade of the new millennium is a *ricorso*, or Victorian return to modernity's unconscious; a revival of the desire to channel the Other into simultaneous presence through electro-mechanical means. As Jeffrey Sconce has observed, the "unbridled enthusiasm for the wonders of an 'electronic elsewhere' would have no real equal until the recent emergence of transcendental cyberspace mythologies in our own cultural moment" (Sconce, 2000, 57).

For Beloff, mediums like Eva C are "technological visionaries". Unlike Bell, Baird or Marconi, who set out to specifically invent a medium to carry sound and image across distance, Eva C, along with another of Beloff's unlikely media theorists, Natalija A, represented a kind of naïve or savage intuition of techne and its ability to converge space and time. *The Influencing Machine of Miss Natalija A* (2001) is a work I have discussed at length elsewhere (Tofts, 2008). Concerning the 1919 psychiatric case-study of a patient of the Viennese psychoanalyst Victor Tausk, this work explores notions of sensing at a distance in terms of an obscure technology. Convinced her mind and body are being manipulated by a group of Berlin physicians, Natalija A portrays a device that uncannily resembles the then nascent medium of television. The clinical phenomenon of influencing machines is well documented in psychiatric literature and their description is frequently accompanied by references to waves or rays emitted from elsewhere that adversely affect the subject. For Beloff, *The Influencing Machine of Miss Natalija A* places the visitor to the installation in the peculiar situation of persecuting the subject herself. [5] Here is interactivity of a very different order indeed. Anaglyphic stereoscopic projection creates the illusion in the gallery space of an image of Natalija A's body, which only the viewer sees through 3D glasses and is able to manipulate with a stylus. For those viewing the viewer interacting with an unseen presence, they resemble a blind person navigating their way through a spatial environment they know is there but can't see.

It is this perception or intuition of unseen realities that are nonetheless very present, traversable and capable of powerful affect, that captures Beloff's interest in "connections between the experience of hallucination, thought transference in psychoanalysis and the development of broadcasting technologies" (Beloff, 2003). Beloff's observations on Natalija A's description of the imaginary machine is revealing of the links between spiritualism, television, disembodiment and hysteria:

I was particularly struck, reading the original case history, by how clearly she was able to describe her imaginary machine. The trunk had the shape of a lid, resembling the lid of a coffin. In the first interview she described the limbs as entirely natural parts of the body. A few weeks later, these limbs were not placed on the coffin lid in their natural form, but were merely drawn in two dimensions. The inner parts of the body consisted of electric batteries. Those who handled the machine produced a slimy substance in her nose, disgusting smells, dreams, thoughts and feelings (Beloff, 2003).

Beloff's work is vital as both a reminder and a contemporary instance of radical modernity's intimation of technological becoming. Along with the work of Blast Theory and Out-of-Sync, it reveals that this sense of media as technology in transit, on the way to something else and somewhere else, has contoured the history of modernity from the nineteenth century to the present day. In an age characterized by the remixing and mashing of existing cultural phenomena, these artists reinforce the crucial dialogue between innovation and renovation, creativity and exhaustion that informs our own time and the modernity that made it possible. They elicit through their art understandings of our contemporary moment as one in which artists, rather than technological breakthroughs, are a more vibrant and conspicuous force in culture.

References

- Adams, H., *The Education of Henry Adams* (1918) in Ellmann & Feidelson, 1965.
- Barr, T., *newmedia.com.au: the Changing Face of Australia's Media and Communications*, St Leonards, Allen & Unwin, 2000.
- Barth, J., "The Literature of Exhaustion", *The Atlantic Monthly*, 220, 2, 1967.
- Beloff, J. & D. G. Coates, *Remediation: Understanding Media*, Media, Cambridge, MA: MIT Press, 2000.

Boiter, J., & K. Grusin, *Remediation: Understanding New Media*, Cambridge, MA.: MIT Press, 1999.

Bradbury, M., & J. McFarlane, eds. *Modernism: 1890-1930*, Harmondsworth, Penguin, 1976.

Callas, P., & D. Watson, eds. *Phantasmagoria: Pre-cinema to Virtuality* exhibition catalogue, Sydney, Museum of Contemporary Art, 1996.

Ch roux, C., A. Fischer, P. Apraxine & D. Canguilhem, *The Perfect Medium: Photography and the Occult*, New Haven, Yale University Press, 2005.

Christie, I., *The Last Machine: Early Cinema and the Birth of the Modern World*, London, British Film Institute, 1994.

Crary, J., *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century*, Cambridge, MA.: MIT Press, 1990.

Elmann, R., & C. Feidelson, *The Modern Tradition*, Oxford, Oxford University Press, 1965.

Hart, C., ed. *Conversations with James Joyce*, London, Millington, 1974.

Huyssen, A., *After the Great Divide: Modernism, Mass Culture and Postmodernism*, London, Macmillan, 1986.

Hughes, R., *The Shock of the New: Art and the Century of Change*, London, BBC Publishing, 1993.

Jameson, F., "Postmodernism, or, the Cultural Logic of Late Capitalism", *New Left Review*, 146, July-August, 1984.

Jolly, M., *Faces of the Living Dead: The Belief in Spirit Photography*, London, British Library, 2006.

Liotard, J-F., *The Postmodern Condition: A Report on Knowledge*, trans. B. Massumi, Manchester, Manchester University Press, 1984.

Kenner, H., *The Mechanic Muse*, Oxford, Oxford University Press, 1987.

Manovich, L., *The Language of New Media*, Cambridge, MA.: MIT Press, 2001.

Marcus, G., *Lipstick Traces: A Secret History of the Twentieth Century*, London, Secker & Warburg, 1989.

Popper, F., *Art of the Electronic Age*, London, Thames & Hudson, 1993.

Rodman, G., "Making a Better Mystery out of History", *Meanjin*, 52, 2, 1993.

Sconce, J., *Haunted Media: Electronic Presence from telegraphy to television*, Durham, Duke University press, 2000.

Theall, D., *Beyond the Word: Reconstructing Sense in the Joyce Era of Technology, Culture and Communication*, Toronto, University of Toronto Press, 1995.

Theall, D., *James Joyce's Techno-Poetics*, Toronto, University of Toronto Press, 1997.

Tofts, D *Interzone: Media Arts in Australia*, Sydney, Thames & Hudson, 2005a.

Wark, M., "Suck On This, Planet of Noise!" in *Cultural Studies. Pluralism and Theory*, ed. D. Bennett, Melbourne, Melbourne University Press, 1993.

Warner, M., *Phantasmagoria: Spirit Visions, Metaphors, and Media*, Oxford, Oxford University Press, 2006.

Woolf, Virginia., "Mr. Bennett and Mrs. Brown", in *Collected Essays*, Vol. 3, London, Hogarth Press, 1966.

Zurbrugg, N., ed. "Electronic Arts in Australia", *Continuum*, 8, 1,

Online Resources

Blast Theory, «<http://www.blasttheory.co.uk/>»

Zoe Beloff, «<http://www.zoebeloff.com/>»

Out-of-Sync, «<http://www.out-of-sync.com/>»

Digital Art Museum, «<http://www.dam.org/>», accessed 28/06/60.

Cos J., A. Munster & J. Richardson, "Introduction", *Distributed Aesthetics* issue of *Fibreculture Journal*

Gye, L., A. Munster & I. Richardson, Introduction, *Distributed Aesthetics* issue of *Fibreculture Journal*, 7, 2005. «<http://journal.fibreculture.org/issue7/index.html>», accessed 3/07/08.

Munster, A., & G. Lovink, "Theses", *Fibreculture Journal*, 7, 2005. «<http://journal.fibreculture.org/issue7/index.html>»,

Schiel, S., "A History of Digital Technology. Beginnings to 1900", «<http://teeksaphoto.org/Archive/DigitalTimeline>», accessed 28/06/08.

Tofts, D., "Tsk-tsk-tsk and Beyond: Anticipating Distributed Aesthetics", *Fibreculture Journal*, 7, 2005b, «http://journal.fibreculture.org/issue7/issue7_tofts.html», accessed 3/07/08.

Tofts, D., "Keep your virtual hands off me! Paranoia, affect and influencing machines", *Rhizomes* 17, Fall, 2008, «<http://www.rhizomes.net/issue17/index.html>».

Notes

[1] Source: Robert Hughes, *Shock of the New. Art and the Century of Change*, London, BBC Publishing, 1993.

[2] Source: "A History of Digital Technology. Beginnings to 1900". Compiled by Skip Schiel. «<http://teeksaphoto.org/Archive/DigitalTimeline>»

[3] For a detailed account and documentation of this event, see «<http://www.out-of-sync.com/sl.html>»

[4] See Bruce Sterling's Dead Media Manifesto, «<http://www.deadmedia.org/modest-proposal.html>»

[5] A Flash version of the work can be accessed at «<http://www.zobeloff.com/influencing/>»

Darren Tofts is Professor of Media & Communications, Faculty of Life & Social Sciences, Swinburne University of Technology, Melbourne. His publications include *Prefiguring Cyberculture: An Intellectual History*, *Illogic of Sense: The Gregory L. Ulmer Remix*, *Memory Trade: A Prehistory of Cyberculture*, *Parallax: Essays on Art, Culture, and Technology* and *Interzone: Media Arts in Australia*. «<http://www.darrentofts.net/>»