

**soft cinematic hypertext
(other literacies)**

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Soft Cinematic Hypertext (Other Literacies)

A contextualising essay submitted in partial fulfilment of the requirements for the PhD by Publication.

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Declaration



I certify that except where due acknowledgement has been made, this essay is that of the author alone; this essay has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of this contextualising essay is the result of the work which has been carried out since the official research program; and any editorial work, paid or unpaid carried out by a third party is acknowledged.







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Abstract

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This research demonstrates the role of academic hypertext theory and practice to humanities research, and uses this as a model to explore the specificity of digital humanities practice in the contexts of scholarly writing. This establishes terms to reconsider cinema from the point of view of a hypertextual logic of wholes and parts, which is then used to develop a new form of online interactive video known as 'softvideo'.





II





Acknowledgements

I would like to acknowledge my colleagues, over many years, in the Media program of RMIT University, who have provided me with an academic home from which to prod and poke. In particular my first teacher of cinema studies and original academic mentor, Rob Jordan.

I am indebted to Stuart Moulthrop and Nancy Kaplan, who I hosted as visitors to RMIT too many years ago, for encouraging and supporting the presentation and publication of my first work, and for providing the introduction to Espen Aarseth.

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Finally, my wife Anna, and children Charlie, Jasper and Cleo. Always the best pieces of work I'll ever manage.







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soft

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Soft

Soft is the new black. Well, not really so new but to get a sense of the currency of 'soft' it needs to be rescued from its contemporary dilution as a placeholder for the merely digital. 'Softcopy' was coined by Diane Balestri in a brief 1988 essay that laid out the differences between hard and soft copy. This distinction permeates most of my work. Hard copy, which I have appropriated as 'hard media' and more specifically 'hard video', is where the computer and all that it enables is used to make media but where the output is returned to traditional, 'hard', media forms.

For Balestri, as a writing teacher, hard copy was about word processing and how a word processor gave the writer access to all the capacities of the computer — random access, typographic choice, multiple windows, variable window sizes, spell checking, automatic pagination, automatic footnoting, alphabetisation, basic page layout, printing, and copy and paste. All of these made the task of writing easier, yet each of these capacities, or 'affordances', are removed once the work is 'finished', that is printed. It moves from soft to hard, from being malleable, unfixd and fluid to rigid, fixed, and solid.

Softcopy, on the other hand, maintains these affordances after publication. For Balestri hypertext as it was then conceived offered an exemplar for such a form as hypertext allowed changes to be made even after the event of publication. In hypertext this could include the nodes in a hypertext system where words, phrases and paragraphs themselves could be edited, windows scale and location, the creation of new pathways and links within the work, changing layout, and even typography. The ability to decide

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the where, what, and how for all of these things is gifted from writer to reader in softcopy.

As Balestri indicated, this is not just instrumental convenience — for example a case of making things easier for the reader — but was a paradigmatic change in the relations between writer, text, reader, writing and reading. In softcopy the asymmetric relation of writer into text towards a reader is problematised, reworked, and remoulded. Readers gain more agency, the text becomes ever more subject to the whim of the reader, and new ontological questions about what a text is, and how or what constitutes a ‘reading’ of such an object become paramount (see for example Douglas (2000)).

In my own work this concept of soft, while underwriting my use of hypertext as a writing, research and publication model, has evolved into a more complex understanding as I recognised that the ‘deep’ structure of QuickTime as a video architecture and platform was in fact ‘soft’ in Balestri’s sense. This meant QuickTime offered itself as a format for the making, publishing, and distributing of softvideo and through this the investigation of a softvideo poetics.

Dear Reader

Often my writing is exploratory, though exploratory is the wrong word ever since Michael Joyce defined ‘exploratory’ and ‘constructive’ hypertext (Joyce 1995) as two distinct approaches to making and reading hypertext. Exploratory hypertext is where readers can meander through the work as they see fit. (Of course you have to explore as there is no equivalent of just turning the page to read what is next, as an

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exploratory hypertext is still premised on the idea of multiple pathways through the writing.) Constructive hypertext, on the other hand, is a hypertext where after publication the reader is free to change the text itself through annotation, amendments, edits, additions and even deletions (see Kolb for an example of a scholarly constructive hypertext). Today this is what a wiki is.

In this 'contextualising essay' my writing appears exploratory yet in practice is more akin to Joyce's concept of the constructive. While it cannot now be edited or amended the writing seeks the élan of the constructive. There are false starts and asides. Moments where the writing turns in towards itself and others where it looks out. Often it does not know where it is going until it has gotten there.

Another pair of terms I could have used are Barthes' 'work' and 'text' (1977). For Barthes' the work is a mode of writing that is a reporting of the already known, under the imprimatur of an author and sure in its self confidence that it knows what to say and how. Text on the other hand is a writing that surrenders to its own impossibility of certainty and acknowledges its debt to other writers, words, texts, and ideas. Here writing is a general economy and becomes the practice of thought in the activity of writing where writing reveals and performs the struggle of thinking in language. Not because it might not yet be known, though this is certainly part of its particular pleasure, but because it is in writing that thought externalises itself as thinking. Writing then becomes the material stuff that ideas have for argument and expression and so 'text', like a modernist painting, leaves the traces of its labour upon its own surface

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as a part of the thing itself. Writing becomes a palimpsest of thinking, an ambition that might be at odds with the authority of the integrating essay as it theoretically is to be outside of the research it reports upon. As the university guidelines state:

The integrating essay should set out the way the works submitted represent an advance in knowledge in the candidate's discipline or field, or the application of new knowledge or critical inquiry in original ways, or new expressions of knowledge or critical creative insight. The essay must also contain a substantial theoretical component relevant to the candidate's discipline or field. Whilst the essay needs to be of a substantial nature, there is no stipulated word length as what is an appropriate length will vary with the nature of the submitted work and the candidate's discipline or field. (RMIT, 2007)

However, I have found I cannot write only to report upon what has been done. Writing as research must be the passage from somewhere familiar to, ideally, somewhere not. It involves a hermeneutical listening for and to the 'back talk' (Schön) of writing, thought and ideas. This involves some surrendering of the academic desire to plot, map, chart, constrain and explain within a logic of the same. This 'talking back' is the recognition that ideas in their writing have their own material resistances and agency. This materiality is inside and outside of language and expresses itself in the intransigence of ideas and their always demand to be simultaneously connected with other things. Hypertext as a practice of academic writing is then a discursive form that begins to accommodate the materiality of thought and

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language as it opens upon possibilities that arrive, to you, from elsewhere.

Writing in this essay is closer to thick description (Geertz) and approaches an autoethnography of a digital humanities media scholar.

A Latour List (After Bogost)

David Shields, *Reality Hunger* for its granular élan, Ian Bogost's *Alien Phenomenology, or What It's Like to be a Thing*, and its clear high theory and cheek, OULIPO, Nicholas Rombes and *Cinema in the Digital Age* for wanting to try to write differently, David Kolb and the philosophical hypertext *Socrates in the Labyrinth* for its braveness, Raymond Carver, Mackenzie Wark's *A Hacker Manifesto* for writing in the open, Roland Barthes and in particular "The Death of the Author", "From Work to Text", *S/Z*, and *Writing Degree Zero*, *The Pillow Book of Sei Shonagon* as protoblog, a recipe for making, thick description, and poetic noticing, Chris Marker's *La Jetée* because relations create movement, Raymond Queneau and *Cent Mille Millions de Poèmes*, for its conceit, Storyspace and Hypertext Markup Language (HTML), Gaston Bachelard's *The Poetics of Reverie* for permission to day dream, Gilles Deleuze's *Cinema One* and *Cinema Two* for opening Pandora's Box.

Pragmatism

In collating and curating my work for a PhD by Publication several things became quickly apparent. The first is that I have privileged written artefacts over the series of digital

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humanities and interactive video projects that I have made. This is, to some extent, a consequence of the PhD by Publication model itself as it is premised upon an extant body of scholarly work, yet my privileging of writing has also occurred because these words have survived where, in many cases, the projects have not. For example, well before Google redefined search and helped a generation forget what the Web was like when search was, at best, a mixture of luck and skill, I ran and maintained an internet search engine dedicated to hypertext theory, the “Bowerbird Hypertext Search Engine”.

Bowerbird demonstrates the digital pragmatism that is my habitus in relation to networked practice. It used off the shelf and readily available commercial software that was originally designed to index an individual web site. However, since it used a start URL as a beginning point from which to index content I realised it could also be used as a ‘web spider’ to index any content out in the wilds of the web, and the results made publicly available. I provided it with source URLs, defined how many levels into a site to index, pathways and files to exclude, and then personally curated this collection of starting URLs, which I added to during my day to day research. Bowerbird did not need a developer, and with a domestic computer running under my desk as its server I created and managed a valuable digital humanities project that others could use. Bowerbird eventually received several hundred visits a day from people looking for hypertext and new media theory material online, as contemporary search engines (Yahoo, AltaVista, LookSmart and their ilk) were blunt instruments where searching for “hypertext theory” would return tens of thousands of pages about how to write HyperText Markup Language (HTML), but nothing about

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humanities hypertext theory. Google's search algorithms broke the need for Bowerbird, so as a local digital craft practice, like many other internet and new media projects, Bowerbird became ephemeral, redundant, and then extinct.

A Pragmatic Digital Practice

The attributes of small scale and ready to hand tools applied to novel means are what I have come to recognise as my 'pragmatic digital praxis'. This involves using existing software and its technical and social protocols in innovative ways within specifically networked contexts, and falls between the pleasures of making, theoretical thought, and engagement with specific academic communities. While projects such as the "Bowerbird Hypertext Search Engine" had their moment, the desire to make, engage, contribute and share remains important to my practice. This might come from my narcissism as an academic, insisting that my ideas matter, and through this build and nurture reputation. However, the desire to openly make, contribute and share were also the deep values at the beginning of internet culture, and I internalised and became acculturated to these. Indeed, it is difficult for me to recognise that the common experience of online practice and culture for the majority now is one of a thoroughly commercial mass media with its attendant values and assumptions, yet the ideals that underwrote the creation of the internet remains influential for me today.

Method

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Academically I am a bricoleur. It is easy to still say this, after the theoretical waning of terms like 'flaneur' and 'bricolage' around the turn of this century. Intellectually I cobble together otherwise different things. For example, the cinematic edit as the model for the hypertextual link (cinematic hypertext), or hypertextual epistemes as a framework for digital network video (softvideo), and digital materialities into media methods (networked writing).

I am not a dialectical thinker in terms of thesis, antithesis and synthesis, I am a systemic thinker where I conceive of and use rhizomatic, ecological, and cladistic systems rather than taxonomic methodologies. As Ted Nelson (1992) argued, "everything is deeply intertwined" and I experience my research as large messy fields within which I find patterns and where an idea, claim, proposition and argument always exists in a multiplicity of connections to other ideas, claims and arguments. Therefore, I am a relational thinker, bringing concepts into proximity with each other, much like a film editor, to see what happens. Some work, some don't. This process describes my pedagogy, scholarly method and writing and video practice.

Scarcity

When printing and distribution was capital intensive it was subject to an economy of scarcity. Authors became a site of privilege as the technological and cultural threshold to have words published was so high. Privilege is then a consequence of the technical and material constraints of publishing. Authors gain authority because names have become attached to books, not the other way round, and so

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it is the book that creates the author. This authority can be conceived of as the accidental outcome of the assemblage of metal type, permanent ink, long lasting paper, the wine press, and expensive production and distribution infrastructure, that sees text becoming itself reified as something fixed and indelible. You do not mess with books once they are published, and this fixedness has been naturalised as the condition of textuality. However, we can see that it is only an artefact of a particular historical and technological aggregate.

We can say the same for video. Technologically film, and then video, has relied on a material substrate that records light as it passes through a lens, and the subsequent playback of this substrate to display the recorded images. There is a frame rate which describes the speed at which this process happens, and with the rise of sound recording the provision of another track (in its most rudimentary form) where sound and image are 'slaved' to each other so that both are recorded and replayed together.

This is an entirely mechanical model, and so, for example, ninety minutes of film or video will always be ninety minutes. This fixedness, like the page, is a direct product of its technological form, however, it does not follow that this fixidness is an ontological condition of either print or video. My work begins from this premise. What is writing and reading if fixity is not its ground? What does video become as an object and practice for making and viewing if the digital removes its solidity and specific occupation of time?

Writing with a word processor the page is not fixed. We know we can change its dimensions, for instance via the page settings dialog box, and also that as we write text auto wraps

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and pushes itself down the screen. Even more commonly we can resize the window we are writing in, and text simply flows in response. We change fonts, weight, colour, create a table of contents, add headers and footers and automatically alphabetise a list. You do not run out of page as you write. These attributes are what we describe as the “affordances” of word processing. Once we choose to print, all of this malleability becomes fixed as physical marks on paper and the affordances that word processing provides are erased. Composing and writing text using a word processor or other software tool, and then committing the work to the page, is known as hard copy.

We have been subject to this regime for a reasonably long time in the west (for the sake of argument let's accept Gutenberg as a suitable moment) and are deeply acculturated to it — it has become internalised, naturalised, and taken as given (Ong).

The fixedness of print and page, its Calvinist clarity of black on white, has become what the academy thinks text is. In this material form it instantiates a Cartesian separation of mind and body, with our words aspiring to the ideality and self presence of thought as the page becomes forgotten as merely material, bodily substrate. This is Foucault's “logic of similitude”, as if the verisimilitude of black word and white ground can guarantee the clarity and rationality of thought and argument. Colour and pictures are marginalised as decoration and illustration, minor adjuncts and supplements to the ideality of the word itself, while design, typography, pagination, even decisions about paper stock and cover art,



become separated out as something outside of the concern and ideality of text.

My work, in a project yet to be achieved, wishes to return the materiality of writing as a thick thing (Geertz) into the field of discursive creation and production.

Flow

In scholarly writing I think of two varieties of flow. The first is the way our argument, ideally, leads from its opening premise through evidence and argument to the now inevitable conclusion. Visually it can be conceived of as a funnel (Figure Twenty Four, Appendix). Then there is the flow I experience while writing hypertext 'hypertextually' (Figure Twenty Five, Appendix). Metaphorically, this is viscous and fluid. It follows the smallest gradients, fissures and fault lines as they spill and dribble over its surface. When I write in this way associations, connections, and disjunctions that ideas force are accommodated by the material form of hypertext, and through writing, structures emerge in the play and friction of sentence, paragraph, node, thought and link.

Classicists

I have always been intrigued that Jay David Bolter and Richard Lanham, two early theorists in humanities hypertext, received their disciplinary training in classics. While appearing academically distant from electronic media I suspect their willingness to embrace the possibilities of hypertext and its critique of existing notions of writing and literacy is because, as classicists, they know the word

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and page is a recent technology within the larger history of textual inscription. In what I like to imagine as the textual equivalent of geological time, in the ongoing history of words and inscription the page and book are transitory forms.

Sketch Writing

I date the beginning of myself as a researcher to when I obtained a copy of the hypertext program Storyspace. From this moment on I began to learn all I could about electronic writing. I had already completed a Masters in General and Comparative Literature which provided grounding in any variety of poststructural and continental theoretical epistemes. My Master's thesis was a close reading of Bresson's 1951 film *The Diary of a Country Priest*, along the way undertaking a critique of Derridean approaches to the performative and their relevance to cinema studies. This primed me for the ambiguous complexity of the relations between image and text, and the experience of my Masters, where I compiled innumerable pages of notes and quotes using colour to mark connections, also taught me the mechanics of research 'sketching'. Hypertext could give me permission, theoretically and practically, to develop a writing and publication style that was close to the mercurial qualities of my research practice, and Storyspace was a tool to enable this. Hypertext might also allow the relational messiness of my thinking to lie nearer the surface of my writing, and potentially shift what felt like a constraint to enabling possibility.

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Hypertextual Logics



An Epiphany

This all started in Clayton with an epiphany. It was 1991 and I was in a medical lecture theatre at Monash University watching Vasser College's Paul Kane present a conference paper about hypertext, using hypertext. On a computer. The presentation was in this lecture theatre because the usual humanities university conference rooms did not have a computer, let alone a data projector. In 1991 those of us interested needed to trek across the six lanes of Wellington Road into the high tech wonderland of the medical building.

Vasser College, I later came to learn, was a prestigious upstate liberal arts college, the sort of place populated by my film fed fantasy of what an American university was. It was also home to Michael Joyce, a founding figure of academic and literary hypertext and one of the creators of the hypertext system being used that afternoon.

I still recall the beige 'pizza box' Macintosh on a desk by the lectern, and the projected image of an actual hypertext as we sat in the raked theatre, listening to a now canonical, poststructurally inspired argument about the role and relation of hypertext to traditional text. Showing and arguing that text became something other within hypertext and that text and the reader gained new and different varieties of agency, where even the writer themselves shifted their role in relation to the reader. Sitting there I realised that hypertext offered things for writing and scholarship that made immediate and intuitive good sense to me. Here was a method, technology and system to mirror my own thinking, grounded in a set of theoretical discourses I understood, was sympathetic to, and wanted to use. It was an associative, open and

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rhizomatic model that held the promise to let writing be an engagement with the activity of thought and thinking rather than reportage, and was an 'off the shelf' realisation of Barthes' distinction between work and text, and the readerly and writerly. It would allow me to deal with my struggle of ideas, knowledge and propositions being always immediately, deeply and complexly connected.

This was the epiphany. Here was a way to write that was premised on the idea of connecting. Scholarly writing, in what I was realising would now be known as 'traditional writing', had an epistemic distance and reserve between ideas, concepts and arguments that was merely a consequence of a particular technology, and not a condition of writing itself.

There were audience questions afterwards. I was confused about why so many appeared perplexed by this technology. I felt a palpable anxiety in this humanities audience (this predated the Internet and the World Wide Web), that was baffled and suspicious about the technological determinism of the whole argument. I did not share any of these anxieties. Instead everything became expectant horizon, quite literally shimmering with ways of thinking, writing, and arguing that bordered on the magical. I needed no persuading and intuitively understood it to the extent that I did not think there was really anything to 'get'. This hypertext thing, as a way of writing, reading, distributing, and creating academic work, just made good sense. It still does, even if much of the ambition, impetus and vision of these first waves of hypertext scholarship have been, for over nearly two decades, left in the hegemonic wake of the World Wide Web.

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There was more. I imagine epiphanies are like that. I knew that as this was on a Macintosh QuickTime video was available, which meant there might be the opportunity to include video within a hypertext. In 1991 I was a cinema studies student, and the possibility of being able to write in a multilinear way, with video inside the field of writing, presented itself as an overwhelming paradigm shift in the practice of cinema studies. I not only wanted to participate, but to make this happen. Shortly after I became, accidentally, a hypertext rather than cinema studies scholar. Today I am somewhere between. My cinema studies education has provided me with novel and productive insights into hypertext and new media more broadly, while I have taken what I know of hypertext and introduced this into digital video, to reconceive networked video as a hypertextual object and practice. I have not yet changed cinema studies.

Hypertext Ethics

Early hypertext theory recognised that writers valued the affordances offered by the computer as a form of textual freedom — who after using a word processor wanted to return to a typewriter? — and that these freedoms should not be limited or constrained to the writer's side of the author–reader relation. This begged the questions of why and how. For example, what now happens to writing, reading, and literacy when the technical constraint of fixed page and type was dissolved by a decision to use a computer as the only means of publication and reading? This endeavour was an ethics as much as a techno–utopic ideal as granting privilege to the reader, asking the author to surrender their asymmetric

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power over the page and its inevitable serial ordering, was to move writing and reading towards a new set of relations between writer, reader and text. In this new conception text gains autonomy as it becomes a series of ludic and liminal relations between readers and authors and a suite of enabling and disruptive textual technologies.

These new relations were, in the first instance, largely defined by authors like Bolter, Landow, Moulthrop, Nelson and Joyce using poststructural literary theories. Such theories did appear to be ready made to account for hypertext's relation to its hard copy textual other and this theoretical work became an ethical imperative underwriting first generation hypertext theory, where poststructuralism provided a language that allowed it into the humanities academy, stepping around the computer science/technology divide. This imperative also contained a techno-determinist future for reading and writing, seeing the tyranny of 'flat' writing as an epistemological mode that struggled with the multiplicity of connection, relation, and identity that poststructuralism demonstrated. Hypertext, for these theorists, literally enabled and performed poststructuralism. The imperative of this ethics, to offer self critique and new discursive epistemes, and the potential of hyperlinear forms in relation to 'traditional' writing should still matter to the academy, and remains an important motivation for me.

Storyspace

That afternoon in Clayton in 1991 it was Storyspace that I was introduced to.



Storyspace is software for writing and reading hypertext. Think word processor, and then cross that thought out. A word processor is to facilitate getting words onto paper, and so its set of affordances reflect this. This is only part of the story. A word processor reflects our acculturation to writing as a linear, sequential, and logically causal form.

Writing though is always the dance between ideas and their pushing back, and the caution, craft and skill to frame and compose the flow of argument just so. However, much academic practice sees writing as not about thinking and ideas in the noisy tribunal of reason so much as presenting the illusion of clarity, and inevitability, that demonstrates the ideality of a particular rhetorical and logical trajectory as the 'right one'. Writing then becomes, by force of training, habit, and disciplinary safety, a highly teleological form. Each paragraph leads, sustains, and appears as if to direct us toward the inevitability of the essay's conclusion. Things that disrupt this may be shepherded to a footnote, or excised as irrelevant, while all those other thoughts, ideas and claims that cluster around as you write, clamouring for attention, are elided or ignored because they interrupt or disrupt the teleological narrowing of argument.

Footprints

Conceptually programs like Storyspace occupy a large footprint. It legitimates and advocates a writing in the plural where, unlike the teleological funnel of the canonical academic essay (Figure Twenty Four, Appendix), writing performs thinking as the ongoing creation of connected claims and concepts in situ. Here the shape of an argument

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expands as you write, and to write hypertext 'hypertextually' involves 'un' learning many of the teleological principles of traditional academic writing.

This is the mental model of academic writing I have developed after using Storyspace to write and teach academic hypertext. In hypertextual writing rhetorical and logical structure arises through writing 'nodes' and making connections. This produces a more 'granular' writing style, a method that is now familiar through the 'chunked' writing common in blogging, where each node is relatively self sufficient and autonomous and so able to mostly make sense by itself. In hypertext, readers may come to read a node via any of several other pathways, therefore this writing cannot rely on the panoply of conceits that the traditional essay has developed that rely on its linearity. For example, phrases such as 'as a consequence', 'hence', 'therefore', 'as I argued above', all assume a specific and known trajectory through the work.

With hypertext many of the affordances that we take for granted when writing on the computer are retained after publication. There are no pages, only nodes, which can contain any combination of image, text, sound and video. Sequences through these nodes are created through links, and with software such as Storyspace a link has attributes such as a name, category, and logical rules. These links can be from any thing to any other element in the work, from one word to another, a phrase to an entire node, even from one node to another. It also supports what is known as multi 'headed' linking where one word or phrase can have multiple simultaneous destinations, enabling a density of connections in the process of writing where an idea or claim

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can materially exist within a rich context of simultaneous relations.

Technically and cognitively Storyspace has a small 'foot print'. This means it has low computational demands to be able to operate. It is easy to learn how to use, and its suite of features is constrained so your time is spent writing, and through this building hypertextual structure, rather than 'fiddling' with software. You create a node, name it, write content in it and link as necessary, now or later. Nodes can be moved as you see fit, allowing for a synesthesia form of writing and argument, and any part is equally near to hand as it can be as easily connected to any other. In the specific case of Storyspace there is limited typographic and design control so it is the writing and its patterns of relation that comes to matter.

This is as much a different writing practice as it is a new reading, and the implications of this have been important to my pedagogy and research.

An Autoethnography of Thought

Several of my academic hypertext works required introductions when originally published that operated as a users manual and apologia. They were resolutely hypertextual, written and published as multilinear academic essays that had multiple pathways consisting of elaborations, explorations, critique and peripatetic asides. They eschewed the certainty of a single conclusion. This use of hypertext is not to argue for the superiority of hypertext but for the legitimacy of its difference to print. The discursive fluidity of

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these hypertexts is a writing deterritorialised within writing and is a hallmark of my academic writing where the practice of writing is the place, site and situation of the research and it leaves its marks upon the writing. Such a writing produces patterns and repetitions, and as in this contextualising essay also has a desire for each of its parts to be equally near to hand to its others.



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Black Boxes

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Recollections

I can vividly recall the first time I printed an essay on a laser printer. It appeared so authentic and authoritative, a mirror of those papers I had studiously photocopied, highlighted and scribbled on through my Masters. Then I found hypertext, and shortly after HyperText Markup Language (HTML) became public. Here was a system that allowed for a different writing, while offering the erasure of any barrier to writing and its dissemination, and also condemning the mimicry of the laser printer as an afterthought in the late age of print.

As I worried about rereading my own publications to see what to say, this essay experienced an interruption. One thing I enjoy in writing is the experience of making. As a sentence begins I'm often not sure where it's ending lies, or what it wants to say. I know that I am writing it yet it is folly to think I am its centre as my experience is of the writing writing me. This is not a particularly poststructural claim but rather the recognition that ideas arrive of themselves and insist on being acknowledged. When I write there is a noisy gabbling landscape of things calling amongst themselves rather than a field of clarity and focus. It seems a conceit to believe I am in charge. Steward perhaps, curator, even sometimes provocateur, but otherwise?

Which is why the writing paused, interrupted. Why read my own writing, again? Some material is several years old and are things I have moved on from. More importantly, my writing is always orientated toward the new so becomes an actualisation of the particular from a multiplicity of virtualities, which by definition must be a forward orientated action. The actual always lies ahead, not behind.

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In the time of its interruption I realised that this essay is not reporting the 'what-has-been-discovered' but is playing with the warp and weft of writing as the recollection of research and discovery in itself. This is why the work oscillates around the liminal qualities of Barthes' 'text', the processual reflexivity described by Schön, and a fin-de-siecle high formalism. These are its strange attractors.

This Writing

The writing had hit a wall. Not that there was nothing to say, but I had not discussed the nearby things of my 'practice'. I did not want to re-read my own portfolio of work, curated from over ten years of writing and publishing, as this felt only as a looking back, whereas research faces forward. What is the specificity of my research as a practice? How has that mattered for me, as a researcher? Could this essay be an opportunity to enframe not the narrative of my arguments but their modes of engagement with whatever their world was? A cocette to the curated essays rather than their chaperone?

Black Box

Bruce Mau's *S, M, L, XL*. Rather thick and heavy for a book I thought. Imposing too. I opened it and much like the first web log I saw (which would have been around 1995 well before the noun and verb 'blog' had been coined) I did not understand. Beautiful certainly, but surely only a vanity publication. Copies of sketches, photographs of models, textual asides and documentation of finished artefacts. A coffee table book masquerading as something serious.



Several years later I learned how to collaborate with design academics. Here I discovered that my practice as a researcher, writer and teacher relied upon a 'black box' where a variety of inputs generated outputs but what happened between was essentially opaque. I 'got' theory yet never wondered what the concept of 'theory' was that I 'got', or how my understanding-in-itself might be the subject of its own investigation.

Hypertext had made strange my understanding of the relationship of research to writing and allowed each to become transparent to me. I developed my own critical lexicon recognising the constrained, institutionalised, ideological and provisional form of what constituted academic practice in the disciplines I wanted to participate in. Writing literally became the studio and laboratory for my research, a place where the materiality of thought, argument, language and form could be evidenced and foregrounded through practice. This was the first inkling of the interior of my black box. Now design books, like Mau's *S, M, L, XL*, made perfect good sense as I realised that here was a language and framework for making visible the depth of each artefact and the processes between conception and completion, that the collection of photographs and sketches revealed the mutating iterations at different scales, making visible a material thinking (Carter) that unveiled what lay beneath the artefact. This mattered in two ways.

The first was it gave permission, and a model, for the showing of the obscure machinations that informed any thoughtful knowledge object. The second was the realisation that how something came to be was as important as the finished

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thing. Its journey mattered. It mattered so others could follow the trace of the thinking that informed a final form creating a palimpsest where the arguments, errors, leaps and connections became near to hand, and where error and insight were peers. This became my concept of practice.

Critical Lexicon

At a recent seminar on academic writing in cinema studies Murray Pomerance asked, with sinful pleasure (good writers always seem lustful when they discuss their own writing) what the difference might be between one's vocabulary and lexicon? I admit, I did not know. The answer was that the former are all the words you know while the latter are those you have a tendency to prefer. "Perfect good sense" is one of these for me. Each word in the phrase is important but it is their combination that matters. "Perfect" is not to imply perfection, an ideality outside of the vicissitudes of intellectual change, critique or commentary. It is more provisional, reflecting a temporary or momentary assemblage that works just for now. "Good" connotes the sense of what is indicated in a phrase like "the common good". It has the attributes of being self evident because "good" is taken as a sufficient condition in itself. Finally, "sense". This signals its reasonable intelligibility, an obviousness in the tribunal of reason.

Taken together "perfect good sense" is a ready to hand phrase I fall back upon which pragmatically calls forward the rhetorical everydayness of the primary school teacher, or grandparent, when we are told that something makes "perfectly good sense". The implication is that it is

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transparently so, that its 'perfectlyness' is not absolute but ordinary, common and quotidian. The ambition is no greater than in my context something is intuitively and pragmatically transparent to me — though not, perhaps, anyone else (indeed, the history has been that what makes 'perfectly good sense' to me others find disruptive!).

It is a deliberately pragmatic claim because ideas need some purchase upon the world, and is a move away from the intense, reflective, definitional wondering that so routinely constitutes my academic practice (what is, in effect, my primary academic lexicon). For ideas to progress outside of the minutiae of an internecine academic argument pragmatism is required. One is an academically centripetal activity, worrying over rigour, the other is centrifugal, tossing outwards seeking possibilities it may happen upon (Rosenberg.) A sentiment that, though through different means, is shared by the recent rise of 'speculative realism' and the 'new materialism'.

My lexicon consists of: 'virtual' with a specifically Deleuzean inflection where the virtual is the possible in contrast to the actual which is what of the virtual comes to be; 'soft' as an attribute of plastic and malleable media forms after their creation and dissemination; 'relational' as a key operation of new media and cinema where otherwise whole things are bought into new relations within expanding wholes; and 'material' as the facticity of all stuff, including ideas and thought, which have their own logics and resistances.

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Ready Made

My work is marked by the appropriation of existing tools to other ends. I am not a developer or programmer and in relation to digital networks and computers am a bricoleur (Shields). For my softvideo practice I knew that QuickTime had a variety of programmatic abilities, was track based, and could be used as more than a playback format for video. I did not need a programmer to build anything as Apple engineers had already provided more within the QuickTime architecture than I was capable of using, so it was a case of finding existing tools to access these programmatic affordances.

Such appropriation is important to my work, and is one of the qualities that originally drew me to Storyspace and HyperText Markup Language (HTML). Each is ready made and near to hand, do not require specialised systems or infrastructure, and each conveys a sentiment of accessibility to novel tools so that others too could make more work. Special hardware, software and infrastructure was not required to participate in making and viewing this work, and so the traditional distance between the production and consumption of media is eroded, problematised, and flattened by these small systems.

Therefore my use of these ready made technologies is a political decision. It is political because it recognises the internet as a site of tactical making do, where for new forms such as hypertext and softvideo to become legitimate every day practices, they needed to use readily available and understandable tools woven into a network that is primarily constituted as a place of practice.

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New practices are adopted online when they occupy a small footprint conceptually, temporally and technically. Email, for example, originally represented an enormous shift in communicative speed, affordability, directness, and accessibility, yet conceptually it was understandable because of its affinities to letter writing. It occupied a small footprint temporally (in spite of the barrage of spam and emails of at best minor relevance that inundate today's inboxes) as reading, writing, and responding to email could be done in the margins of the day at the time of your choosing, while technically there are dedicated software programs that let us use email easily, and they all more or less work the same way as email has to conform to agreed technical protocols. Finally, as text it was fast, and required little bandwidth or server space. Indeed, most of the energy expended with the rise of email was in developing social protocols, including acceptable ways to participate in discussions on email lists (which included strongly enforced rules about quotation, attribution, and forwarding), expectations of personal responsibility in relation to managing subscriptions, a prohibition on the use of attachments, and clear distinctions between private and public exchanges.

Email 'worked' because of this assemblage of attributes, and taken together define the habitus of online technical culture, contributing to what I have described pedagogically as 'network literacy'. I recognised that softvideo also needed these attributes to be adopted as a network specific practice.

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Soft Technics



QuickTime and Softvideo

Apple's QuickTime is a sophisticated object. It is not a file format, in the manner that we understand a .doc file to be a Word document. A QuickTime file is a container that can hold and display a wide variety of other media. In some circumstances it can even be used to display PDFs. Within a single QuickTime file there can also be a combination of media types simultaneously because of its track based architecture, where each media type is an element on its own track, existing as a discrete object within the one QuickTime file. A fundamental and profound (if poorly known or appreciated) attribute of this is that this track based architecture can be maintained after publication as a QuickTime 'movie'.

To summarise, a QuickTime file can contain a variety of different media types (image, video, sound, text). It can also contain a variety of these media types at the same time, in the one file. Each of these is an independent object inside of the QuickTime file. As a discrete object inside the QuickTime architecture each element has particular qualities or affordances available, and the programmatic abilities of QuickTime make these different affordances available for different media types. For example, a QuickTime file might contain a video track, and so various play states (play, pause, stop, fast forward, rewind, play at n frames per second forwards or backwards, and so on) are available, as well as the ability to change the visual transparency and colour values of the image track. This same QuickTime file might also contain a separate soundtrack, and this too could be played, paused, rewound, or played at varying speeds,

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quite separately of the video track. Similarly, the visual attributes of tracks, what layer they appear on, even their visible location within the movie, are all able to be addressed programmatically. All of these can be programmatically altered while the movie runs, based on a similarly diverse range of programmatic inputs, including date, time, mouse location, mouse clicks, current frame rate, URL, and so on.

Some of these abilities might be thought to be available in any modern editing or post production software — for example the ability to layer videos visually over each other and alter their transparency. However, in QuickTime this can be done programmatically, which means it is possible to make one value dependent or conditional on others. In other words it is possible for a QuickTime movie to change the transparency of an image or video dynamically based on any programmatic variable (for instance volume, so the louder you made the soundtrack the more the video would ‘fade away’, or mouse position where moving the mouse in one direction in the movie may fade a soundtrack). The programmatic possibilities and available affordances are a combination of the formal properties of the respective media types, and the sorts of variables ordinarily available on a computer (date, time, URL, mouse location, recording and remembering user history, and QuickTime specific elements such as frame rate, file size, playhead location, and so on). This means there are an enormous set of possibilities available and because they are programmable they are dynamic, and therefore based on other actions or values in the QuickTime file and its environment. This cannot be done in editing software because there you set a value, and that value stays constant

until you manually change it, and after publication any possibility of dynamic variation becomes impossible.

These programmatic features are retained after the publication of a QuickTime file. This preservation of individual tracks and their programmatic relations is at the heart of softvideo. In ordinary video editing software once the editor publishes the video file any effects and variations between its parts are 'rendered' down to a single image track. The video file format produced as an export reduces all its parts to one, and so layers, dissolves and frame speed are now fixed, forever. However, when I work natively in QuickTime, and publish as QuickTime, the programmatic ability to always vary the media elements in the file can be retained, so that, as a simple example, I can have a QuickTime 'movie' that contains two separate videos within it, and mousing into one changes the playback speed of the other (and vice versa). That this malleability and variation is available after publication is the basis of softvideo.

Not Flash?

I have worked with video in digital contexts since the mid 1990s, from before Flash was invented. I have always understood my domain to be video, not vector based graphics and animation, and QuickTime has always been the media container that was premised on video as a digital object. As a digital humanities theoretician it made good sense to me that I needed to work 'in' video natively, with what I regarded as a porous format. Flash offered none of this.

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Today this has been realised with the rise of HTML 5 and its efforts to elevate video as a 'native' media type on the web (which simply means video should play without the need for plugins), and the embedding within Web standards of many of the affordances of QuickTime. We are on the cusp of an explosion of video based relational media.

Soft Layers

Softmedia relies on the presence of tracks and layers, for example in Photoshop you build an image out of layers, each one on top of the other, much like those partially transparent pictures of the human body where you lift or turn each page to reveal muscles, then the nervous system, the digestive system, organs and so on. In Photoshop each of these layers can be moved, hidden, and have the specific attributes (affordances) that Photoshop offers played with independently of the other layers — for example transparency, opacity, and which pixels are drawn with what colours. If you save a Photoshop file in its 'native' file format then anyone else can open this image with Photoshop and add, remove, move, edit, and generally manipulate these layers too. However, if you export your Photoshop image as, say, a jpeg file this format does not know about layers. It renders everything down to a single image plane, and becomes fixed as what it is.

In Photoshop it might appear visually as a single image, but as I work on it I know it is a stack of images, a composite, and it is these layers that makes the image, and it is this that allows Photoshop to be a powerful image editing program. This is how we compose images in Photoshop, regardless of where the original visual material comes from. However,

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while this may suggest Photoshop is soft media, it is, like the word processor, a hard copy system as it is intended to create images than when 'finished' these computational affordances disappear.

QuickTime relies on layers too. When you add media to a QuickTime file, and it does not matter whether this media is sound, video, still image, or even plain ASCII text, it literally places it on its own layer. As with Photoshop, layers have visual properties and as they are 'stacked' upon each other it is possible to vary the layering so one appears over or on top of another.

However, QuickTime, unlike Photoshop, adds programmatic affordances to this model, and unlike Photoshop QuickTime as softmedia maintains these after publication.

Tool Box

There have been several commercially available software programs that provided access to the programmatic abilities of QuickTime. Two that I used substantially are LiveStage Pro (LiveStage), and eZedia OTI. Both are now commercially unavailable with the companies producing each product out of business.

LiveStage was a more sophisticated program than eZedia. It provided a 'stage' on which to assemble media, allowed for all the track types supported by QuickTime, and utilised an object orientated scripting language to author highly complex interactive QuickTime movies. EZedia, on the other hand, offered a simple to use drag and drop interface intended primarily to make QuickTime slide shows. These slideshows

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could include navigation buttons, external links, control of multiple video and audio files embedded on each 'slide', and the layering of graphics and text.

My use of LiveStage was limited. I am not a programmer, and suspect I do not have the cognitive skills to deal with what appears as the unwieldy complexity of arrays, variables, boolean logic and mathematical operators. However, there remained a great deal available within the program through a highly speculative practice where I authored movies that were propositions about the nature of video in networked environments. These are what I have described as softvideo. Within LiveStage I utilised QuickTime's sprite tracks, its child movie architecture, and the application of basic variables to count and monitor user actions.

Child Movies

Child movies are a property of QuickTime that allows one QuickTime file to include separate, other, QuickTime movie files. The parent movie, that which contains the others, could be video, or just a single still image, and provides a visual stage to frame the other video that is loaded within it. This allows QuickTime to work like a web browser, as when a web page is made up of text and images these images are included through the use of the HTML image tag which provides the URL where the image is located. The browser parses this HTML, using the information within the image tag to locate the image file, and when that page is requested by a user it then assembles the text and images from potentially diverse locations to appear as a single page.

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Child movies in QuickTime work in the same way where the parent movie is provided with a URL (a file pathway and name) identifying child content that is to be loaded and displayed within the parent movie when played. Technically, the primary purpose of this architecture is to facilitate access to a larger collection of video clips without having to load all of them at once.

A parent movie can then contain a list of external clips and these are only loaded when programmatically requested, which is usually when a user performs some action. Which clip from this list is selected and played is up to the designer/coder of an interactive QuickTime movie, and could be subject to a variety of programmatic variables (time of day, day of week, URL, current loaded movie, and so on) as well as simply user choice.

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Cinematic Wholes

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Forgetting Cinema

My work shifts, from the obtuse (coming as it does from my use of hypertext where ideas are often distilled into dense kernels to be expanded through associative and discursive linking), to naive in the speculative questions I ask.

We have forgotten what the cinema is. More accurately, we are too young and the cinema too old to have ever experienced, or remember, what the cinema is. Those first years, as technologically enthralled entrepreneurs set about trying to find what could be filmed, and how, for later playback, that others might sit and watch. These films that appear to be fascinated, we might think naively, with their own factness. The Lumière's films of a train arriving at a station (*L'arrivée d'un train à La Ciotat*), a baby eating dinner (*Repas de Bébé*), and the gardener being squirted by the hose (*L'Arroseur*). Single shots, single takes, enframed views within which events were recorded to be replayed and repeated at other times, in different places. Simple and naive?

Not really. This was when electricity was a novelty, the fastest mode of travel was a slow steam train, time had only recently been standardised, and the concept of mass media only consisted of newspapers. The ability to record movement and to replay it again heralded a fundamental facet of the modern conception of simultaneity and distance that founded modern media. Notice that at the beginning what happened was the recording of a single shot which was then shown in other places, at other times. The event that was filmed, due to the new technology of recording time at a particular place, was able to be inserted into differing times and places when projected, but the film itself was kept whole. There was not

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yet any conception that this external ability to shift the time and place of the recorded event could occur internally, within film itself.

To take one thing filmed in one location and time, and join it to another, required editing. The surprising discovery was that when these different pieces were edited together they still made sense. This is canonised in the history of cinema in the formal experiments undertaken by Lev Kuleshov, one of the Russian 'montage' directors. The naive question of how it is possible for two apparently unrelated parts to be joined to make an intelligible whole has largely been ignored by film theory. It was railroaded into Eisenstein's dialectical model of montage, and then in subsequent theoretical approaches made largely subservient to narrative, ideology, and then psychoanalytic spectatorship, as if these were the sovereign goal of cinema.

For instance, Eisenstein on editing is major work and has had an enormous influence in film history and theory. However, it renders the edit into a logic of the same by arguing that the world is immanently dialectical, that thought too is dialectical, and therefore editing and cinema is the ideal dialectical form as it mirrors thought and performs an instrumental understanding of the world because of the isomorphic relation between world, thought, cognition, and cinema ("A Dialectic of Film Form").

Similarly, in relation to narrative, editing has been domesticated as its role has been seen to service Hollywood convention, point of view, continuity editing, and the long take. Finally, it has informed psychoanalytical film theory where the edit is subsumed by the gaze, and an



array of theoretical tropes that emerged from Lacanian psychoanalysis that sees the replaying of a variety of primal scenes of identification and misunderstanding played out between audience and spectacle, where again editing, while suggesting rupture, is always rehabilitated through the feint of a meta-theoretical hegemony.

Something Wonderful

In the general history of film theory the edit, as an event in itself, is always regarded as a given. Ontological questions about the edit, what it is and how it is possible, have been naturalised through our personal histories of film viewing (“of course you can edit different things together, everyone knows that”) to become at best a minor and subsidiary problem. This is a naive question that unfolds itself into something wonderful for it is the edit that allows all these other things to happen — for there to be narrative or even cinema. For the cinema to become cinema it needed to learn that shots could be subdivided internally and joined externally.

Two Consequences of Kuleshov

Kuleshov’s famous experiment involved intercutting an identical mid-shot of an actor with a bowl of soup, a sleeping child, and an exotic, scantily clad young woman. While the actor had what could be described as a noncommittal expression, audiences interpreted the actor’s countenance differently, depending on what it was intercut with, even celebrating the range of emotion expressed! The significance of this is twofold. Firstly, it demonstrated that cutting up

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parts of a shot and rearranging them is possible, and did not risk sense making for audiences — they simply assumed there was relevance between shots and interpreted them accordingly. The second is that it showed how what a shot means is not only determined by its content, but also significantly by the relations that it is located within, by what comes before and after.

These two points underwrite my research in what I now characterise as cinematic hypertext, and it is also part of the theoretical bedrock to my concept of softvideo. Kuleshov matters because it forces us to ask an ontological question of some priority — if only because it has been occluded from critical thought — about how it is possible for this to be? How can a shot, something apparently already whole, be cut, yet still be whole? And how can these wholes be rearranged in sequences and films to generate yet new wholes that still make perfect good sense?

Wholes and Parts

The problem of wholes and parts lets us see that film and video are about the qualities of things, not their quantity. This is a classical distinction which I take from Peirce, via Deleuze (in particular *Cinema One*) for quality is an attribute that is independent of its quantity, that is its scale. As Peirce illustrates, the quality of a particular red, its 'redness', is the same whether it is a small patch or an entire wall. Similarly a paddock, defined by a fence that forms its boundary and separates out the paddock from the open plain, has the quality of being a paddock anywhere within the paddock, it is not more 'like' a paddock nearer the fence than in the

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middle. With quality scale does not matter, intensity does. Quantity on the other hand is about mass, number and scale. Here more matters and it is number that makes a meaningful difference. In the realm of quantity I can have half of something. However, as qualities are intensive, not extensive, I cannot have half of an intensity.

Much understanding of audiovisual media has relied upon misjudging the qualitative nature of this media as quantity. The material substrate of media does have quantity and this has been used to define it, just as a novel has dimensions and a certain number of pages, and we refer to it as perhaps "long". We routinely measure writing by word or page count, and films are measured in terms of gauge (8, 16, 35, 70mm) and length, and there is a specialised vocabulary around shots and sequences that define them according to quantitative attributes so that there are long takes and quick cuts, as well as wide shots, mid shots and several species of close up. Each of these terms conceals as much as they enable in that the key attribute of shots within the cinema is not in terms of their compositional scale (close up, etc), nor in how long they are (long takes versus short takes). It is, instead, in terms of what Deleuze has identified as Bergsonian duration, time as a quality, and this is what Kuleshov's experiments show.

For example, imagine a novel. Cut it in half. I now have, literally, half a novel. This half a novel no longer makes sense as a novel for half of it is missing and this missing half makes a difference to the intelligibility of the story, the thing as a novel. We can say the same about a painting, a sentence, word or a sculpture.

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Imagine now a cinematic shot. It goes for thirty seconds, perhaps a couple walking along a busy street. I cut it in half, it now goes for fifteen seconds. Unlike the novel or painting the intelligibility of this shot remains. It is not 'half' a shot, and is still a couple walking along a busy street. It remains, still, an intelligible whole and so we can see that the cinematic shot is firstly qualitative, precisely because it is qualities that do not have quantitative scale, that survive being 'cut'. This is why we can cut up shots, why meaning does not disappear (meaning might change, but that is an entirely different proposition than the sorts of meanings that are possible or can be proposed about the half painting or half novel), as we have qualitative wholes, and this is why half a shot is not the same thing as half a page. (This is what Chapters Two and Three of Deleuze's *Cinema One* establishes.)

The second implication of Kuleshov's experiment is a consequence of this. To cut a shot turns a whole into other wholes and so is an inward orientated series of subsidiary wholes within a shot, where any shot always carries within itself this possibility to be further cut. However, this is mirrored by an external equivalent where any shot can also be joined to another, forming a new series outside of itself yet still whole. This is the ontological condition that allows for a shot's ability to be cut in itself. As its basic unit is duration, a qualitative whole that is independent of quantitative scale, it always remains open to other series and so able to posit itself as a point of possible connection with other shots to form higher order series. Shots unfold onto the open which

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is an expanding series of relations to other shots. This is not a consequence of narrative as a sovereign metastructure and here narrative does not create the capacity to join these otherwise different parts, but in fact domesticates and rehabilitates this radical open to a variety of normative discourses of closure.



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Softvideo

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Retrospectively

This is the first time I have undertaken a retrospective view of my work, and what had appeared piecemeal has, in fact, a consistent deep structure. This essay has been the catalyst for this mapping. My work is a mix of high theory and project based research and my development as a researcher is my move to becoming a theory led practitioner. The development of a digital material practice reflects the interstitial qualities of my work.

Neologism

Softvideo is the term I introduced during a symposium at the University of Bergen in 2001. It arose out of the experimental work I had been doing with Livestage Pro, a software program that made available the programmatic properties of QuickTime. Softvideo specifically contextualises video using the distinction that Balestri had made between hard and soft copy, and utilises those connotations to rethink video as an artefact and practice.

Sketching, Video

The softvideo works I have made show how I am a theory led practitioner. They are highly formal, and through their specific materiality investigate and respond to specific propositions about the nature of video in the context of the computer and the internet.

They deliberately employ domestic, ready to hand recording technologies and editing tools. They are informal, vernacular,

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serial, and aligned to a lo-fi sketch practice rather than being high resolution, professionally crafted and closed works. In relation to the computer, softvideo recognises that the screen is personal, it is a user's — not the makers, and multiple programs and windows are a part of this visual space. The internet, which I understand through my theoretical and practical work in hypertext, emphasises granularity, the pre-eminence of relations between things, the network as a distributed and flat system, and the screen as a centre of indetermination. The computer as a programmatic media machine becomes a cybernetic relay between these objects.

Poetics

Conceptually, there is nothing distinctive about the video that softvideo requires — it is made, captured, and edited in the same way as any other video project. In addition, softvideo makes no particular claims about the technical quality of equipment used and explicitly disavows the exercise of power that industrial media performs through the attribution of values such as 'broadcast quality' and 'professional practice'. Softvideo has no minimum technical standards in relation to the quality of the compressed video placed online, and in many respects celebrates and endorses a lo-fi model of production, distribution and consumption. Unlike industrial media, softvideo works are intended to be small scale, even minor. This includes their duration, where videos are usually only a couple of minutes in length, if not shorter, their screen resolution (size), and the amount of computer processing power, and bandwidth, required to view them.

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Softvideo contrasts itself deliberately to a variety of alternative approaches to online video and the digital. These other approaches routinely adopt a combination of a high art or high technology model. In the former video grants itself the right to 'own' its audiences' desktop by defaulting to full screen resolution, with the collateral assumption that viewing the work requires the monopolisation of attention and time. Such work is often large scale and so relatively long and, in many cases, complex in its interactivity and narrative structure. On the other hand work which relies on highly technological approaches utilises specialised hardware and software at some or all points of production, distribution and presentation, and often requires specific hardware for viewing, in some cases only being available in specific installations within a single museum or gallery. Softvideo politically and aesthetically deliberately places itself in opposition to these high art and technology modes as it advocates a lightweight, agile, informal, sketch like practice. This extends from how the works can be made through to the opportunities to experience the work.

Softvideo implicitly recognises that the network is distributed, granular, porous, and fragmentary, and that the site of experience of the works is someone else's computer screen, that this screen is theirs, and that these users ordinarily are doing several things at once. In addition, the capacity and ability for others to make similar works should be near to hand, for the significance of softvideo is not in what I have made, it is in the conceptual change it proposes for what a network specific video object and practice can become.

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Therefore softvideo eschews the culture of ‘monumental making’ that is a historical legacy of industrial film and video as a scarce, expensive, and technically complex practice. It leans towards the ephemeral and the transitory. This does not mean that large scale complex works cannot be made, but that softvideo, in concert with videoblogging, relies upon seriality and repetition, the sorts of aggregations that accrue through small parts and minor moments through time. In this way there can be softvideo works that break or fail, as well as instances that stand out, as there is never enough invested in an individual work to compromise the project as a whole. This form of serialised making and consumption also allows for the similarities and differences between individual works to form their own particular constellations of meaning and affect. One video of a subject is simply that, but when placed in a series economies of tonal variation are now produced.

In my softvideo work there has been an emphasis on observation and description rather than narrative. I have used ready to hand cameras (mobile phone, small highly portable video cameras, digital still cameras) to record the everyday life world. Aesthetically this work has revolved around building systems that allow for a variety of relations to be established between the media elements that make up each individual work. As a result, what each softvideo sketch might be is open, variable and not teleologically constrained by the autobiography of life narrative.

Network

The network. The term has become diluted as it moved from the imaginary of early hypertext (Nelson, Bolter, Joyce,



Landow, even of course Gibson) to its current condition. However, 'network' is also haunted by the earlier histories of industrial media where network television and radio remain, and so has connotations of a less transgressive, broadcast source and transmission model of media. In this older, but still extant context, a network arises through formal affiliations between commercial partners to achieve national systems of 'badged' content distribution and sharing, a branding exercise in concert with the economies of scale that such formations allow. This is no longer what we mean by 'network'.

The network is, in spite of the cliché it has become, rhizomatic in Deleuze and Guattari's sense. Acentred, structurally symmetrical in its information and power flows, this other network consists of a diversity of parts that are placed in ever changing relations without the authority of a centre. It is fragmentary, partial, transitory, ephemeral, and ubiquitously near to hand. A shape shifter. This is not the televisual logic of YouTube.

Network Video

For online video computer processing power and bandwidth have been, and remain, significant technical constraints. Even as recently as the early years of this century there two conditions remained the major constraints to online video, and were routinely cited as reasons against online video. Indeed, it was common at the turn of the century for video practitioners of all persuasions to be wary of working online because of the 'compromises' their work would suffer due to the small screen size required, and the visual artefacts that

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appeared, each due to the demands of compressing a video file for online publication.

Troublesome

Softvideo does not see the constraints of the network and computer negatively. In softvideo these constraints are not limits preventing a legitimate online video practice but are enabling conditions that are to be appropriated and utilised within softvideo.

Softvideo does not look at existing video practice, whether narrative, experimental or art based, and think how that could be translated online. Softvideo takes the qualities of the network as a material given and then considers these 'videographically' from the point of view of a networked praxis. Hence, screen size of video is small, in contrast to the common assumption in video making that the screen (whether television, cinema, or gallery wall) is owned in its entirety.

This also means the data rates of videos are deliberately, often joyfully, low so that the content could arrive almost immediately over existing network connections, which in 2000 meant 56Kb dialup modems. This in turn allowed softvideo to express an aesthetic vernacular that, like video art, was highly formalist in relation to its material givens. For example, the visual quality of the image (its resolution), and frame rate, are manipulated downwards in softvideo towards a low bit rate, lo-fi, lo-res grunge media aesthetic. Pixellation and video artefacts are embraced through the use of compression, shifting softvideo from verisimilitude

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and videographic indexicality towards a painterly, digital, reflexive materiality where pixels and the facticity of compression become material and aesthetic subjects of the work.

Softvideo does though engage the world as it is observational, and relies upon showing rather than telling, situating it within nonfiction and documentary rather than fiction or drama. Digital glitch and grunge is used as others might use chiaroscuro, lighting and mise-en-scène as a formal aesthetisation of the medium, in concert with what is shown.

The network is designed to survive and even play with interruption and the small scale. It is structurally premised on remix, what we once called bricolage, and softvideo reiterates this through its modes of making and its insistence on ready to hand tools and practices. Each work is a gesture that lies between what I happen upon and composition, compression, and seriality. They are video snapshots that are closer to the note book and pen than easel and canvas. They are not intended to be large or grand gestures and when realised as a practice in their own right — rather than steps towards something other, grander, larger and more significant — have a particular quality that lies in their polite smallness.

In these ways softvideo recognises the network as the site of small works and minor practices. It uses a dirty aesthetic of bits and pixels as an enabling making do. Compression and its artefacts are applied to a stochastic image making that, in relation to the usual norms of film and video, is troublesome.

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“Danish Snow”

“Danish Snow” (2004) is a softvideo sketch that makes specific propositions about digital networked video (Figure Twenty Six, Appendix). It is, technically, three different videos, though it appears as one. There is a parent movie and two child movies, and each of the child movies are not only different films but, as they are independent, have different running times. This cannot be done in traditional film or video. For example, video art has always relied on multiple projectors to allow different videos of different durations to be projected alongside each other.

A second proposition that “Danish Snow” makes is in relation to duration and frame rate. Film and video, until recently, have been mechanical media where a physical substrate moves past some system of light capture. In film this has been a mechanical claw and gate mechanism where film is progressed, stopped and held in place, exposed, then progressed again, usually at the rate of 24 times per second. For video this has been tape (basically rusty plastic) that is passed between recording heads or drums at a constant speed. Playback has worked in the same way, so in film the same mechanical principle is applied to projection with the distinction being that light is now shone through the film strip as it is held in place and stilled twenty four times per second. For video, tape passes between video heads for the signal to be decoded and sent to screen. In both scenarios frame rate is mechanical and constant and a necessary condition for viewing. Even slow and fast motion, which is done by varying the speed at the time of capture, requires



a fixed rate at the point of broadcast, transmission, or projection.

Softvideo films that utilise a multipane child movie architecture violate this condition. In “Danish Snow” the parent movie is a single image that is held still within the QuickTime movie — it has a frame rate of zero. When opened it loads a child movie in each panel. Each of these child movies, while filmed using a domestic digital still camera with a default frame rate of eighteen frames per second, have been scripted to play at four frames per second. Both clips are set to loop, so that when one finishes it begins playing again from the beginning. Each has a duration that is different to the other, and one is shorter than the other and will have begun again before the other has reached its end, creating a film with two distinct time lines, and three frame rates (zero for the parent movie, and four frames a second for each child movie). This is fundamentally different to traditional video and film because these older media have been defined by their physical substrate, and so there can only be one timeline. In “Danish Snow” the variability I might enjoy as an editor in a digital edit suite now remains as a condition after publication.

A programmed action on the ‘mouse enter’ event in one sprite progressively multiplies the playback speed of the video in the adjacent pane. Consecutive mouse entries into the sprite continues to accelerate the playing speed of the adjacent video. In addition there is a programmed action on the ‘mouse click’ event so clicking upon the sprite restores the adjacent video to its original playback speed. Playback speed and frame rate for each video is varied like this while

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the movie plays, and when combined with their different durations creates a new temporal architecture for video.

Beyond the pleasures of its formalist playing with the varying speeds of each clip “Danish Snow” proposes that frame rate, and therefore the duration of a videographic work (which has always been resolutely fixed), is now radically open and variable. While the adoption of digital making in production and editing offers this flexibility at the point of composition, at the moments of reception thirty seconds will always be thirty seconds. Softvideo erases this temporal fixedness.

Reading Time

Hypertext theory has done an excellent job of investigating the problem of “length” in literary hypertext in relation to the novel. In the latter length is simple. Each is fixed and, issues of varying editions aside, constant. Reading time, while variable, is not of itself problematic in relation to length — after all if I take two days or two months to read *Mockingjay* it is still three hundred and eighty eight pages long. In literary hypertext length and reading time are not so straightforward.

First of all, as a digital artefact the size of a work is often not apparent as there is no physical object from which to gauge a work’s heft. In hypertext, for instance, you often do not know how many nodes, lexias, screens, pages or words it may contain. In addition, due to its multilinearity (as the work of Douglas (2000) makes very clear) how ‘long’ a work actually is shifts from its physical media to being very much defined by the reader. Length can now be defined by how long a reader follows connections and links and continues

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to read. Trying to read 'all' of a work, that is every part of it, is generally not possible due to its multilinearity, so at some point readers make a pragmatic decision that they have read for 'long enough'. Here 'long enough' is the moment at which a reader feels they can make a judgement about the work that satisfies them. This can include the quick reader who spends a short time and decides the work amounts to very little, and the dedicated who may spend hours returning again and again. Length then becomes subject to the reader in concert with the text, rather than the text in concert with the reader. Indeed, in hypertext most of the major creative work published has deliberately not made its scale visible because this has been seen as a conferring of authority away from the author and the material object toward the reader and the digital's radical indeterminacy.

While reading time, and the scale of a work, are variable in hypertext an additional consequence of multilinearity is that the order in which things are found and read matters, and by definition varies. This is a fundamental condition of hypertext, it is what makes hypertext hypertextual. This premise, which is the same that cinema makes via the Kuleshov effect, is that sequence matters to narrative and, therefore, where multiple pathways are available there are then multiple narratives. As a consequence when thinking how 'long' a work is in terms of the number of nodes, clips, or words it has is not satisfactory, because this assumes that reading or viewing all content is the same as having read the entire narrative. Like the cinema this confuses a quantitative scale with a qualitative experience, and as the order in which things happen matters narratively then the 'size' of a hypertextual work now includes all its possible combinations.

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This, even in simple multilinear works, is literally impossible, not only because there is often no ability to manage, list, record and document all possible sequences, but more significantly the scale is so daunting that the time it would take to read 'comprehensively' in this way is untenable.

As an example consider the very simple case of a multilinear video consisting of three, thirty second clips. One sequence is a close up of a hand holding a gun and the trigger being squeezed. The second, a body falling to the floor. The third, a figure entering a room and picking up a gun. These are placed in a multilinear work where any can occur at any point in the sequence, but once one has been shown it is no longer available. This multilinear work will consist of three video sequences, one after the other, but once one sequence has been selected it is then excluded from the library of choices, so no sequence is repeated. In this scenario you could argue that the work is ninety seconds long, as it consists of three, thirty second clips. Alternatively, given the number of possible combinations of the three clips (three x two x one) there are now six possible combinations, and so the narrative would now be three minutes long. If I make the rules of combination only a little more sophisticated, so that one sequence is randomly chosen to open, then this is excluded as a next possibility, but the final shot of the work can be selected from any of the three — setting up a possibility for instance of close up, body, close up (shot, death, flashback, or shot, death, second shot, and so on) then there are eighteen combinatory possibilities (three x two x three) and now the work is nine minutes long if you wanted to see all possible combinations. Nine minutes, from three, thirty second clips.

(The canonical example of such work is Queneau's *Cent mille milliards de poèmes* (*One Hundred Thousand Billion Poems*) which consists of ten sonnets presented in the form of a child's flip book where any line from any of the sonnets can be arranged with any other. This simple arrangement produces 10^{14} possible sonnets. To read all possible combinations would literally involve millions of years.)

“Danish Snow” and Duration

Multilinear video does not need to be hypertextually complex to deeply trouble the temporal fixity of cinematic time. In “Danish Snow” (Figure Twenty Six, Appendix) each of the two video clips it contains as child movies are programmed to loop and play on opening at four frames per second, and at this frame rate each is then approximately ten minutes long. The work requires, and is rather pointless without, the user mousing in to either video pane to affect the frame rate in some way. That is its point. However, as soon as the user does this how ‘long’ “Danish Snow” is becomes unanswerable. A recalcitrant user who only watched and did not mouse would see the two videos play for approximately ten minutes, and begin again. Is the work now finished? Or is the looping condition, where both will repeat ad infinitum, a condition of the work and so integral to its experience and ambition? If this is the case then there is no privileged moment where the work or the user can declare that this small sketch is finished. I like this.

Similarly, once you mouse in to a video pane, accelerating one video or the other, it is now a small system that assembles differing relations of speed and visual relation between each

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video. A differing that is not just about new or different content but a differing within the formal property of video in itself, its rate of play. What now is the length of “Danish Snow”? A strict answer based on the assumption that to view a work is to have watched some thing from beginning to end would now need to include all these possible varying relations between the videos. Consequently there is no specific duration to a sketch like “Danish Snow” as the number of variations available between each clip, while not quite infinite, is indeterminate and surrendered to the interest of the user. The work is then about the actualisation of these possible, that is virtual, relations.

In old media the time of a work is tied to its material length and is a quantitative model masquerading as a qualitative experience. “Danish Snow” does contain media with such physical attributes, for instance each of the child movie clips are 1.7MB in size, record a specific interval of train travel between Copenhagen and Hamburg, have a default size of 160 x 120 pixels, an original play rate of eighteen frames per second, and contain EXIF metadata. However, when placed within a programmatic relation to the user and each other, with a key aesthetic attribute becoming the play rate of the clips themselves, the duration of the work is now separated from its material substrate. Here film in relation to time has become radically soft and variable, and duration is now qualitative. This is relational media.







Relational Media



Relations

Relations matter because they are always multiple. Things, whether they are ideas, video sequences, or sentences, have an immensity of relations that they are situated within and by, and things only come to be known to the extent that they actualise these relations. (This is partly what Bergson's sensory motor schema claims, and it also resonates with Bogost's recent 'tiny ontologies'.) In my video work relation and multiplicity is explored through small variations between video windows, for example through diptychs, triptychs, and in some cases 'cutting' up a video into nine or more separate tiles. These works are more interested in the simultaneous formal relations between coterminous video sequences than the ersatz multilinearity that results from serially arranged, though varying, sequences of this and then this. In the latter case a work remains formally close to the traditional cinematographic timeline where the task of the work is to assemble a story from its variety of parts, but the story remains a linear narrative. By pushing narrative aside and allowing videos to play together, relating to each other programmatically, thematically, associatively and even disjunctively, is to make more forceful propositions in relation to softvideo than simply trying to solve the false problem of narrative sequence.

In softvideo and its relational poetics narrative is not a minimal condition but only one mode that could be performed. Narrative here is no longer sovereign, even though many 'database' defined projects privilege narrative as its given. This privileging of narrative risks being a critical and theoretical cul-de-sac, for while narrative is the privileged

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term the database becomes merely a technical apparatus constructed around narrative as its problem. In my work I begin from different premises where simultaneity, rather than seriality, is used in an effort to make concrete how soft practices produce and require promiscuous relations, that these works are determined by relation, and so soft systems are engines and assemblages that enable these multiple relations.

Relational Media

Multilinear media could more accurately be described as 'relational media'. Multilinearity is premised on allowing basic units of a work (what early hypertext theorists, partly following the example of Barthes', have usually labelled as lexias or nodes, and what Thalhofer in his Korsakow interactive video system refers to, awkwardly, as the "Smallest Narrative Unit" or SNU) to be able to be connected, arrived at, and followed differently — where I might find a particular node from any of several others.

Relations, of course, also matter in linear media where connections between segments is affected by editing, though here once these edits are made such relations become fixed. (This is perhaps the key distinction between hard and soft media.) A consequence of this fixity is that content often comes to matter more than sequence (for example people are adept at recalling what happened in a film but surprisingly poor at remembering in what order it was narrated), and as a result many practitioners new to relational media try to make the 'relations between' singular rather than plural. In these cases a work becomes serially constrained so that multiple



relations become this and then this, so the problem posed by relation is misjudged as one of navigation and architecture and then assigned to extra-diegetic elements, such as menu commands, as the way to read the work. In these cases the significance of relation and plurality in relational works is avoided by recourse to instrumentalism.

Relation and the Sensory Motor Schema

'Relation' in my work comes from two theoretical tributaries. The first is via a reconsideration of the Kuleshov effect which emerged through reading Deleuze's *Cinema One*. Here it became clear that what a shot means varied on the basis of its place in a series, so meaning is then not defined by what is internal to the shot, but is subject to the relations it is placed within. Relations are always external to their object, and so contain some force to be able to effect change upon what the shot is ostensibly of, and is what Deleuze and Guattari have described as an 'incorporeal transformation'. For Deleuze this is a necessary consequence of a cinema that finds itself composed of parts that are wholes that are in turn able to be recomposed into new wholes.

The second theoretical tributary to relation is through Deleuze's use of Bergson's sensory motor schema. For Bergson the world is defined in movement, as action and reaction. For example, water acts on stone, and stone in turn is able to be reacted upon by water. Many such actions and reactions, indeed I'd imagine most, are more or less automatic where there is no interval between action and reaction as they are subject to natural laws. However, there is a set of actions that do not occur 'automatically' for there is an interval between a

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receiving action and a consequent reaction, and this interval exists because the action requires choice. This, for Bergson and Deleuze, is a 'zone of indetermination', which becomes consciousness in Bergson's schema, and is where there is a distance between perception and action that affords choice because there are possible actions available.

In this conception the world consists of a multiplicity of these actions and reactions. The air on my skin, and the ways in which my skin is pervious, or not, to the air (and of course air is already a coarse term as in itself the air around me is made up of many compounds and billions of atoms all of which have ways of acting and reacting on one another — for instance chemically and physically), and then its passage through my lungs into my bloodstream where oxygen is used within my cells in a biochemical reaction sustaining my body, producing carbon dioxide which is returned back to the air, perhaps to in turn be used by cells in a tree as a part of its biochemical processes, being converted again into oxygen, returned to the air where now as wind it comes through my study window, which in response I decide to shut. All around things have these multiple facets through which interaction happens and by which the world is constituted.

Deleuze uses this to develop his preliminary schema that accounts for the forms of the 'movement image' in cinema. This is a taxonomy of cinematic forms, which is more cladistic than phenetic, that understands the cinema to be deeply implicated in a sensory motor schema that provides the basis for the perception, action, and affect images as the three principal forms of the movement image. This describes how the cinema thinks itself cinematically, and



whether audience, critics, scholars, cinephiles or film makers, we become actors (in Latour's sense) within this cinematic system, and so subject to the unhuman thought of the cinema as cinema. A consequence of this is that the human becomes a marginal actor and witness within a system that we share but do not own.

Softvideo and Centres of Indetermination

Softvideo works are systems, or engines, for the production of variable relations between shots and so make concrete the 'centre of indetermination' (Bergson) that lies within cinema as a system of thought. This centre of indetermination is internally realised in the formal properties of the individual films, and externally in their need for the user to notice, decide, and do.

Then?

Recent work investigate the 'line' between Bergson's sensory motor schema, Deleuze's use of this to establish a posthuman cinematic thought, the relation of both to interactive systems as affective assemblages of lived experience realised as media practices, and a reconceptualisation of these assemblages (what we ordinarily call Web 2.0 social media services) in regards to new models of nonfiction media practice. Deleuze's movement image offers a compelling philosophy of interaction, which is where I am headed.

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The material collected here is a selection of my published research from 1999 to 2009. It does not include any of the more than one hundred interactive videos, or digital media projects that I have undertaken since the early 1990s. The work is divided into three major sections; cinematic hypertext, softvideo, and networked writing, and describes the arc of my research up to approximately 2010.

I have selected these essays as evidence of the extent and quality of my work as a portfolio to meet the requirements of the PhD by Publication model. An accompanying exegetical essay contextualises and provides insight to the concerns and themes collected in what follows.

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II





CINEMATIC HYPERTEXT

Cinematic hypertext is the term that I have used to characterise my first research 'episteme'. The work, beginning with "Cinematic Paradgms for Hypertext", is an investigation into the ways in which hypertext is a postcinematic writing practice and system. The major contribution of this work is to argue for, and demonstrate, the ways in which hypertextual links are the same sorts of things as cinematic edits, and that both can be profitably understood as performative. The work evolves through a series of essays that expand on the relations between hypertext and cinema. In "Hypertext Syntagmas" I pay attention to the problem of hypertextual sequence and narrative units. I argue for the 'forceful' nature of the link, and the way in which it immanently creates structure, in "Hyperext Structure as the Event of Connection", while I critique normative and instrumental approaches to linking, navigation, reading and writing within hypertext in "Realism and a General Economy of the Link". This work offers an alternative model to the literary to think about hypertext, and in turn provides an interesting way to conceptualise film, editing, and sequence.





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CHAPTER ONE

Cinematic Paradigms for Hypertext

Miles, Adrian. "Cinematic Paradigms for Hypertext." *Continuum: Journal of Media and Cultural Studies* 13.2 July (1999): 217-26.

This essay has been anthologised in a Brazilian new media collection and more recently in Bernstein and Greco's *Reading Hypertext*. An earlier version was presented at the first Digital Arts and Culture conference (DAC98) in Bergen, Norway. It is the first time I made a substantial case for the isomorphic relation of hypertextual links to cinematic edits.

Introduction

This essay combines film and hypertext theory to reformulate a hypertextual question that, to date, has been poorly framed. This question addresses the particular relation that may exist between the discursive domains of film and hypertext in terms of a possible affinity between the cinematic edit and the hypertextual link, with a view to reimagining the genealogy that has been imposed upon hypertext as a reading and writing practice. It is hoped that along the way a productive recasting of the relation between cinema theory (of one sort or another) and hypertext can occur, and that this will provide a possible methodology for a hypertext writing practice that is yet to be invented.

A History

The recent history of hypertext and its discussion of the moving image has produced a genealogy that has orientated itself around one of three major regimes: poststructural literary theories; post-digital celebrations of hypermedia 'promiscuity', and; post-digital appropriations of cinema into, or by, hypertext.

The first category is what could be characterised as 'canonical' hypertext theory, and is represented by the early work of people like Jay David Bolter (1991), Michael Joyce (1995), George Landow (1992) and Richard Lanham (1993). This work, while implicitly distancing hypertext from existing literary traditions, relies upon the insights, and appropriation of, various softened forms of poststructural philosophy (Derrida, Deleuze, de Man, Iser, et al) to illustrate the relationship of hypertext to print. However, this work,

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by defining itself in terms of a poststructural reappraisal of print (even in an apparently positive definition 'what poststructuralism suggests — hypertext performs') already casts hypertext under the surveillance, orbit or authority of the page and its particular discursive practice and traditions.

These 'early' theorists describe hypertext's relation to the image in two broad ways, the first is the manner in which digital writing allows our writing to adopt or express 'pictorial' qualities (for instance the use of colour and layout in HTML writing), and the second is the more ordinary use of images, where digitisation provides a lingua franca for otherwise discrete media types:

[T]he computer has the capacity to integrate word and image more subtly, to make text itself more graphic by representing its structure graphically to the writer and the reader. The computer can even dissolve the distinction between the standardized letter forms and symbols of the writer's own making. True electronic writing is not limited to verbal text: the writeable elements may be words, images, sounds, or even actions that the computer is directed to perform. (Bolter, 1991: 26.)

For these poststructural literary theories the ability to incorporate images into the space of a critical writing (for the examples proffered are always a critical writing - hardly any of this group of theorists seems to have thought that images might offer something to hypertext fiction), offers itself as an opportunity to embellish and add 'depth' to otherwise monocultural textscapes. But it is also clear that for these first glimmerings of the image's relation to the hypertextual word there is an anxiety of the image in relation to the word. This is evident not only in the manner by which the image is relegated to the role of 'illustration', 'figure' or 'supplement' but in the much more specific way that hypertext theory attempts to prescribe rules of use.¹

The second category, those theorists who embrace hypertext's discursive or textual promiscuity, are represented by people like Greg Ulmer (1991, 1997), Mark Taylor and Esa Saarinen (1994), but also includes the direction indicated by the more recent work of Joyce (n.d.), Moulthrop (1998), and Amerika (n.d.), and most of the first group of writers where they discuss possible futures. While this is a surprisingly short list, an examination of the literature demonstrates that for most hypertext theorists and practitioners the ability and desire to link between and across documents is explicitly tied to text based domains.

While the relation of image to word in hypertext is a complex one, and generally under theorised, it is in the third category, what I'm characterising as the hypertextual 'appropriation' of cinema, that a possible hypertextual practice can be identified. Early work in this arena is best seen in John Tolva's 'MediaLoom' (1998), Nick Sawhney and David Balcom's 'HyperCafe' (1996), John Cayley's 'textMorphs' (n.d.) and the clearly evident interest in hypertext temporality evident at recent hypertext conferences

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(Shipman et al: 1998, Tochtermann et al: 1999). This 'cinematic' allure is also evident in recent work at Xerox PARC (Zellweger et al, 1998, Price et al, 1998) where the effort to animate the relation between hypertext nodes is simply reinventing a cinematic practice and procedure for traditional nodal relations in hypertext.

This recent work offers a major direction and set of possibilities for hypertext, but appears constrained by its difficulty in thinking or writing 'with' the cinematic in hypertext. Indeed, the literary bias within existing hypertext theory and practice operates as a prejudice, and here I mean 'prejudice' in the sense argued by hermeneutic philosophy (see, for instance, Gadamer, 1987), that is almost hegemonic in its efforts to reclaim the cinematic within the grammatical and literary fold. This hegemony is manifested in many ways, extending from the use of animated gifs on the Web through to the maintenance of existing broadcast models and televisual aesthetics for the presentation of audiovisual content in hypertext. This represents a literal reduction of the cinematic into a hypertextual domain that already accepts the linguistic and grammatical order of the word. Now, it is clear that hypertext theory is recognising this, and it is also clear that the now regular use of, for example, W.J.T. Mitchell's work on the relation between word and text (Mitchell, 1986, 1994), or the call to cinema already described, are hypertext's response not only to the 'assault' of HTML but also to theoretical impasses confronting hypertext. HTML and the web represent or perform a writing that is, at best, disinterested in the claims of hypertext theory (at least the sort of hypertext theory I'm describing here), and while hypertext theory can appear as merely reactionary in the face of the Web's colonisation of hypertext the move to questions of temporality and the image are a positive theoretical response to hypertext's Balkanisation by HTML.

One Relation

However, I do not wish to criticise the colonisation of the cinematic by hypertext, but rather to alter the rules of engagement. Instead of attempting to think what cinema might offer hypertext, which already assumes a particular territorialisation of hypertext in terms of written discourse, I want to propose that hypertext has always been cinematic and that what I'm characterising as the "allure of the cinematic" evident in recent hypertext theory is merely the expression of an immanence that has always been present, though unrecognised. While Michael Joyce once, rather famously, commented that "hypertext is the word's revenge on TV" (Joyce, 1995: 47) I'd like to suggest that hypertext is in fact cinema's revenge on the word, and what I am interested in exploring is the word's remaking of itself in the light of the cinematic. This 'allure of the cinematic' as the expression of an always immanent cinematic force² probably takes various forms, however through the comparison of a particular cinematic moment or

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gesture — the edit — in the light of a particular hypertextual moment or gesture — the link, this force is given, in some manner, corporeal expression.

While there is considerable research in cinema studies regarding editing most of this has been subsumed under general categories of particular styles (Bordwell, 1985, 1997, Chatman, 1990). For instance in 'classical continuity cutting' the function of editing is defined in terms of a concealment of the constructed nature of film and narrative, and to present a seamless fusion of events, character, and movement. Of course there are many other styles of film making, and many other theoretical descriptions of these, but in general most of these descriptions treat editing as an integral process of construction (whether for the film maker, the film, or the reader) and are about the organisation of story, space, and represented event. Even where film theory or practice is explicitly dealing with the edit, for instance Russian montage cinema, one finds that while the emphasis falls on the 'leap' that the edit performs this edit is merely facilitating the expression of a transcendental condition. Interestingly this is probably not the case with Dziga Vertov's work, in particular his theory of the 'interval', and while many commentators have struggled to describe or contextualise Vertov's interval (often through rather forced modernist valorisations, for instance Petric, 1987), Deleuze's description of the interval in terms of a moment of indecision, or of possible decision, in the sensory motor schema of the action image has strong affinities with the hypertext link. (Deleuze, 1986: 39-40).

In a curiously analogous manner links in hypertext, and their theorisation, reveal a similar history. Early hypertext theory, for example Landow's seminal "The Rhetoric of Hypermedia" (Landow, 1994) concentrates on links as devices of connection where the emphasis falls on the intelligibility of the origin and destination of links but not on the links themselves. While being a node 'centric' description its effect is to 'erase' the work of the link, as in classical continuity editing - for Landow, the link is principally a mechanism that facilitates the movement between nodes. Similarly Slatin, in an exemplary early essay, emphasises the role of links as associative pathways. This argument relies upon a naturalising and psychologised zero degree of transparent intentionality where, once again, the link is subject to the content of its origin and destination, now doubled in the relation of link to node and of mind to writer. In more recent Web based hypertext practice much the same process is evident, here not only do links become dumbed down servants of already signposted commands (up, down, left, right, back, next, etc) but there is considerable investment - financial, aesthetic and theoretical - in the redundant nomination of link function through buttons, logos and textual cues, the graphical equivalent of the ubiquitous 'click here'.

What is common to theory's occlusion of the work performed by the edit in cinema, and the link in hypertext, is a two fold dilution of this interval into, on the one hand, merely a technique that facilitates connection, and on the other an active effort to

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conceal or disavow this connectivity into the material within the node or shot that is being connected. This allows narrative, event, or theme to appear to motivate this connectivity, and so produces classical modes of normative realism.³ The link or the edit is made subject to the representational content of the work, and while it is unclear whether there may be a 'realist' hypertext style analogous to classical film narrative redundant link legibility and the 'naturalised' graphical link could well be it.

In both domains the invisibility of this interval has produced a privileging of content spaces over their points of connection, but it is the possibility of there being connections that, in a rather banal way, makes each medium possible. In other words if we don't have links we don't have hypertext (certainly of the link node variety⁴) and this truism needs to be given due regard, as recent theory increasingly recognises:

To commemorate the third epoch of writing, the hypertext link will be made to carry its own signification, much as narrative has become its own kind of study today. So, in an attempt to add to that scholarly pursuit, I will propose the notion of a paratext, a dimension of signification that begins within text, but might systematically be shown to spawn its own narrative depictions. (Ricardo, 1998: 142).

Nodes without links are books, it is the presence of links that confers hypertextuality upon a discursive object, and while I am not willing to argue that the same can be said for the role of the edit in cinema (after all it is possible to have a cinema that consists of a single shot), the role of the camera in producing an enframed set does suggest strongly that the cinematic shot is formed by a simultaneous separation and insertion into a series of constricting and expanding sets (Deleuze, 1986: 12-28). Similarly in hypertext writing the possibility of the link offers itself as an open set, and while any particular link constrains this set, the link retains an aspect of this open set in its divisibility. This is one of the manners in which I would characterise the experience of hypertext linking, and this suggests that the intelligibility of the link and edit is an indirect problem, that is a cognitive or perceptual question, and it is the possibility of there being the possibility of a link or edit that needs accounting for.

Of course, in some ways, this is a caricature of film and hypertext theory, for there is considerable work that examines links and edits. However, this work can be characterised by its effort to present, or at least discover, a principle of classification that would allow links and edits to be described and catalogued. In cinema studies this work reached its zenith in the high structural work of Christian Metz (1974), and the more recent narratological work of someone like Seymour Chatman (1988, 1990), while in hypertext it is represented by work such as Burbules' "Rhetorics of the Web" (1997), Lanham's (1993) general rhetorical entreaty, and possibly even the research examining annotation practices being conducted by Xerox PARC (for example Marshall, 1998, and Price et al, 1998).

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This general project appears to want to be able to produce or define typologies of link types prior to any particular hypertext analysis or readerly navigation, but like its cinematic equivalent its belief in the presence of a definable metastructure or system owes more to the reifications of structuralism (or possibly late modernism) than to the pragmatics of link or edit use. It is clear that links and edits have rhetorical force, they do make connections between parts, they generate, demonstrate, even perform, arguments, and these do involve sets of relations between source, destination, and reading context. However, the point is not that they can be described prior to their appearance, but that they are the product of their conditions in practice, in other words they are what Deleuze and Guattari describe as an assemblage: 'As long as linguistics confines itself to constants, whether syntactical, morphological, or phonological, it ties the statement to a signifier and enunciation to a subject and accordingly botches the assemblage' (Deleuze and Guattari, 1987: 82). The problem, or question, is not what types of assemblage can be made, but what makes the assemblage possible. This is intended as a nave question.

Force

In cinema Lev Kuleshov demonstrated through a series of experiments that edits are able to compel associations or connections between previously unrelated material (Mitry, 1997: 100). The work of the edit appears to force this association, and while the meaning of the edit is external to the content of the shot its effect is to produce a hermeneutic logic that accounts for this relation as if it were internal. The same effect is present in hypertext, where we can, and do, freely connect between previously unrelated and disparate material, and by virtue of this connection the content is understood, in some manner, as now being related. This is not the 'hit list' we generate from a request to a Web search engine, nor is it the way in which we might more or less arbitrarily link to 'external' nodes, but is simply the capacity to link to nodes and in the link generate, force, a hermeneutically viable connection between otherwise discrete discursive spaces. This connection is not merely 'technical', nor rhetorical, but expresses a transformation between, and of, the nodes joined.

As Austin (1962) demonstrated, all utterances are performative and while they may vary in perlocutionary and illocutionary effect all discourse has performative force. The transformation of nodes and shots that is performed by their linking or editing is an expression of this force, and is not, at least in the first instance, the expression of a meaning, but is the transformation necessarily elicited by the force that all language, all utterance, is immersed within (Deleuze and Guattari, 1987; 75-9). The effect of this is what Deleuze and Guattari have described as an 'incorporeal transformation' where '[t]he order-words or assemblages of enunciation in a given society (in short, the illocutionary) designate this instantaneous relation between statements and the

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incorporeal transformations of noncorporeal attributes they express' (Deleuze and Guattari, 1987, 81). This transformation 'applies to bodies but is itself incorporeal, internal to enunciation' (82) and furthermore is 'recognizable by its instantaneousness, its immediacy, by the simultaneity of the statement expressing the transformation and the effect the transformation produces' (81). In other words this is the realm of the order word, illocutionary force, and of indirect discourse, and this is the domain of the edit and link.

In cinema any two shots can be edited together, and in this editing a meaning generated or expressed - this is obviously a return to the 'proofs' of Kuleshov discussed above. Yet, any one of these shots can also be inserted into a different sequence, to in turn generate a different meaning. The content of the shot, its literal 'body', remains unchanged, however its attributes are instantaneously transformed in the performance of the edit. In hypertext two or more nodes can be variously linked and the series they participate in, including the repetition of nodes, when the links are performed also effect instantaneous transformations of the nodes' attributes. As Walker has suggested:

The re-interpretation of the same node when it is re-read seems a perfect example of Nietzschean repetition. Not only does the node seem the same on the surface, it is the same more deeply than a traditional codex repetition can be. And yet it is different, changed (Walker, 1999:116).

What is crucial here is that this transformation is effected in and by the performance of the edit or the link, and not by the nodes (bodies) themselves, and that this transformation occurs with the performance of the link, it is coterminous with its expression.

The illocutionary force of such utterances has two aspects, it is what allows the apparently disparate or unrelated (two shots, two or more nodes) to be able to be joined, and it is what provides, even compels, the connection that we make between the nodes - this must relate to this. This force is prior to the sorts of connections, if you like the rhetorical tropes, that we are able to make, and in its expression edits, and links, become in fact 'risky' promises.

Promises, along with orders, are perhaps the canonical example of the performative. They are contextual, carry social, ideological, political, ethical, normative, and persuasive force, and are always conterminously determined or evaluated in and by their doing. What a performative utterance means is unable to be separated from its saying and doing, and their risk is not of being true or false, what Austin characterises as the constative, (after all what is an untrue link?) but of being felicitous or infelicitous. Indeed much of the work on hypertext linking, navigation, and readerly sense can be regarded as exploring what constitutes the good link (Bernstein, 1998a, 1998b, Landow, 1994). In other words, the leap and its recovery into a destination that a link or edit

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performs, represents an opportunity for misunderstanding, a loss of coherence, even simply a broken link, but this possible infelicity will always carry a residue of force that bets against this risk.

These incorporeal transformations are immanent to language but what is peculiar about cinema and hypertext is that as discursive systems they appear to want to give expression to, to make visible, this force. An edit or a link is, if you like, a manifestation of the expression of this immanent force, even a writing with this force, and while we might find it helpful to think about links as promises, and possibly even consider edits as promises, what is perhaps more productive is to attempt to identify how hypertext, as an already cinematic practice, renders this force visible. In cinema the dissolve has generally been surrendered to representation, however these are moments that give face to the edit, and dissolves are moments of particular intensity in film, points at which the performance of the edit is no longer surrendered to an impossible moment but given a duration that regularly exceeds the practicalities of narration. While the dissolve is a temporal device, its occupation of time by extending the usually occluded instant of the edit across the space and time of the image places the emphasis not so much on the promise, as on the act of promising. However, even more significantly dissolves are the invention of a rendering visible in film of its incorporeal transformations, as its performative force is made corporeal in the visibility that its folding upon itself produces. In other words, during the dissolve the edit no longer is content or limited to an incorporeal transformation, but actually performs itself upon a surface, and in this renders its affects visible. It is less about meaning than about rendering the incorporeal or virtual visible.

Within most hypertext systems the distance between nodes is not a quality recognised (any node is as temporally available as any other), and in our dream of instant bandwidth every link ought to be as available as any other. This is of course much like continuity editing, but if hypertext writing and reading happens 'in' the link then it is not in the nodes that hypertext resides but in the connections and pathways made between nodes. To think about, describe, or even approach the question of what allows this requires us to shift our attention from nodes to links, away from a theoretical misreading that misjudges the content of a node as being that which allows parts to be joined. It is in this shift that cinema not only helps us by providing theoretical tools, but it is because hypertext is about the connecting of separations that we all find ourselves making our hypertext's cinematic.

The cinema rapidly defined for itself a method that expresses the effect of its force upon its own material form. This expression in time of the transformative work of the edit is, of course, probably unsurprising in a temporal medium, but the question of whether hypertext can or should pursue a similar trajectory is merely to begin to recognise those

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aspects of a hypertextual practice and theory that have been overlooked in its literary prejudices.

For hypertext as a writing practice the issue is not to mimic the cinema, but to develop a methodology that gives expression to the force that it is the expression of. This is a riskful writing, a writing that seeks, endorses, and returns to the expression of the force that the link embodies, performs, and promises. This risk is not to be found in subject matter, or content, but in a yag saying to the danger of the link that endorses the break and recombination that links allow. This is how hypertext is cinematic before it is literary, and suggests that a future writing, the writing that hypertext is yet to be the expression of, will be a writing with the link. This is not the saturated linking that much experimental hypertext performs, nor is it the imitation of cinematic effects upon our computer screens. It would be, if it were possible, a 'zero degree' of the link, and while such a writing remains impossible it is the task of the hypertextual promise to move towards such a practice. In such a writing the link will have learnt to think itself, and we in turn will wonder at the obviousness of such a writing.

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Endnotes

1. See for example Landow's extensive rules around the use of images - in particular rules fourteen to seventeen - which don't appear to have to apply where only text is involved, (Landow, 1994). On the other hand imagemaps on the Web can be considered as demonstrating the ease with which the image can be appropriated by hypertext.

2. I'm happy to call this 'force' something other than cinematic, though I am suggesting that cinema and hypertext share this quality and/or expression. However, I would like to preserve the use of 'cinematic' in the interim, simply because the connotation of hypertext as a screen based practice I suspect is significant.

3. That is, realist narrative conventions in cinema, and categories of link association or description for hypertext. The latter is particularly evident in work that wishes to define linking from the point

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of view of an associative intentionality, so that the nature of a link should be, in some measure, transparent. This is evident in recent work on hypertext systems where an attempt to signal link type, or destinations, is attempted, for instance Zellweger et al., 1998 and Marshall 1998.

4. While this is a truism I would point out that it only applies to link node hypertext. Aarseth's "cybertext" and "ergodic" ought to be adopted to refer to other textual forms that may be considered 'hypertext' but are not link node in structure. (Aarseth, 1997)





CHAPTER TWO

Hypertext syntagmas: cinematic narration with links

Miles, Adrian. "Hypertext Syntagmas: Cinematic Narration with Links."
Journal of Digital Information 1.7 (2001).

In its original form this essay is a complex, multilinear hypertext. It was written in Storyspace and exported into HTML for web publication. The essay made literal many of the claims of hypertext as a form of disruptive academic writing by including all original source quotes, commentary, and asides on these, as well as a 'central' argument. I have not attempted to repeat this structure in print as the rhetorical interconnections and pathways simply do not translate. In lieu of this I have structured the essay here by beginning with a 'canonical' node of the essay, then including each subsidiary, connected node that is not a canonical node. These are in grey to indicate their secondary nature. Many of the original quotes, and my commentary on these, have been removed for this print version as a) they don't make sense 'floating' in print and b) the online essay has over two hundred nodes (individual web pages) and twenty nine thousand words. In addition, the original digital hypertext contained several video clips from films to illustrate key points. This visual content has, in general, not been included here, however where it has screenshots from the videos have been included in lieu of video.

In hypertext, and multilinear narrative more broadly, a recurring question revolves around what types of narrative units, or structures, might exist, and why. This essay investigates this problem by demonstrating hypertext's affinity to cinematic sequences.

Abstract

Christian Metz's semiotic analysis of cinema is described in relation to hypertext narrative. Connections between film narrative syntagmas, and hypertextual syntagmas are explored, with an emphasis on the contextual and pragmatic nature of these structures.

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Reader's Introduction

Dear reader

This essay is an experiment in academic writing that I tend to think of as a performative hypertext. This simply means that it does what it describes.

It contains a simple series of nodes that contain the major argument, this is its canonical text, and while it can be read serially, it is densely interlinked.

In addition various quotes, some with attached commentary, are available, each providing the introductory reading and some ideas around the key, related, themes that this essay relies upon. At times the distinction between the 'canonical' essay and the commentary will appear arbitrary. It is, the canonical text simply represents the kernel of the argument but any assumption that it is privileged in relation to the commentary can only be an assumption.

The writing recognises no particular distinctions between disciplines or concepts, moving from hypertext to film as easily as it moves from abstract academic argument to personal comment.

The essay includes some film examples to illustrate some basic concepts, and resists what we might think of as closure.

Once within the essay, links to the canonical text are blue, links to quotations are green, links to additional commentary are red and links to the references page are black. Visited links will appear as lighter in tone than unvisited links.

No table of contents or menu bar is provided as the essay is not intended to be read exhaustively (it consists of approximately 200 pages and 29,000 words) but by what might once have been called fancy. It is, however, a work where ambition outstrips ability. It is also about noise.

For those anxious to make sure they've read the 'important' bits the list of contents contains all the canonical nodes of the essay.

An Introduction

If we are to move from integration to innovation, from hypertext as print's auxiliary to hypertext as an independent cultural agency, our conceptions need a further evolution. We need to consider situations in which the intersection of hypertext and linear media produces not harmony but dissonance - not a constructive but a deconstructive hypertext. (Moulthrop, 1991.)

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The strictly linguistic laws cease when nothing is any longer obligatory, when ordering becomes “free.” But that is the point where film begins; it is immediately and automatically situated on the plane of rhetorics and poetics. (Metz, p. 81.)

Any brief examination of recent writing on hypertext, including papers delivered at recent major conferences where hypertext is represented, reveals what appears to be a steadily increasing interest in the relation of cinema to hypertext.

This interest, characteristically, appears to concentrate on what cinema may teach us about nodal relations and link typologies where the example afforded by the cinema is rifled in an effort to seek classificatory rules, exemplars, and a rhetoric for hypertextual sequencing. Here cinema is examined in terms of how film has established, defined, and considered the relations between its parts (shots, sequences, episodes) and how these relations facilitate meaning, sense, and comprehension.

This essay aims to examine the work of cinema semiotician Christian Metz, who developed a syntagmatic schema of the varieties of cinematic sequence, and to describe the extent to which these offer a methodology to reconsider our notions of link rhetoric and link typology. This essay argues that much of the appropriation of cinema within hypertext is founded on a common misconception of there being an a priori formal cinematic grammar. Cinema relies upon the contextual and pragmatic basis of connection for the production of meaning, and has clear applicability to a posteriori attempts to determine rhetorical structure in hypertext. The assumption of an isomorphic relation between hypertext and cinema is fundamental to this thesis.

This work includes video examples (utilising QuickTime) to illustrate key concepts, and is written as an academic hypertext. In deference to JoDI's principals of usability a thematic map is provided.

recent

In recent hypertext theory several uses of cinema have been made. The most impressive work in this field is the collaboration between Sawhney, Balcom and Smith in their hypervideo project, where hypertext is reorientated towards an interactive video project.

Mancini's recent work, which strongly identifies a relation between cinema and hypertext, also offers a rich set of future research possibilities. Mancini also identifies the significance of Metz's syntagmatic categories as a point of critical entry, as she seeks various cinematic modes of argumentation for use in hypertext.

In addition, there have been various combinations of hypertext and video, though this work is more concerned with the technical application of hypertext technologies to video parsing, annotation, or cataloguing, and so concentrates on highly contextually

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bound, instrumental applications. What could be characterised as a cinematic desire to animate the relation between parts is also evident in some recent hypertext.

However, what is significant (with the notable exception of Mancini), is the extent to which much of this work adopts a classical paradigm as the model for cinematic narrative and its point of applicability to hypertext. Detailing this here is beyond the scope of the current work, but the general view appears to have been to accept as canonical the Hollywood studio form of cinematic narrative as the only 'transparent' way to narrate audiovisually. The major intent of this essay is not to critique the transparency of classical cinema, but to demonstrate that this transparency is a stylistic practice and not a grammar, that hypertext is already cinematic, and that hypertext's emphasis on link clarity misreads the contextual nature of cinematic and hypertextual syntagmatic series.

more themes

Within the domain of hypertext criticism there has been recent interest in the relation of cinema studies, and cinema narratology, to hypertext theory. This has tended to concentrate on questions of narrative motivation and sequence. In addition there has been much recent interest in questions of hypertextual 'duration,' work which does not specifically utilise cinema theory, but could be seen to be concerned with similar questions to cinema, that is questions of narrative in a temporal medium. Such work (for instance Cayley, Leusebrink, and Swigart) retains what could be characterised as a literary emphasis as various literary tropes of duration are explored in relation to their applicability to hypertext narration. However, there is another, unrecognised, expression of 'cinema' in recent hypertext systems design.

This cinematic 'expression' is what I'd characterise as a desire to animate link or nodal relations in hypertext, perhaps best illustrated in Zellweger, Chang and Mackinlay's 1998 paper describing a system of fluid link relations. Here the rendering visible of link destinations is repeatedly characterised in terms that suggest a protocinematic movement. While the domain of applicability is widely divergent, these descriptions are reminiscent of Manovich's writing on animation, digital cinema, and montage, where he suggests that cinema's origins lie in graphic representation, a desire for movement, and models of what could be characterised as local repetition.

While this effort to animate is clearly characterised in terms of usability and link comprehension it can also be understood as the expression of some desire to render movement into the space and time that a link represents, creates, and traverses. To this extent it is analogous to the strategies that the time based visual art of cinema has articulated for expanding the interval between shots, sequences, or episodes.

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syntagmatic chains

Semiotics has traditionally distinguished between two axes of organisation to determine (and provide for the possibility of) meaning. One axis is known as the associative, or paradigmatic, the other is the syntagmatic.

The paradigmatic is generally represented as a vertical axis is thought of as what could be substituted in the place of the current term, in its current location. In other words, what does the particular term used connote? The paradigmatic refers to the rules and principles of possible combination around substitute terms.

The syntagmatic is generally understood to be a horizontal axis, and this refers to the rules of combination and organisation that provide the sequential order of a sentence or utterance.

The paradigmatic and syntagmatic work in combination, so that a sentence has a particular syntagmatic form which determines what can go where, while the paradigmatic provides or produces the possibilities for various particular meanings and substitutions in each position of the syntagmatic chain. For example, English has a reasonably strict formal grammar, and this provides, in written and spoken English (though each has a slightly different grammar) a formal syntagmatic structure. However, what can be placed within each part of this formal syntagmatic chain can be chosen from a large (though finite) set of terms, and it is this combination that allows us to generate an infinite number of singular statements and utterances.

In addition, the paradigmatic demonstrates that what a word or phrase means is determined as much by what is not written or said, as it is by what appears. For example, in the sentence “my love is a rose” the last term “rose” gains its meaning by virtue of all those things that could have been said there and are not. Paradigmatically, this is obviously a very large set (“person, man, woman, dog, computer, . . .” basically any common noun would do), but of that actually selected (“rose”) this is understood to gain resonance from all those terms that are suggested by and around the term used and of that set of ideas the particular term gains its meaning (and authority) by virtue of this set. In other words “rose” gains its meaning because it is not “person, man, woman, dog, computer, . . .” but also because “rose” suggests red, thorns, poetry, nature.

Metz, in his influential semiotic analysis of the cinema, has argued that the syntagmatic combination of elements is the primary trope in cinema, largely because the paradigmatic is superfluous in relation to film’s ‘grammar’. This can be usefully applied to a consideration of hypertext links.

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postcinematic

The potential isomorphic relation of cinema to hypertext has been argued in considerable detail elsewhere (Miles, 1999, Mancini, 2000). This relation is founded on a simple equivance of nodes to shots, and links to edits. Most simply, the minimal cinematic unit is already a complex linguistic statement, even where it might only consist of a close-up, and the combination of the units into larger units is what constitutes 'articulation' and meaning production within each medium.

In this earlier work I relied very strongly on Volume One of Gilles Deleuze's cinema philosophy - largely to begin to explore the nature of the 'force' that resides in the link and edit that allows two apparently autonomous fragments to cohere. This essay takes this 'force' as given (though its presence and expression remains untheorised), and does assume that there is a semiotic equivance between the problems posed by cinematic 'writing' - of joining discrete shots, and hypertext writing - of joining discrete nodes.

Furthermore, just as Kuleshov demonstrated early in the twentieth century, cinema is able to join these discrete fragments and in their combination not only generate new meanings (or interpretations) but also change the meaning of what lies within the shot itself. This cannot be underestimated. On the one hand there is a hermeneutic outcome derived from the juxtaposition of A and B; a rose followed by a close up of two hands clasped suggests 'love', and on the other the content of the shot itself can vary dramatically in its own meaning, while remaining unchanged, by virtue of the juxtapositions it is placed within; the same image of a rose followed by a close up of a burning photograph of a couple can suggest 'loss'.

That this applies to hypertext is, I would hope, clear. Where it departs dramatically from the example of our ordinary conceptions of grammar and language is in the specificity of the units of combination: in a sentence a word gains its reference in its particular use and then in relation to all that it is not. The image of the rose gains its meaning from its very specific referentiality. In other words semiotics demonstrates that the word 'rose' in 'my love is a rose' gains its meaning because it is not 'geranium,' 'pansy,' 'orchid,' or even 'nose'. However, in the cinematic example no such meaning by substitution occurs, it is only, and always, a particular rose with specific qualities.

As a consequence, and as Metz makes abundantly clear, there is no real paradigmatic axis in the cinema, and this is also so in hypertext - when I write hypertext I can link more or less to anywhere and there are no necessary rules of combination that exclude or promote particular destinations. This suggests that it is within the series of combinations formed by links, what Metz in the cinematic case characterises as autonomous syntagmatic units, that hypertext structure resides.

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documentary

Nichols (1991) has shown how all the normative conventions of film narration are largely irrelevant in documentary film. In documentary you can easily join any image with any other image, continuity of action or narrative is not a formal requirement, the didactic nature of the work largely carrying what might otherwise be thought as narrative leaps.

Similar processes are apparent in much hypertext work, particularly nonfiction, where one does not need to be as careful in maintaining narrative continuity as may be the case in fiction. Though this is not clear and needs further consideration.

academic writing

The literature on hypertext, from Bolter's seminal *Writing Space* to the most recent annual conferences in the hypertext community, has routinely celebrated the possibility of academic writing utilising hypertext. In general this consideration of hypertext as an academic practice has emphasised two related possibilities.

The first is the ability to link, incorporate, annotate, or connect to, those other documents or discursive objects (sounds, images, moving image, text) that one ordinarily refers to in the course of academic writing. That is, rather than footnoting a link of some sort is provided to this other content, or this other content is in some manner able to be incorporated within the existing hypertext work.

This approach, very broadly speaking, does not require any significant changes to academic writing - or reading - as a practice. The major difference this offers, and celebrates, is the ability to dissolve the boundary between the central text and its academic and scholarly contexts and so in this academic paradigm the major problems confronting the writer are ones of access, labour, and skills.

Ironically, this has been the major methodology adopted for academic content online, to date. While this conservativeness is unsurprising in an academic context, it should be remembered that the conceit of the footnote in fact performs a fragmenting and editing or linking function that, while generally concealed under the veneer of rhetorical transparency (academic writing's version of 'realism'), does disrupt and create a thematic form of montage. Indeed, it might be of interest to speculate on the extent to which the footnote, as disruptive and necessary outside, is in fact domesticated by the rigidity of the academic essay as a formal practice - a rigidity that has been preserved into electronic publication.

The second possibility retains the desire to link to what has traditionally had to be regarded as external content in a context that renders the external internal, but it also seeks to reconsider the role and possibilities hypertext offers academic discourse as a writing and reading practice. This work emphasises not only hypertext's ability

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to include what would otherwise be marginal, but also its potential as a medium for producing other forms of academic writing. This form of academic hypertext remains marginal, minor, and generally undertheorised - notwithstanding recent interest in this field and Moulthrop's continuing efforts, and is as subject to the vagaries of the reader as much hypertext fiction.

While this essay is clearly an experiment in the second possibility, though it should be emphasised it is only one possible methodology for an academic hypertextual writing practice (and one perhaps more suited to the humanities than the sciences), it remains significantly constrained by the presentation medium adopted here (HTTP/HTML) with its generally static and singular screens, and a banal link structure offered by HTML's "HREF" attribute.

An End

The consideration of hypertext structure as consisting of 'whole' syntagmatic series, which in turn become the paradigmatic sets available, has a series of complex implications which require further research.

It would appear that the relation of one node to another, via a link, while significant, gains greater currency when considered from the point of view of a discrete syntagmatic segment (which could, in principle, consist of two nodes). However, such an approach discounts the origin of the link in a manner that is probably untenable - in cinema this is irrelevant, the point of connection is the end of one shot, and this is, currently, the only point of connection. Obviously a hypertext provides a point within a node from which connection is possible, and so a syntagmatic series to be formed, and so the relation of the link source to its destination also forms a syntagmatic series.

This suggests that there are two complementary syntagmatic and paradigmatic series available, one that relies on link source and destination pairs, and one on the syntagmatic units, patterns, or episodes then formed. Such a schema would indicate that a work could be highly syntagmatic - a more or less linear pathway with more or less transparent links ("next," "back," "home" for instance), or highly paradigmatic with link text terms being highly abstract and their destinations being highly disjunctive.

However, it also suggests that a hypertext could have apparently syntagmatic link origins and highly disjunctive destinations (a "home" text link that expels you from the work, for instance), or that a work could have, in theory, highly paradigmatic link origins combined with highly transparent syntagmatic patterns (this is pretty much the model of navigation adopted by any new media art work).

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Furthermore, since syntagmatic series are largely reader determined it is incumbent on hypertext writers, and developers, to articulate those reading practices necessary to identify and contextualise paradigms of reading. Successful reading requires the recognition of paradigmatic choices, not only at the simple grammatical level of the sentence, but also at the larger level of narrative episode and generic convention - when readers read poetry, or literature, or even the newspaper, a set of reading competencies are utilised that include an understanding of the genre in relation to other possible genres or styles, that is that one style exists in a paradigmatic relation to others, and this is largely where the significance of a particular work is determined. Within hypertext such readerly competencies are much less developed, resulting in a misunderstanding of hypertext pattern, reading, and writing, simply because the paradigm against which hypertext is read and interpreted against consists of a normative and potentially singular notion of structure as efficiency and economy.

Readers need to learn how to identify and articulate the paradigmatic dimension of hypertext structures so that new reading contexts are enabled, but if hypertext as a generic category remains a catchall term for multilinear text based reading and writing, intended to include everything from amazon.com to McDaid's *Uncle Buddy's Phantom Funhouse*, it remains condemned to theoretical confusion and readerly intransigence. Even as general a category as the novel only assumes to encompass most prose fiction, clearly separating itself from nonfiction, yet hypertext will remain stymied as a result of its inability to offer a critical terminology to even discriminate between such fundamental categories.

Finally, the syntagmatic and paradigmatic aspects of structure, the relation of links to the production of syntagmatic series, and the role of the reader in the determination of these series are in no way proscriptive. Hypertext, perhaps more so than most other media, makes a virtue of readerly context, and it is the fluidity of this context that precludes any normative description or classification of syntagmatic series, their meanings, and their applicability prior to any particular hypertext's singular instantiation. The comprehension of discursive structure in hypertext is volatile to the extent that it is pragmatically, not grammatically, determined, and so remains outside of normative prediction and pattern.

All of this is problematised when nodes and links become irascible and dynamic, when we return to recognising hypertextual space as not being a single window, and that a complex set of visual relations are available that is more reasonably the domain of a properly visual writing practice.

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Bernstein

Bernstein's patterns, for instance, pay little attention to link source in the determination of syntagmatic series. However it is clear that link source plays a fundamental role to the context of any particular pattern.

For example Joyce's cycle could as easily describe the experience of using the Internet Movie Database, as *Afternoon: a story*, yet clearly in each case the effect of the cycle is radically different. Similarly a tangle could describe Simpson's Memex project, parts of Amerika's "Grammatron", or Miles' 1996 "Hyperweb", yet each are fundamentally different hypertexts.

numerous

Of course once a film is edited it has a canonical order, however when editing a film there is no intrinsic rules about shot order. Even in more conservative styles of film making, for instance classical Hollywood cinema, not only are the formal rules regularly broken (knowingly or otherwise). The point is simply that when presented with a series of shots that are to be edited together there are numerous possibilities for not only the order but also which shots, and then how much of which shots, are to be included. These are analogous to what Moulthrop (1992) has described as granularity. In hypertext one also has to decide where within a node a link is to appear, and it is not unreasonable to think of a densely linked node as being 'granularised'. In some ways this is the experience of such work where links are visually marked - a page with many links is a different cognitive experience to a page with no visible links.

partial nodes

Syntagmatic series can be formed in two manners within any specific node. It can be considered from the point of view of the node in its entirety, as a discrete but whole 'chunk'. Alternatively it can be formed from only part of its content, from a source prior to the end of the node.

This is common in Web hypertext where you may follow a link before reading an entire page, and is completely different to cinema and other models where the unity of the basic units can be assumed to be more or less sacrosanct.

A syntagmatic series is obviously still formed, even where it consists of fragments of nodes, and the possibility of this is probably best theorised utilising Deleuze's theory of montage in relation to cinema, work that has been partially begun in Miles (1999a, 1999b). This ability in hypertext is significant, as it raises significant theoretical questions about hypertext ontology since it demonstrates that it may be erroneous to regard a node as a minimal unit - if it is minimal how can it be further subdivided? Similarly, in the context of Deleuze's work, the question revolves around a paradox of

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wholeness - if a node is whole (autonomous and meaningful in itself), then how can it be fragmented by linking from its parts? This problematises notions of closure.

literary technical

A traditional formalist approach to discourse has sought specific properties to allow us to distinguish between literary and non literary texts. Jakobson's work on metaphor and metonymy as the paradigmatic and syntagmatic, has been seminal in this approach, and indeed his research was largely based on the question of what formal properties distinguish poetic from non or un-poetic utterances.

Generally speaking, poetic (and literary) discourses are understood to foreground the formal properties of language at the expense of clarity of meaning. This is, from a literary point of view, a peculiar way of characterising what is celebrated as an art, but broadly speaking literary texts are less concerned with transparency (of meaning, sense, even in some cases, of presentation) than with other effects.

However, this division between the 'noisy' and the 'clear' is generally not strongly recognised in poststructural theory (indeed if anything we could characterise poststructuralism as the recognition of how all information systems are in fact noisy!), and it is probably not useful in any attempt to generate typologies of link types.

It appears commonplace in much recent writing on hypertext — and I have in mind as the simplest example the recent rise of “information architecture” as a discipline — that an onus is placed on writers or systems designers to ensure a maximum of link and navigational clarity throughout any hypertext. This is, in terms of the work cited here, an example of the manner in which syntagmatic movement, and its concealment in or by its own obviousness (“home” on a web page takes you home - even the argot needs criticism) is clearly a mode of realism, and has all of realism's attendant ideologies. That brand of information architecture that insists on what I'm describing as link clarity has remarkable parallels to classical narrative cinema's insistence on the 'motivated' edit and its concealment via continuity editing.

ergodics

I understand Markku Eskelinen's project for an ergodic literature, partly derived from the theoretical premises established by Aarseth (1997), to be largely an exploration of the problem of deliberately unstable nodes and links. It is clear that the sorts of syntagmatic categories and possibilities established by an application of semiotics to hypertext are narrative sequences, but it is also obvious that if nodes and links have no permanence then the possibilities for describing possible structures becomes dramatically complex.

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spatial montage

Cinema has elaborated complex techniques of montage between different images replacing each other in time, but the possibility of what can be called “spatial montage” between simultaneously coexisting images was not explored. “The Databank of the Everyday” begins to explore this direction, thus opening up again the tradition of spatialized narrative suppressed by cinema. (Manovich 1999, p. 191.)

Bernstein's Syntagmas

In “Patterns of Hypertext” Mark Bernstein describes a series of structures that are derived from extant instances of hypertextual practice. These structures, each conceived of as the outcome of a series of nodal relations, bear a remarkable similarity to the patterns or rhythms adopted in cinematic narrative.

Significantly, a difference between the patterns employed by cinema, and Bernstein's descriptions, is that in any cinematic example there always remains a canonical expression of the pattern as expressed by the individual film. Films by their very nature are literal, temporally controlled linear sequences, unlike what is pragmatically understood to be hypertext where multilinearity retains an ideality actively sought by many.

Hypertext, unlike traditional cinema, provides for nodes that can be reused, or reappear, in any particular pattern, and this practice of reuse or repetition is one of the principal methodologies employed in hypertext writing (and reading). This means, obviously, that the autonomous segments that can be formed in hypertext, while falling into many different types, also have the feature of a particular node or even minor series forming a significant part of a completely different autonomous segment.

However, as Bernstein's work demonstrates, the crucial principle of what could be characterised as intelligible structure in hypertext is in fact the recognition and interpretation of autonomous segments — what Bernstein characterises as ‘patterns’, and Rosenberg as ‘episodes’. As Metz demonstrated in relation to cinema, shots are commonly perceived to be the minimal units of a film, but while a shot has an order of intelligibility far in excess of the word or sentence (thus discounting a strictly linguistic structure for cinematic discourse), it is when shots are formed into autonomous sequences that they form distinct narrative units, and it is the development of these segments, and their combination, that has marked the history and development of cinematic narration.

Similar conclusions apply to hypertext. While an individual node shares similar qualities to the cinematic shot (Miles, 1999, Mancini, 2000), it is the development of syntagmatic series that concerns hypertext narration, whether fiction or nonfiction. This suggests that Bernstein's patterns could be considered as primarily syntagmatic series,

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and while an effort to categorise or name the possible series is of significant value for hypertext research, it is probably more important to recognise that what is described is not peculiar to hypertext.

If the patterns formed by writing or reading hypertext are thought of as primarily questions of syntagmatic chains then it becomes clear that much of the discussion about link rhetorics, particularly questions of link transparency, are in fact related to formal questions of paradigmatic association.

Bernstein quote

Hypertext structure does not reside exclusively in the topology of links nor in the language of individual nodes, and so we must work toward a pattern language through both topological and rhetorical observation. Instances of these patterns typically range in scope from a handful of nodes and links to a few hundred. These patterns . . . are components observed within hypertexts, rather than system facilities . . . or plans of a complete work. Typical hypertexts contain instances of many different patterns, and often a single node or link may participate in several intersecting structures. (Bernstein, p. 21.)

Bernstein on sieves

Sieves sort readers through one or more layers of choice in order to direct them to sections or episodes. Sieves are often trees, but may be multitrees, DAB=Gs, or nearly-hierarchical graphs; different typologies may all serve the same rhetorical function. (Bernstein, p.24.)

autonomous segments

Metz argued in considerable detail that the minimal unit of organisation in cinema was not equivalent to the linguistic semiotic model of the word (and its constituent parts), nor derived from a normative grammar, but was rather constituted by a combination of its literalness and how these 'literal' bits were ordered.

Film's literalness resided in its photographic realism, that a shot or sequence of a horse is always and primarily understood to be a particular horse in a particular place, and so not needing the material sound or marks of a language (whether as letters or sounds - what semiotics calls the 'second articulation') which provides the substrate for the idea of the horse. Indeed, the image of the horse always exceeds the model of the word, as the image will portray specific qualities about the horse that the word, or even phrase, simply will not be adequate to.

This means that any element of a film is already linguistically meaningful, that they are more like statements (the cliché that "a picture is worth a thousand words" comes to mind), and the paradigmatic process — choosing which from the paradigmatic series

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to place in the syntagmatic chain — is considerably diluted in film as the paradigmatic field is made virtually trivial, and the syntagmatic ordering is similarly weakened. In other words, in a sentence the choice of words is constrained to some extent by what choices are available within a vocabulary, and then by the grammar which constrains what can appear where. When composing a film image there is no substantive paradigmatic series that the sequence must be chosen from within, and then once a shot is composed, its location within a syntagmatic series (a sequence) is similarly much more open than that offered by a linguistic grammar.

Because of this filmic freedom, Metz defined basic narrative units in the cinema as ‘autonomous segments’. They gain their autonomy by virtue of their independence, yet they retain their status as segments because they are part of a larger whole that is the film. An autonomous segment is not equivalent to a single shot (though a shot could in some circumstances be an autonomous segment) but is more like what we ordinarily understand to be a sequence, it is a part that forms the film but not, as Metz rather typically says “not a part of a part of a film” (Metz, p. 123.).

McAdams on granularity

What constitutes a basic unit of cybermedia will be an important consideration for those who design its interface. A “basic unit” is the smallest fragment within a medium that can be taken out or isolated and still be enjoyed or understood as a complete work; that is, a fragment possessing closure. (McAdams.) [Emphasis in original.]

closure

McAdams’ offers a rather elegant definition of minimal units, though it is not without its problems (what would a basic unit of a painting or a musical score be?). What is relevant to this discussion is that the concept of closure described requires a notion of narrative closure, even minimally, and when considered in this manner it becomes clear that, like cinema, hypertextual narrative closure (as narrative units) are formed in syntagmatic series, of variable length and variety.

link metastructures

The syntagmatic is the ordering through time (and space) of ‘units’ so that a meaningful discourse is produced. The canonical, and usual, example of this is, of course, common language. As the paradigmatic is not particularly necessary, or evident, in cinema, so too is this the case in hypertext, nodes can be joined in various ways and there is not, strictly speaking, the need for a formal grammar in hypertext to ensure the production of meaning.

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This does not mean that there is no paradigmatic series in hypertext, nor does it mean that any order is as relevant as any other. However, it does mean that if a hypertext is actually hypertextual — to the extent that it supports multilinear access and understanding — then the paradigmatic series is much more diluted than is the case in language.

Furthermore, since each hypertextual node is much like a shot, that is it is in many ways able to be thought of as already a 'whole' discursive unit (rather than a word), then the range of possibilities at any point in the syntagmatic series - what we ordinarily conceive of as the paradigmatic axis - is similarly diluted.

However, the paradigmatic in hypertext becomes much less a case of which node is required or selected out of a set of possible nodes, than it is the combination of sequences — of syntagmatic series — themselves. Hence Bernstein's patterns, as syntagmatic chains, now operate as paradigmatic sets, and it is the relation of the syntagmatic series to each other that constitutes the paradigmatic continuum against which we judge or interpret hypertextual sequences.

Hence, it is less the relationship established by a single link, and much more the sequence formed by a series of links, that is significant in considering hypertext structure, and here quite clearly the role or rhetoric of the link becomes subsumed by the contexts provided by the nodes and the formed series.

In addition, it is apparent that hypertext writing and systems that emphasise 'usability' (where usability seems to assume ease of use as a positive attribute for any hypertext), place an emphasis on the syntagmatic. This emphasis on the smooth flow of links into nodes describes a highly linear reading experience. Interestingly, in Bernstein's examples most of the patterns that would probably relate to 'usability' are represented by highly linear images, the sieve for instance. However, the emphasis in the syntagmatically oriented hypertext is not, as might be thought, on simple patterns (any variety of pattern could be formed by the reader) but on linear continuity.

Similarly, we can characterise those hypertexts that emphasise linear discontinuity as inclining more towards the paradigmatic, where such work is much more concerned with the problems or questions formed, posed, or able to be explored by the juxtapositions generated by highlighting the disjunction between episodes (and not just nodes). In such work the determination of syntagmatic sequences becomes much more indeterminate, and so the reader, correspondingly, requires more sophisticated reading skills and experiences in order to contextualise the work. It is a commonsense observation that literary hypertexts generally fall into this latter category, though as Bernstein indicates this does not preclude their relevance for more instrumental forms of writing or knowledge presentation.

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The distinction between the syntagmatic and the paradigmatic has a very strong theoretical history in literature, where the syntagmatic is identified with 'realist' literature and the paradigmatic with, at an extreme, poetry. Regardless of the significance of such theory for hypertext, particularly in terms of ideological analysis, such terms provide a methodology for recognising the continuity between various hypertexts, possible, imagined, and realised. Indeed, just as Jakobson identified in regards to literature, it is clear that literary hypertexts tend to emphasise the paradigmatic, while instrumental hypertexts the syntagmatic, and that these axes are defined by the syntagmatic sequences provided and formed.

Hawkes on Jakobson

Jakobson's most famous formulation on this basis is his definition of the poetic function of language as one which draws on both the selective and the combinative modes as a means for the promotion of equivalence: 'The poetic function projects the principle of equivalence from the axis of selection into the axis of combination.' This becomes the distinguishing 'trademark' of the 'poetic' use of language, as opposed to any other use. When I say 'my car beetles along' I select 'beetles' from a 'storehouse' of possibilities which includes, say, 'goes', 'hurries', 'scurries' etc. and combine it with 'car' on the principle that this will make the car's movement and the insect's movement equivalent. As Jakobson puts it, 'similarity superimposed on contiguity imparts to poetry its thoroughgoing symbolic, multiplex, polysemantic essence . . . Said more technically, anything sequent is a simile. In poetry where similarity is superinduced upon contiguity, any metonymy is slightly metaphorical and any metaphor has a metonymical tint'. (Hawkes, p. 79.)

Landow on montage

Upon hearing my assertion that hypertext should be thought of as collage-writing, Lars Hubrich, a student in my hypertext and literary theory course, remarked that he thought "montage" might be a better term than "collage." He had in mind something like the first OED definition of montage as the "selection and arrangement of separate cinematographic shots as a consecutive whole; the blending (by superimposition) of separate shots to form a single picture; the sequence or picture resulting from such a process." Hubrich is correct in that whereas collage emphasizes the stage effect of a multiple-windowed hypertext system on a computer screen at any particular moment, montage, at least in its original cinematic meaning, places important emphasis upon sequence, and in hypertext one has to take into account the fact that one reads - or constructs - one's reading of a hypertext in time. (Landow 1999, pp. 169-70.)

Metz on syntax

There is a syntax of the cinema, but it remains to be made and could be done only on a syntactical, and not a morphological, basis. . . . The shot is the smallest unit of the film chain . . . the sequence is a great syntagmatic

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whole. One should examine the richness, exuberance even, of the syntagmatic arrangements possible in film (which will bring one to see the problem of montage under a new light), and contrast it to the surprising poverty of the paradigmatic resources of the cinema. (Metz, pp. 67-8.)

grammar

In the context of this essay grammar is understood to be that system of rules, what semiotics describes as *langue*, that one necessarily ascribes to in a language community. Without this grammar we are condemned to a series of idiolects. To not use grammar (whether a formal grammar or a colloquial grammar) is to risk intelligibility and comprehension in quite fundamental ways, and it is this that makes a grammar a formal system. Hypertext (and classical cinema) may have commonly accepted styles but these are not grammars in the sense of *langue*. They do not constitute the possibility of utterance in advance, as is the case in our usual experience of language.

Metz on image as speech

Nevertheless the shot, a “sentence” and not a word (like the proverb), is indeed the smallest “poetic” entity.

How is one to understand this correspondence between the filmic image and the sentence? First of all, the shot, through its semantic content . . . is closer, all things considered, to a sentence than to a word. An image shows a man walking down a street: It is equivalent to the sentence “A man is walking down the street.” The equivalence is rough, to be sure, and there would be much to say about it: however the same filmic image corresponds even less to the word “man,” or the word “walk,” or the word “street,” and less still to the article “the” or to the zero-degree morpheme of the verb “walks.”

The image is “sentence” less by its quantity of meaning (a concept too difficult to handle, especially in film) than by its assertive status. The image is always actualized. Moreover, even the image - fairly rare, incidentally - that might, because of its content, correspond to a “word” is still a sentence: This is a particular case, and a particularly revealing one. A close-up of a revolver does not mean “revolver” (a purely virtual lexical unit), but at the very least, and without speaking of the connotations, it signifies “Here is a revolver!” It carries with it a certain kind of here . . . Even when the shot is a “word,” it remains a kind of “sentence-word,” such as one finds in certain languages.

. . . The image is always therefore speech, never a unit of language. (Metz, pp.66-7.)

Greco on social practice

Greco’s 1996 “Hypertext With Consequences” argues for a critical approach to hypertext as a social practice. I’d suggest that appropriating literature and cinema theory’s analyses of the role of realism as a style which conceals

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its own manufacture, and in so doing concealing various other ideological assumptions (gender, colour, race, for instance) would provide one mechanism for this analysis. For instance, simply having the theoretical vocabulary to be able to identify syntagmatic hypertexts as 'realist' provides a context from which it is possible to argue that the hypostatisation of usability, link transparency, and structure embody instrumental conceptions of information that ought to be recognised as one style (or genre) of knowledge production, rather than an ideal.

Hawkes on realism

The primacy of the metaphoric process in the literary schools of Romanticism and Symbolism has been repeatedly acknowledged, but it is still insufficiently realized that it is the predominance of metonymy which underlies and actually predetermines the so-called 'realistic' trend . . . (Hawkes, p. 79.)

Link Rhetorics

The rhetoric of links is a reasonably common theme in the humanities hypertext literature (Burbules (1997), Ingraham (2000), Kolb (1996, 1997), Liestl (1994), Moulthrop (1991, 1992), Landow (1994), Morgan (1999), Trigg (1983)) however it is apparent that much of this criticism inevitably retains a strongly literary intent — rhetoric is after all a linguistic category, and less surprisingly most who have written what the humanities would recognise as criticism come largely from the literary community.

However, it is reasonably easy to demonstrate very strong affinities between link node hypertext and cinema. This suggests that while a traditional rhetorical approach may be useful, it is far from adequate to account for the varieties of hypertext sequence, and indeed the model of the cinema may provide more fertile theoretical grounds for articulating link typologies.

Metz, in his semiotic analysis of the cinema, has demonstrated the authority of the syntagmatic in relation to the paradigmatic, and Bernstein's work in hypertext can be appropriated in terms of its relevance to syntagmatic series.

Such an understanding suggests that the role of rhetoric in relation to link typologies is not grounded in the individual relations established between a single link (or even a multiheaded link) between two nodes, but is in fact determined much more substantially by the context provided by an autonomous segment developed across several nodes, and more specifically several links. (A distinction needs to be recognised between the quantity of nodes versus the quantity of links simply because a small number of nodes can produce a significant number of autonomous segments by virtue of a high incidence of linking.)

This is also supported by the example of cinema, where it is clear that there is no significant meaning that adheres to the formal nature of a connection between two

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shots and that most of the meaning of the connection, of the edit in itself, is determined by the larger contexts provided by the content of the shots, and the narrative itself. In other words there is no intrinsic 'meaning' to a dissolve, its particular meaning is always determined by the contexts of its particular instantiation (and these contexts are internal — provided by a set of diegetic markers, and external — what is ordinarily the stuff of fields like reader response theory, or even hermeneutics).

In addition once the role of the syntagmatic series is recognised as a potentially richer notion of minimal narrative unit in hypertext, it becomes clear that the paradigmatic aspect of hypertext, at least in terms of linking practice, allows us to recast how we consider link rhetoric and grammar.

What is extremely important in this claim, however, is not only the relevance of cinema to hypertext as a narrative system, but equally the erosion of an artificial division between genres of discourse that strives to emphasis the distance between the literary and the technical. Ironically, though formal semiotics has been instrumental in identifying qualities that inherently distinguish the literary from the non-literary, this distinction is today largely ignored as the importance of context and the reader is acknowledged.

Trigg on link types

At the highest level, link types fall into two main categories; normal and commentary links. Normal links serve to connect nodes making up a scientific work as well as to connect nodes living in separate works. (Notice that the notion of a "separate" work loses much of its meaning in a Textnet environment. Works are quickly linked and intertwined into the network as they are read.) (Trigg, n.p.)

fade

A cinematic fade to black is routinely used to indicate a flashback, though it is also as routinely used to indicate ellipsis, flashforward, subjective experience (unconsciousness), the end, or a fade to black. What the fade means is extremely dependent on its context, and by virtue of its context you can largely make the fade do, or mean, anything. The same applies to a fade in from black, dissolves, wipes, irises, and, possibly, any edit. All that is certain is that the edit, or dissolve, or fade to black, appears to force or generate an assumption of relation which is interpreted pragmatically. This doesn't make the fade insignificant, quite the contrary, it simply means that it is a mistake to equate a formal, material effect (fade to black) with a particular rhetorical trope or significance.

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Metz's categories

Christian Metz argued that the major mode of analysis for cinema (and by implication, hypertext) was based on syntagmatic relations, that is, meaning is principally developed and articulated through the expression of a partially autonomous temporal chain. This is quite different to the model of natural languages, and extremely different to how we might understand poetry and other creative utterances. Based on this Metz developed a bifurcating series of possible syntagmatic relations which can be considered to be the major combinations possible.

Metz's schema (see Figure One) is derived from a series of simple oppositions, where each distinction revolves around what can be characterised as plot order (continuous or discontinuous) and story time (continuous or discontinuous). This generates a series of paired syntagmatic groups where each division is able to be further subdivided on the basis of these simple divisions.

The value of this schema for hypertext is significant for on the one hand it simply offers a novel approach to considering link relations that may (or may not) prove fruitful in considering and developing a critical and creative awareness of hypertextual patterns. This clearly intersects with Bernstein's significant work on hypertext patterns, and this essay's contribution may be useful to the extent that it encourages writers and readers to rethink our assumptions about sequence.

Secondly, there are substantial theoretical implications embedded within Metz's approach, for the significant narrative unit identified by Metz is not the shot (the hypertext node), or the relation of one shot to another (the edit), but is in fact the larger sequential units produced by the combinations of shots.

Finally, Metz's work demonstrates the strongly contextual nature of these syntagmatic series, a context that traditional cinema narration attempts to saturate, and a context which is increasingly recognised as relevant to hypertext design.

The success of Metz's categories for hypertext lie not so much in their direct applicability but in allowing us to cast light on the role of syntagmatic segments in the production of meaning in hypertext. In addition Metz recognises, as a result of his hierarchy, that such semantic or syntactic trees are unable to account for the varieties of possibility afforded, nor for how they are actually used by individual films, or readers.

Metz derived eight major syntagmatic units in cinema.

1. autonomous shot

The autonomous shot is a single shot that constitutes, by itself, an autonomous segment. This means that, unlike the other examples, this is not a syntagma since it is

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not constituted by a series (a series of shots). To be an autonomous shot the single shot needs to represent an episode and the entire shot is the minimal unit for the sequence (ordinarily a sequence is made up of a series of shots).

The autonomous shot does not have to be particularly long, indeed to equate the status or typology with shot length is to misinterpret the role of the syntagmatic unit, but can, in many instances be extremely long. For instance, there are the examples of films that are made up of entire autonomous shots - Alfred Hitchcock's *Rope*, and Mike Leigh's recent *Timecode*, for instance.

However, the autonomous shot can also be a short shot, remembering that the definition is determined by its context and content, so that in many instances what is known as an insert can be an autonomous shot. Metz defines four subcategories, the nondiegetic, subjective, displaced diegetic and explanatory inserts, however these distinctions are, generally, difficult to maintain in practice and are probably of more value as categories.

A hypertext example of such work could be the hypertext fiction of Adrienne Eisen where large single narrative units are contained in individual nodes with only three or four links contained at the end of each node. On the other hand this is also an excellent example of the role of the syntagmatic segment in hypertext since this fiction achieves its effect through its cumulative reading.

achronological syntagmas

The achronological syntagma is an autonomous segment made up of several shots where the sequence is not defined by temporal continuity. This is not to be confused with the necessary continuity that a film produces as it 'plays' but is the continuity that is a part of a narrative world. There are two forms of this achronological segment for Metz, the parallel and the bracket syntagma, and while each do not rely on what could, awkwardly, be described as continuity of visual action, it is obvious that they're meaning, and our ability to interpret such sequences, is a result of our contextualisation of the sequence in terms of a constructed narrative continuity.

Documentary, while obviously not considered to be fiction, is clearly narrative, and offers ample evidence of the ability for the larger context provided by the entire text to encompass such potentially disruptive moments. An obvious example would be the popular television documentaries narrated by David Attenborough where he routinely moves to and from completely different environments (seasons, continents, years) between each shot but a single match cut on movement ensures a narrative continuity across the temporal and geographical discontinuities.

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2 parallel syntagma

The parallel syntagma is an achronological sequence that is extremely common, and well known, and is where two different series are interconnected. Again this was heavily utilised by Russian montage directors such as Sergei Eisenstein, and while the two intercut series do not have a clear or definite relationship (they are, of themselves, apparently unrelated) in their combination a context and comparison is established that generates significance between the otherwise disparate series. An example of this might be the intercutting of two oppositional sequences such as images of summer and images and winter, or of wealth and poverty.

A classic hypertext example of this is Shelley Jackson's *A Patchwork Girl* which regularly links the re sewn body with the re sewn text.

On the other hand the bracket syntagma (Metz uses this name as he suggests an analogy to the use of brackets in written discourse) is an autonomous segment where a series of what could be thought of as homogenous allusions are made in consecutive sequence.

3 bracket syntagma

The bracket syntagma is an autonomous sequence where the elements contained within the segment do not in any way represent temporal narrative continuity — this is why they are an achronological syntagma.

In this sequence the series of images are generally understood to be related by a similarity or contiguity that is established, as we have seen, by their placement in a series. For instance a series of shots of a city may be to establish a sense of the city, or a series of shots of smiling children may be to create an idea of joy, or youth. The shots themselves, taken individually, are not presumed to relate to each other in any intrinsic manner (the buildings can all be unrelated and may have nothing to do with the narrative — we may never see them again), so they produce some common theme by virtue of their placement together.

This is unlike the parallel syntagma, where a similar series of apparently unrelated images are intercut with a second series to generate a contrast of some nature between the two series.

Such an effect may be present in Deena Larsen's *Ferris Wheels*, though this work assumes some contiguity between nodes.

chronological syntagmas

Chronological syntagmas are distinguished from the achronological as the autonomous segment defined maintains a literal and linear narrative sequence that is defined by the

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plot. The relations contained between shots that make up the chronological sequence can be simultaneous, or consecutive — in other words the sequence may show two spheres of action that are happening at the same time (the infamous “meanwhile . . .” intertitle), or they may be simply consecutive (this, then this).

In a general sense these sequences can be descriptive, or narrational. In the first instance what is presented in the sequence does not imply temporal succession, they are images placed in sequence that show different aspects of something where they are more or less happening at the same time. In the second they are clearly narrating.

4 descriptive syntagma

The descriptive syntagma is chronological by default — i.e., it is not achronological. However, these autonomous segments are not understood to narrate story time or story event, but are what in literature would be described as description - those moments where the writing describes the appearance of a room, or a person, for instance. This is understood to ‘pause’ the narrative (where narrative is understood to be the causal succession of events) while the writing literally describes.

The same occurs in film, and this is where the film shows a series of images to describe a location or event where these shots are understood to be connected temporally — i.e., these are images collected at the same time in the same place and are now shown consecutively. This is to be distinguished from the bracket syntagma as within the bracket syntagma no attempt is made to suggest that the images represent a common time or moment.

An example of this might be shots of the outdoors where the series of images are understood, literally, to describe, rather than suggest a conceptual relation (which is what is needed to interpret the achronological syntagmas). Where the sequence is narrating story event and not only offering description, a narrative syntagma is developed.

Myst largely works in this manner, as does parts of *Online Caroline* where the reader is able to see objects that exist within the central character’s world, as well as parts of that world via a pseudo webcam. Ryman’s *253* could also be considered a fiction that relies upon the descriptive syntagm.

narrative syntagmas

Where an autonomous segment is not descriptive (i.e., does not narrate story event) and is chronologically consistent, then Metz assigns these the category of narrative syntagma. The narrative syntagma may be one of two possible forms: it may encompass a single progressive series of story events (this, then this, then this . . .) or it may

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intercut two or more series of progressive story events (this, meanwhile this, meanwhile this . . .). The single linear model in turn is subdivided by Metz, while the intercut series, what is commonly known as parallel montage, becomes a discrete category.

5 alternate syntagma

Parallel montage, for reasons of consistent nomenclature, is known in Metz's typology as an alternate syntagma. Here two more or temporally consistent narrative lines are interweaved through intercutting to establish simultaneity or consecutiveness between the two series and this larger series (A/B; A/B . . .) forms an autonomous segment.

This is best characterised by early cinema's famous 'last minute rescue,' where two alternating events, or ideas, are intercut, so that part of one is seen then part of the other — for instance the hero rushing to the rescue while the waterfall threatens to sweep the heroine to her certain doom. (Keaton's *Our Hospitality*, though D.W. Griffith's *The Lonedale Operator*, *Way Down East* and *Birth of a Nation* are all canonical examples).

In these cases each series is understood to be consecutive (this, then this) but the effect of their combination is to create the impression of simultaneity so that series one is understood to be happening at the same time as series two. Where a single narrative line is maintained other categories are developed,

This seems to be difficult in hypertext simply because its cinematic effect is conditional on a deadline, which often requires a determined ending. However it is not overly ambitious to describe any shopping cart enabled ecommerce site as operating like this — as I add to the cart then return to browse (a la amazon.com) there are two series produced which form such a segment.

linear narrative syntagma

Where an autonomous segment in a film is chronologically consistent and is narrated in a single event line (so that there is no intercutting to another simultaneous event) then a linear narrative syntagma is established. Within these sequences the narrated event can be continuous or discontinuous, where continuity is defined by there being no breaks or absences in the narrative, that is, no narrative ellipses. Where there is consistency of narrative time with narrated time then what Metz calls a scene is created, otherwise what is more ordinarily the case — sequences, result.

6 scene

An autonomous segment that maintains a continuous narrative time constitutes the scene. This is where, for example, a conversation may occur and though the film cuts amongst various images the continuity of the conversation maintains the narrative

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integrity of the sequence. As Metz points out this is the form that dominated early film making where a single event would be narrated in a continuous narrative time.

A scene is therefore marked by its temporal and spatial integrity, though this ought not to be confused with the autonomous shot where such integrity is established and maintained by a continuous shot, rather than being produced by a sequence of shots. Such sequences are common in film, though equally common are those sequences where the presentation of the narrative, the time of the story, is discontinuous.

Parts of Moulthrop's *Victory Garden* appear to operate in this manner, for instance the default reading sequences from the nodes "Missing," "Tender," and "Blackout."

sequences

What Metz characterises as the "sequence proper", that is an autonomous segment that narrates a continuous narrative episode, is able to be separated into two distinct varieties. These are to be distinguished from the 'scene' where temporal story continuity is preserved, so that in the sequence proper, in the ordinary course of narrating, story time is elided in some manner.

For Metz there is the 'ordinary sequence' where not all of the story time is presented within the syntagmatic unit, for instance we see a character rise from their chair and then in the next shot they're magically at the door - in other words we are not shown the time it has taken the character to walk from their chair to the door. In addition he defines the 'episodic sequence' which is a more complex unit.

7 episodic sequence

Metz's episodic sequence is an autonomous segment that is a continuous story episode that is narrated in temporal order. Like the ordinary sequence it does skip various events, but unlike the ordinary sequence, where the events elided are regarded as minor or trivial, the events that are not shown in the continuous temporal sequence are interpreted as fundamental to the meaning of the sequence. The example Metz cites, the famous 'breakfast table' sequence from Welles' *Citizen Kane* is canonical.

Without labouring the point, I suspect nearly any sequence from Joyce's *Afternoon: a Story* would be illustrative of this.

8 ordinary sequence

The ordinary sequence is a continuous, autonomous segment, that narrates a continuous story episode, but elides some parts of the story time. This is extremely common in all narratives, not only the cinema, and is where some part of the story time (the time of the narrated events as opposed to the time of their narration) is skipped, for

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whatever reason. For example where a character may enter a building and then appear in their office, so that the time taken to move from the entry to the office is elided, and as importantly the narration of this event is elided but implied.

There is another variety of the simple sequence where the organisation of those moments that are elided are actually crucial to the significance of the sequence. That this is not the case in the ordinary sequence is generally due to the 'trivial' nature of how we regard what is elided.

As in cinema this occurs frequently in hypertext (as with most fiction). It is common in parts of Moulthrop's *Victory Garden*, Joyce's *Afternoon: a Story*, and parts of Malloy's *Its Name was Penelope*.

pragmatic context

This essay emphasises what are commonly regarded as formalist conceptions and ideas of structure — the relation of syntagmatic to paradigmatic series - as a defining trope for 'literariness' and 'realism'. However, it should not be assumed that, just as in the cinema (witness for example the extremely creative visual and narrative work that appears in television commercials), there is a clear distinction between a 'literary' or 'poetic' work and nonliterary or nonfiction work (again, BBC nature documentaries routinely make the most extraordinary leaps in their editing).

As Tosca has argued, the issue is not one of predetermining how links mean but of recognising the contingent and contextual nature of link use, as readers and writers. This is a commonplace of poststructural approaches to discourse, which no longer place much store in hierarchies determined by formal categories, and is particularly the case in hypertext where it seems reasonably clear that readers find connection by virtue of the link.

It is important that we recognise that hypertextual narration is composed of syntagmatic series, and that this series is determined on the basis of some measure of narrative 'integrity' - whether episodic wholeness, readerly comprehension, temporal or thematic unity, or some other criteria (Rosenberg 1996). This is important because it suggests that the definition and decision of what constitutes a sequence lies as much outside of each constituent part as it does within the content or the connecting of its parts. Hence, if it lies outside, then any ambition to develop or define a typology or classificatory system must always be surrendered in face of this outside.

What is less clear, and is generally poorly theorised, is the dissatisfaction some readers feel with hypertext which is characterised generally in terms of its unintelligibility — the common reader complaint of "not getting it." This is not the result of problematic links but more generally the difficulty students (and teachers) have in describing the role

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of syntagmatic series in meaning production. No one doesn't 'get' a link, largely because of their performative nature (and here performative has all the connotations of constative force and contextual relevance that speech act theory attaches to it, see for instance Petrey, 1990), the criticism largely concerns the difficulty in discerning syntagmatic patterns within the work, a difficulty contributed to by the paucity of critical tools available to describe narrative structure in hypertext.

These are questions of critical competency, not link typology. (Imagine trying to read a medieval encyclopedia today with its teleological principal of classification - and imagine how profane, and abstract, a modern encyclopedia would appear to the authors of a medieval encyclopedia!).

There is nothing inherent in a formal cinematic device, such as a fade to black, that it must mean any particular thing — it as easily signifies a flashback as a flashforward. Likewise there is nothing inherent in a formal rhetorical device that it must mean something specific — what these things mean are determined in the interstitial space between those contexts bought by the text being read and the reader. The narrative and readerly context determines the significance of any connection being made and this is always a question of readerly pragmatics.

Furthermore, if the manner in which links and narrative segments are interpreted is contextual, a result of the interaction of the text with the reader and the world, then structure, as a defineable and reproducible quality, disappears (Kaplan's breakdown). It is contingent, variable, and always subject to pragmatic fancy. This suggests that the ground of interpretation that allows a link or a sequence to be understood is derived from larger contexts than that provided by the local link, and that in some ways such a context operates teleologically, offering itself as an endpoint against which sequences are judged.

Tosca on links

As Morgan suspects, applying a set of a posteriori categories doesn't really tell us how links work, how people choose them or what to expect when writing hypertext. Equating hypertext with a presumed abnormality of literary discourse (its ability to accommodate incoherences) takes it to the realms of deviation, and very much resembles a certain formalist position: the "literariness" of a text is in the text itself, coded under the guise of figures of speech and other rhetorical devices. (Tosca, p. 77.)

significance of Metz

Metz makes a strong argument for recognising that the major narrative units in cinema are not shots and their immediate relations (edits) but the series that are formed

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through collections of shots. These series, Metz's autonomous segments, form the major narrating blocks within cinema. This would indicate that it is not the content of an individual shot, nor the relation established between two fragments, that provides what might be characterised as minimal narrative units. Hence, if there is no intrinsic order required between parts then any principle of organisation or coherence will apply at a higher level.

This also appears to be the case in much hypertext fiction, where it is not the content of individual fragments (nodes), nor their immediate relation, that constitutes a narrative sequence. Metz's argument suggests that it is the syntagmatic series formed by a hypertextual episode (what Bernstein has described as a 'pattern' or Rosenberg as an 'episode', and what Landow (1999) is alluding to in his conception of "collage writing") and what is significant is that Metz's approach provides not only a terminology, but a history of application that can be appropriated by hypertext.

This is not particularly surprising as it is apparent that hypertextual fragments (nodes) can, like cinematic shots, be arranged in numerous sequences and that there is no intrinsic and necessary grammar to this (Miles, 1999).

An earlier emphasis on the cinematic nature of the connection between hypertext nodes (Miles, 1999), while important, does not provide an adequate account of the production of narrative (fiction or nonfiction) sequences in hypertext. Like the cinema, it is apparent that hypertext requires a minimal unit constituted by the set of nodes conjoined. That this has been the case in much extant hypertext fiction is clear, however, such a process has been much less common in what has been routinely described as hypertext nonfiction.

Clearly there are substantial differences between the cinema and hypertext, all duly noted by commentators, and this author in no way wishes to disregard or ignore these differences. These differences involve complex questions of determining hypertextual autonomous syntagma where sequences are able to be determined (to some extent) by readers or systems. Furthermore, the multilinearity of hypertext presents numerous possibilities of variable syntagmatic segments that contain repeated nodes, these are issues that Rosenberg has thoroughly explored.

However, an important implication of this, as Metz notes, is that if it is the development or articulation of autonomous segments that are fundamental to narration in cinema then the meaning that accrues to these segments is highly contextual and not inherent within the connections themselves.

Metz on montage

Kuleshov's experiments . . . were considered for many years the "scientific" basis for the supremacy of montage. No one, however, has paid sufficient

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attention to the fact that, in the midst of the age of “montage or bust,” there existed another interpretation of those famous experiments. . . . It was contained in Béla Baláz’s book *Der Geist des Films* (1930). With a kind of shrewdness peculiar to him, the Hungarian theoretician remarked that, if montage was indeed sovereign, it was so by necessity, for, when two images were juxtaposed purely by chance, the viewer would discover a “connection.” That, and nothing else, is what Kuleshov’s experiments demonstrated. . . . Jean Mitry elaborates in much greater detail an interpretation of the “Kuleshov effect” . . . He concludes that the famous experiments in no way authorize the theory of “montage or bust” (according to which the diegesis is marginal to the development of montage effects, which tend to produce an abstract logic, or piece of eloquence, independent of the film itself). They simply demonstrate the existence of a “logic of implication,” thanks to which the image becomes language, and which is inseparable from the film’s narrativity. (Metz, pp. 46-7.)

traditional cinema

Many attempts to utilise or consider the example of cinema in hypertext have relied upon what is a hegemonic conception of film narrative. This conception is derived from the Hollywood studio cinema of the late 1930s to the end of the 1950s, and is a result of the emphasis that such content has received in academic cinema studies.

However, it is a considerable error to assume that, on the basis of this particular cinematic history, that what is defined is either descriptive of all cinematic narrative practice, or indeed of fiction and nonfiction film. In what is an admittedly dangerous generalisation, this theoretical history has emphasised the ways in which what is now known as ‘classical cinema’ expressed, maintained, or reflected various ideological positions and it is to this extent that the formal narrative model expressed in this cinema emphasised a particular form of narrative realism (Bordwell, 1985, Nichols, 1976.).

As Bordwell, amongst others, has demonstrated, this cinema has a series of quite specific rules about sequence composition that has, through critical reflection and reification, developed the status of a quasi film grammar. That the cinema does not have a grammar, in the ordinarily conceived sense of the term, is today reasonably well established (as indeed Bordwell (1995) makes clear in his analysis of different narrative styles, see also Nichols, 1991), and the implications of this are yet to be fully developed.

These rules of composition and sequence are largely ‘motivated’ by character psychology — character x looks towards a sound, we see the origin of the sound, as well as character action — character y gets up and leaves frame, we cut to another location. As Bordwell elaborately demonstrates, the explication of this in terms of character actions is largely a method to ‘explain’ the system through the construction of realist assumptions of character motivation, but narratologically there is no particular reason

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to think that a character shoots another character because she's angry (or scared), than that its a horror film and a monster must be met.

This normative cinematic realism (a realism that ought not to be confused with the veridical status of the photographic image) is a style, historically contingent, and is not a fundamental or necessary grammar to cinematic narration. This is instructive as the assumptions that this realism express are shared in much of the hypertext research, and to the extent that classical narrative cinema only represents a style — rather than an essential and necessary practice — these assumptions in hypertext are problematised.

The formal rules that mark classical narrative film largely refer to what is required within (or without) the frame to allow the shot to be edited to other shots to form a sequence. In other words the classical narrative film concentrates more on editing and montage than on a series of rules for what ought to be in the camera frame (that is, on the production of unified syntagmatic series). That this is similar to hypertext ought to be reasonably apparent - witness for example Landow's (1994) early but important essay on the rhetoric of link types where the emphasis falls on rules of connection rather than rules of content.

Furthermore, to the extent that there is a standardised form of cinema narration — 'classical' Hollywood style — it is generally accepted today that this development was a requirement of a studio (and so Taylorised and industrial) mode of production. In other words because creative roles were performed almost independently of each other there needed to be clear procedures of construction. This would allow, for instance, a team of editors to be able to cut a film independently of the director since they would know what footage would be provided and available.

These rules generally involve and require the use of an establishing shot, point of view shots, and the maintenance of what is known as the 180 degree rule, but they also included rules about screen movement, cutting on action, and the movement of bodies across screen borders. What is evident in each of these rules is that their role is much less to facilitate narrative than to conceal articulation, that they are in effect simply a mode of narrative realism rather than a grammar per se. Much writing on hypertext links is similarly constrained by an uncritical realist assumption, and confuses this with reading and writing context.

The examples provided here are illustrative, and are intended to demonstrate that it is larger context of the narrative that helps determine what a particular connection might mean. These contexts do operate teleologically — not in the sense of a closed or finite interpretation or set of meanings, but in terms of providing a grounding for interpreting the local. The intercutting in the rescue of Keaton's *Our Hospitality*, for instance, is a rescue and not an escape.

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establishing shots

Establishing shots are a common part of the classical cinema's lexicon and are the wide shots that are often used to establish a sequence's locale. They are expected to appear at the beginning of a sequence, and may be an exterior of a building, countryside, but can also be simply a wide shot of a room within a building. Traditionally, establishing shots have been utilised to set a sphere of action for the sequence, and in terms of classical narration have been interpreted as the image that provides the cognitive map of the locale so that the viewer can orientate themselves when the film then cuts to a closer view of a person or object within whatever the establishing shot has established.

That the scale of the shot is irrelevant (a building, a room, even part of a room) demonstrates one of Metz's contentions about the weakness of the paradigmatic in cinema, and it is also common to find examples of films where what would be understood to be the establishing shot is in fact not provided, or is provided after it ought to appear. Indeed, it is also common to begin a sequence with a fragment of the location and then to gradually reveal the context of the location, so while this is, technically, an establishing shot it certainly does not follow the normative rule.

Finally, the presence of an establishing shot is not necessary to cinematic narration, while its use is traditional its presence is a creative rather than a necessary decision.

Establishing shots are used in conjunction with the 180 degree rule, so that where the establishing shot is taken from generally establishes the axis of action that informs the 180 degree rule.

In *Written on the Wind* the relatively long shot of the office becomes an establishing shot, establishing a 180 degree line that is not crossed. However this sequence starts with a closeup of the desk, then moves out to the establishing shot, showing how variable such rules are.

In hypertext a homepage can be thought of as much like an establishing shot, and the use of frames in some designs to discourage deep linking is in many ways an attempt to preserve a context that the establishing shot, and its associated 'rules' are designed to achieve. This is ideological and has nothing to do with readability or intelligibility.

bodies and movement

To aid in the seamlessness of editing a sequence of action together several basic rules of movement, frame entry, and frame exiting, were developed by classical Hollywood cinema.

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Where a moving body exits a frame, and the next shot is to show them again, then the following conditions are to be followed:

where a figure has left the frame in shot A, they can be shown already present in shot B.

where a figure remains in shot A, they must enter frame during shot B.

These rules only apply to those shot sequences where a character, or other moving object, is to be shown moving across the sequence produced by the edit, where there is to be a change of shot but no movement across the frame, movement is regularly co-opted to motivate the edit.

Such rules of movement can be seen in *Written on the Wind*, though it helps if you use the movie controller. Where this is not followed a jump cut results, and while uncommon prior to the French New Wave film movement of the 1960s, it, like crossing the line, does not appear to significantly compromise intelligibility.

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CHAPTER THREE

Realism and a General Economy of the Link

Miles, Adrian. "Realism and a General Economy of the Link." *Currents in Electronic Literacy* Fall.5 (2001).

This is another essay that was originally written and published as a multilinear hypertext essay. Here I argue that links have force, that this force enables connection but is also excessive in that it as force it cannot be defined or constained. As a result links create anxiety, and this is why early hypertext theory and systems developed normative rules around how links should be used. In addition I identified these normative rules as operating in the same way as realism does in literary theory, both providing (inadequate) means to recover the excess that is implicit in links.

This is the fourth or fifth academic hypertext essay I have had published. By "academic hypertext essay" I mean scholarly work that can only be realised electronically and has been written with particular hypertext practices in mind. This includes, for example, multilinearity, repetition, mixed media, and multivocality. These are qualities that influence not only what I write, but also how I write. Once I begin to write in hypertext, from the page up as it were, a different writing practice appears to emerge.

This means that this essay is part of an ongoing experiment in method that is a result of my experience teaching and researching hypertext as a way of writing, as a method of engaging with ideas and writing. As an experiment it explores what it might mean to write in a way that is less concerned with closure than to propose problems that remain open. Similarly, as a multilinear work there is no distinction drawn between the body of the work and footnotes, and the tone may vary from ironic to sustained critical commentary and back again - always along a link. Hence this essay attempts to practice what it describes - I hope less in the spirit of self-reflexive posturing than in an effort to find what does, and does not, work.

As a result the work can often appear lengthy and repetitious. The argument, in contrast to its more usual explication in linear writing, often exists via the links and the relations they establish. As you read this essay, please keep in mind that if something appears

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to need explication then the links available from where ever you happen to be probably provide at least some of this additional detail. However, like the traditional essay, sometimes answers to problems raised only appear after they have been signalled - the linking is not saturated where all questions, problems, answers, asides, commentary and discussion are immediately interlinked. There are pauses between the more densely linked moments.

There are various assumptions I make within this essay. Some of these are commonly recognised within the literature, others refer to material that I have researched and written about previously, and still others await (and need) further attention. It is written from the view that hypertext is part of a developing electronic literacy that alters existing paradigms of writing and reading. This shift is not just one of dissemination and publication but also alters the possibilities for writing as a material practice. The implications of this change are, for the most part, unclear to me.

Finally, a note on spelling: This essay uses Australian English spelling which has been retained for publication as part of the difference and plurality that an engaged hypertext practice seeks and endorses. There are many ways of writing and this essay is stuttering its way towards one of them.

read on...

Constraint One

When considered as a style humanities academic writing has a history of change and development much like any other form of writing. Within such writing certain assumptions about linearity, clarity of argument, presentation, and coherence have been canonised in the modern critical essay.

As academic writing increasingly moves to hypertext environments, it will be reasonable to expect some change in the 'conduct' of academic writing as a practice. To date, the majority of academic writing in hypertext environments has successfully preserved existing canonical forms of expression, presentation, and content.

In contrast, this essay appropriates a recent trope of link usability as "good" hypertext writing and treats this as a general symptom of a practice that is unable to recognise forms that fall beyond a writing naturalised by the ideological privileges of print literacy.

Preservation

The ground breaking *Postmodern Culture*, originally published by the Institute for Advanced Technology in the Humanities, was the first fully online peer-reviewed journal for the humanities. However, outside of a small number of special issues, notably one on hypertext in 1997, and another on cinema in 1999, the majority of content published

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in this journal has maintained the canonical linear form of the humanities' academic essay.

On the other hand a Web based publication such as the *Journal for Interactive Media in Education* (JIME) has developed a novel approach to peer reviewing and publication. Here the Web has been utilised to allow a much more public and open process of review so that each article more or less becomes a palimpsest of comment and response. Such an approach is valuable and shows the beginnings of how utilising hypertext can alter how we regard academic writing. However, as with *Postmodern Culture*, the contents of JIME, that is its essays, tend to maintain the linear form of the academic essay.

Here, now

While there is a certain self-reflexivity within a hypertext essay on hypertext, this reflexivity is not any more substantial than what is common in academic writing. Processes of connection and sequence are problematised and exploited within this essay so that each node is more or less intelligible by itself, yet also exists in (usually) a series of possible locations in an argument and reading trail.

Throughout this essay links appear within the field of writing, as part of the space of writing, and not as navigational or serialised cues for the reader-as-Pavlov's-dog (i.e., 'click here'). This inevitably leads to repetition, though as Mark Bernstein (in "More Than Legible") is fond of reminding us, repetition is not a vice in hypertext. This repetition allows the reader to realise that link choices represent decision points in reading and that these decisions have significance for what the text becomes.

The structure of this essay in terms of links is dense and is divided into three major spheres: an introduction to usability, realism as ideology, and link force. There is only a single link connecting each sphere to the next, and they form a linear series.

From within the final sphere, "force", there is only one link to the space that provides the conclusion of this essay. Given the common academic desire to read "exhaustively" an indexical image has been provided which represents the screens within each sphere. Link density provides the cue for colour so that darker colours equals greater link density. This image can be used for navigation, although it won't tell you where you have, or haven't, been.

Why write like this? In hypertext? Three simple answers. The first is that to write academically in hypertext is more than publishing academically in hypertext. In a hypertext writing environment problems and questions of clarity and usability, while important, are only part of the larger problem of composing in, and writing for, the screen. Hence, this essay forms part of an ongoing experimental critical practice (see also Kaplan "One Beginning"; Kolb "Discourse," "Socrates"; Miles "Hyperweb,"

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“Foreword,” “Cinematic Paradigms,” “Hypertext Syntagmas”) that explores the possibilities afforded by an engaged electronic writing. The second reason is simply that as a tenured academic I am in a position to test these ideas with the security that tenure provides. Hypertext writing, particularly from within the academy, is in a position to define itself beyond its use value as an efficient publication medium and so can approach hypertext as a problem in literacy which incorporates novel reading and writing practices (Kaplan *One Beginning*, *Beyond Books*). Finally, Diane Greco has called for a critical practice in hypertext that engages with political and ideological problems of representation, that looks inside of (or behind) our assumptions about why hypertext appears in the forms that it does. This essay is a preliminary beginning along the path she described. Sometimes it works; sometimes it doesn't. . .

Reflexive

The use of headings, subheadings, and our stock tropes of connectivity “therefore,” “hence,” “as I argued above,” “however,” are all available in writing because of the materiality of the linear page. They are successful in relation to the consecutive and serial order of the page and the multipage work. That we are no longer able to see such tropes as self reflexive is perhaps an indication of the hegemony of the printed page.

Usability

In the rise of the World Wide Web as a hypertext environment “usability” and “navigation” have figured as problems of concern to the academic hypertext community (Bernstein “Intertwined”, “Beyond Usability”). The insights offered in the work of seminal hypertext theorist George Landow in his 1994 essay on rhetoric and hypermedia has defined for many the problems that linking poses for readers and writers in terms of usability and navigation, concerns that are strongly reiterated in the work of influential contemporary information architect Jakob Nielsen. In his *Designing Web Usability*, Nielsen has suggested that Web design needs to emphasise simplicity and clarity, and that links, as the fundamental units of Web authoring, ought to be largely transparent to users. This can be described as an “economy of transparency” and I'd suggest this “economy” is the hypertextual equivalent of literary realism .

Ideology

Terry Eagleton, when discussing Roland Barthes's semiotics of literature, has characterised realism as any discursive system which seeks to naturalise its forms of utterance. For Eagleton, via Barthes, such a naturalisation is and can only be the work of ideology, of an effort to conceal the work or labour of a representational system to generate meaning.

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Force

A close analysis of Landow's justly celebrated essay, "The Rhetoric of Hypermedia," helps show that usability, when applied to hypertext, is a realism of link rhetorics that, as in Eagleton's criticism of literary realism, naturalises and conceals the force of the hypertext link. The force of the link in hypertext falls beyond the conceptions of a rhetorics to the extent that links are nonlinguistic.

Singular

Much of the writing on navigation and rhetorical architecture in hypertext appears to treat the context of reading and writing as null conditions, that is, that the meaning or status of what is read remains neutral in the face of different readers performing different readings. This might appear surprising, given that a great deal of hypertext theory is written by humanities scholars who know something of the role of context in writing and interpretation, but it appears that hypertext linking has assumed no more status than that of a neutral connection. This seems to reflect an instrumental understanding of communication flow in which a message is encoded for a sender to receive and decode, and in such a model an emphasis is placed on the exclusion of "noise" which would hinder the successful transmission and reception of this message.

Hayles has extensively explored the theoretical assumptions of communication as information and its relevance to contemporary electronic cultures and literature (Hayles, *Chaos Bound, Posthuman*). It is worth noting the affinity between an emphasis on the preservation of transparency in the movement of information, and the similar emphasis on transparency in hypertext design considered in terms of link architectures. When Nielsen writes

Links are the most important part of hypertext: They connect the pages and allow users to go to new and exciting places on the Web. There are three main forms of links:

Structural navigation links. These links outline the structure of the information space and allow users to go to other parts of the space. Typical examples are home page buttons and links to a set of pages that are subordinate to the current page[.]

Associative links within the content of the page. These links are usually underlined words (although they can also be imagemaps) and point to pages with more information about the anchor text.

See Also lists of additional references. These links are provided to help users find what they want if the current page isn't the right one. Considering the difficulty of navigating the Web, users are often saved by a well chosen set of See Also links. (Web Usability, 51)

It is apparent that the use value of the link is only in relation to its role as an informational marker or indicator and that its context is neutralised by the redundant

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nature of the link origin (Landow and Nielsen's "rhetoric of departure") but also in the work the link is understood to perform in its passage of connection.

Access

Access, particularly in relation to the World Wide Web, generally includes problems dealing with the development and adoption of coding and presentation standards for content. Accessibility covers the implementation of appropriate international standards for HTML coding (as defined by the various Document Type Definitions for HTML developed by the World Wide Web Consortium) and also involves issues that deal with speed of access (page size), information architecture, and access for users with disabilities.

These are the issues covered by usability experts such as Nielsen, in extensive detail. However, concentrating on such concerns tends to regard hypertext writing as informational, a technical process that is to ensure the arrival of rather unambiguous, intentional, packets of meaning.

However, it would be reasonable to describe the problems that users have with links as not being one of their redundancy or transparency (that links say what they mean) but in being able to find the specific content within a site, essay, or project. In other words, users are less bothered by what a link says or looks like than in being able to find what they're looking for.

Access is an important issue, whether considering the World Wide Web or any other publication environment, but its assumptions only refer to a very singular model of discourse and of communication in which clarity and transparency of information remains paramount.

Tosca

A recent exception to the consideration of links as problems of rhetorical clarity has been Susana Tosca's work on links and lyric poetry and links and pragmatics. This work returns to the problem of links and context in a particularly forceful way, although for me the specific problem that I take Tosca's work as evidence of is the manner in which the link remains unthought within hypertext theory - a point Tosca herself makes. David Kolb's scholarly research combining hypertext and philosophy also remains a rare example of work that explores links and their discursive effects (Kolb, *Socrates*, "Discourse").

Landmark

Landow's essay on hypertext rhetoric has had a significant impact on hypertext research in the humanities, offering a terminology and examination of link type and

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structure that other work has necessarily needed to respond to (for instance Moulthrop *Beyond, Rhetoric*). While Landow has clearly developed his position substantially from the early work of his rhetoric, his influence remains significant, particularly within the contemporary information architecture of Jakob Nielsen.

My criticisms of Landow's original claims and the larger concept of usability are specifically concerned with the ways in which the rules for a rhetoric of hypertext are probably not relevant given the experience of the World Wide Web and the assumptions we routinely make in following and understanding link structures in this context. In addition an emphasis on usability in relation to links domesticates the link in a manner that may prevent us from understanding how links work in discourse. The problem, to the extent that there is one, is that many researching hypertext rely on work such as Landow's (largely because it is published in a widely available anthology) and regard it as canonical although as Landow's own work illustrates, in particular his more recent "Hypertext as Collage-Writing," usability is no longer seen to be particularly significant within broader hypertext practice, as its focus is now on problems of the relations of text to still and moving image in a mutable, multi-window environment.

Nielsen and Links

Usability is the most recent term for the general consideration of navigation and readability in hypertext. The assumption that readers would be lost in a hypertext is a problem that has haunted hypertext virtually from its inception. Research in this area has, interestingly, concentrated on the link as a fundamental unit of hypertext structure and as the point at which usability becomes problematic, the moment of enabling risk.

For instance, George Landow in his landmark essay, "The Rhetoric of Hypermedia," argues forcefully for clarity and intelligibility around link sources and destinations, and under the heading "The rhetoric of departure" argues "[r]eaders of hypermedia need some indication of where they can find links and then, after they have these indications, where those links will lead them and why they are led there" (96). Additionally, in a subsection entitled "The rhetoric of arrival (graphic documents)," Landow details the following rule:

Rule 17. Texts serve not only to provide information but also to reassure the reader that the link embodies a significant relationship and to provide some hint, however incomplete, of how that relationship can be formulated by the reader. (99.)

Indeed, Nielsen more recently explicitly adopts Landow's terminology and rhetoric when he argues that:

A hypertext link fundamentally has two ends: the departure pages and the destination page. Links should follow two principles to increase their usability relative to their two ends:

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The rhetoric of departure. Clearly explain to users why they should leave their current context and what value they will get at the other end of the link.

The rhetoric of arrival. Clearly have the arrival page situate users in a new context and provide them with value relative to their point of origin. (Nielsen 66.)

While these guidelines appear to rely on common sense, it is equally apparent that link use when considered in terms of usability is in fact strongly tied to the general problem of accessibility and architecture, and is not a problem of hypertext rhetoric per se. Indeed, it seems clear that the language used to describe hypertext structure by Nielsen, Landow, and others reflects an anxiety around the link, an anxiety that adopts the language of a rational and ultimately realist aesthetic.

Not a Problem

The intelligibility of a link is variable and subject to the contextual vagaries attached to all reading. In complex creative hypertext (fiction or nonfiction) substantive interpretations are required to be made about the relation of nodes to links (Kaplan "Literacy;" Shields) and vice versa. While such hermeneutic demands may remain poorly theorised there is nothing inherent in a link that makes it unintelligible as a link. Quite the contrary, as I have argued elsewhere, links appear to share many qualities of performative speech acts, suggesting that they are subject to conditions of felicity but not of truth or falsity. We always understand that a link is a link, whether its destination makes sense or not (Miles, Paradigms).

Naturalise

As semiotics has labouriously detailed, the relation of signifier to signified in language is arbitrary and so the particular signs that any culture chooses as significant are essentially social in nature. As social artefacts the signs in language are subject to the anomalies and prejudices of any social system, with the caveat that as a major system of signification language bears an extreme burden of authority and power in articulating and maintaining a status quo.

Within literature a dominant narrative form, the realist novel, has developed. Within this form various codes (series of semiotic events) are utilised to make the work appear as a natural or even neutral artefact. That is, its nature as a constructed, made, and uttered (written) object is concealed by various artifices of illusion. This might include such things as the presence of narrative closure, diegetic integrity, the use of formulaic genres, and the illusionism of an absent writer, all of which contribute to the quality of textual wholeness or completeness for such a work.

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For a theorist such as Barthes (and for many cultural commentators since) such illusion is revealed to be a particular strategy of the text (conscious or unconscious hardly matters) to conceal various ideological systems contemporaneous to the text. Barthes' suggests that an assumption that language in itself is a transparent container for intention and meaning obscures any discourse as being first of all a "work" - with "work" having the connotations of labour, struggle, and objectness.

While such theoretical activity has been instrumental in various forms of ideological close analysis (for instance in the work of feminist, Marxist and postcolonial scholars), it is the recognition that realism is primarily defined by such critics as a narrative system whose general style is to disavow or conceal its own systems of production that is important for this essay. Such a disavowal may take the form of naturalising narrative by relying on 'common sense' ideas of psychological cause (people in stories fall in, or out of, love), or the concealing of the status of the work as an artificial construct, or even more simply in rendering its particular conventions in a manner that renders them opaque to readerly attention.

Disavowal

It is of little matter if the concealing within realist textual systems represents the repression of patriarchy, racism, colonialism, psychoanalytic disavowal, or hegemonic capitalism. What is important for the argument in this essay is the recognition that concealment does occur, and that such concealment has attached upon it some sense of disavowal. This concealing expresses an economy of closure where it is a relatively simple task for the critical reader to demonstrate that what is concealed is that which threatens the imagined integrity of the work.

Selden

Selden's basic primer on contemporary literary theory describes Barthes' criticism of realism thus:

Barthes stresses the process of signification, which appears less and less predictable as his work proceeds. The worst sin a writer can commit is to pretend that language is a natural, transparent medium through which the reader grasps a solid and unified 'truth' or 'reality'. The virtuous writer recognises the artifice of all writing and proceeds to make play with it. Bourgeois ideology, Barthes' *bête noire*, promotes the sinful view that reading is natural and language transparent; it insists on regarding the signifier as the sober partner of the signified, thus in authoritarian manner repressing all discourse into a meaning. Avant-garde writers allow the unconscious of language to rise to the surface: they allow the signifiers to generate meaning at will and to undermine the censorship of the signified and its repressive insistence on one meaning. (78)

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An illustrative early example from Barthes' "Mythologies" (first published in France in 1957) is his discussion of French toys:

One could not find a better illustration of the fact that the adult Frenchman sees the child as another self. All the toys one commonly sees are essentially a microcosm of the adult world; they are all reduced copies of human objects, as if in the eyes of the public the child was, all told, nothing but a smaller man, a homunculus to whom must be supplied objects of his own size.

Invented forms are very rare: a few sets of blocks, which appeal to the spirit of do-it-yourself, are the only ones which offer dynamic forms. As for the others, French toys always mean something, and this something is always entirely socialized, constituted by the myths or the techniques of modern adult life: the Army, Broadcasting, the Post Office, Medicine (miniature instrument-cases, operating theatres for dolls), School, Hair-Styling (driers for permanent-waving), the Air Force (Parachutists), Transport (trains, Citroëns, Vedettes, Vespas, petrol-stations), Science (Martian toys).

The fact that French toys literally prefigure the world of adult functions obviously cannot but prepare the child to accept them all, by constituting for him, even before he can think about it, the alibi of a Nature which has at all times created soldiers, postmen and Vespas. . . . However, faced with this world of faithful and complicated objects, the child can only identify himself as owner, as user, never as creator; he does not invent the world, he uses it. (53-4)

Labour

This essay is not particularly interested in redescribing, or even paraphrasing, the work that semiotics has enabled in terms of an ideological critique of semiotic systems. The literature is enormous, and extensively known in cultural studies, English literature, and film studies departments throughout the western academy, and is taken as given.

However, it should be noted that I am not subscribing to a naive Althusserian view of ideology in which ideology was equated with either capitalist or patriarchal forms of representation. This view offered the possibility of some ideologically neutral position on the 'outside.' Ideology, much like 'prejudice' in contemporary hermeneutics, knows no outside.

Rules

While Landow's rules are often broad and highly relevant to any discussion of hypertext rhetoric, they betray a particular top-down approach to readerly comprehension and writerly practice. This is suggested in several ways, including the reason that they are presented as 'rules' in the first place (many of these rules appear as prohibitions more than enabling or creative acts or possibilities), and also in the manner in which the very language of the rules contain numerous assumptions about the risk that confusion or ambiguity represents for the reader. These rules, by their very language, encourage their

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acceptance as canonical, yet the assumptions upon which they appear to be based, for instance the presence of ambiguity and the resulting distress for readers, remain unexamined.

For instance, a dramatically different view is offered by Shields when he points out:

It is through both clearly marked and embedded links that webpages are constructed as apparently stable displays on a computer screen. However, links also disrupt the easy flow of a text or webpage to force viewers into an awareness of the constructed quality of webpages: they send the viewer elsewhere; they break up the authorial control of texts and supplement and problematize what has been displayed or written. (145-6)

Shields continues shortly after, "I will argue that links always disrupt the static quality of a webpage; they move us away to other pages, or up and down a page" (146).

When using links writers ought to assume and embrace the risk associated with linking, while the general program of usability proposes a writing that reduces this risk. The former recognises risk as integral to linking and writes with this risk; the latter domesticates this risk through a language of naturalisation which has been hypostatized by Nielsen.

Secured Pleasure: An Aside

An aside: secured pleasure is in contradistinction to Barthes' *jouissance*, which is a pleasure which is not secured by a return to the ego. In the terms utilised by Bataille, which I shall use, *jouissance* is a pleasure of the text which is a general, rather than restricted, economy.

Coherence

Landow argues that links in hypertext convey coherence, suggesting some sense of expressing a pre-existing connection or relation. However, coherence is produced by links, retrospectively, and this has been admirably shown in Douglas' *Books Without End*. In a delicate analysis of hypertextual sequence in Michael Joyce's *Afternoon* she writes:

"He asks slowly, savouring the question, dragging it out devilishly, meeting my eyes.'
< How . . . would you feel if I slept with your ex-wife?>
It is foolish. She detests young men."

The second time you read this, however, you might be convinced that you had read a different passage, and, by the third or fourth time, you might find yourself trying desperately to locate these different spots that sound awfully similar but seem to mean entirely different things. In one narrative strand, this segment crops up amid Wert's

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clowning around over lunch, emphasizing his immaturity around women. In another, Wert poses the question to Peter playfully, to distract him from his concern over the whereabouts of his missing son and estranged wife, whom he believes may have been injured in a car accident earlier that day. Encountered in yet another context, the passage occurs in the context of Peter's fling with a fellow employee, Nausicaa, and Peter sees Wert's question as evidence of his boss's jealousy over their involvement. Later, the lunch date and conversation reappear after a narrative strand couched in Nausicaa's own perspective, which reveals that she is sleeping with both Wert and Peter, making Wert's query something of a game of cat's-paw. "I'm sleeping with your lover," Wert seems to be thinking, so he follows the line of thought to a position he perceives as more daring: "What if I were sleeping with your ex-wife?" But if you reach a segment called "white afternoon," having visited a fairly detailed series of places, you will discover that Wert and Peter's ex-wife, Lisa, have been seen together by Peter himself, although Peter cannot be certain that they are involved with each other. When the lunch time conversation reappears, after this last revelation, Wert's query is a very real question indeed. (58)[Quotes are from Joyce's *Afternoon*]

Clearly in this example coherence (and narrative sequence) is generated by the links, and while the distinction between 'conveyed' and 'generated' may appear insignificant, it in fact represents a paradigmatic difference in how the link is conceived.

"Conveyance" tends to suggest the delivery of a pre-existing entity, whereas 'generation' or 'production' grants the link a constitutive force in this process.

Furthermore, hypertext which may also seek multilinearity (and if not multilinearity then certainly repetition of content) clearly requires links to no longer convey, but in fact to build, coherence (Rosenberg, Miles "Syntagmas") as nodes become moments of hesitation along the various alternative syntagmatic pathways produced by link architectures.

Got It

Disavowal, closure, a restricted economy. It matters little what the currency of this economy is but that what is concealed within and by the work has the capacity to undo, and so threaten, the very thing that constitutes it. That is, this alterity is internal to any work; it is not an 'outside' that comes to inhabit or haunt a work by virtue of a hermeneutics of violence. It is not the arbitrary imposition of a theoretical template willynilly onto any particular object.

This is an economy of disavowal which appropriates the hypertext link as its currency.

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Naturally

The seminal “The Rhetoric of Hypermedia” by Landow (this author is concentrated upon because his work has clearly directly influenced Nielsen’s web rhetoric) emphasises the need for links to be intelligible in its descriptions of link rhetoric.

For example, by way of introduction, Landow argues that “Hypermedia as a medium conveys the strong impression that its links signify coherent, purposeful, and above all *useful relationships*” [italics in original] (82). However, such a simple statement becomes the precursor to nineteen rules of hypertext rhetoric, all of which naturalise the assumption that links are primarily useful.

Yet this claim in its very effort to make links subject to common sense betrays the anxieties that the hypertext link generates in the field of writing and seeks to naturalise or normalise the work of the link within a rhetoric of instrumental use value — if links are obviously useful, why might they need nineteen rules?

Signify

“Signify”: it’s a single word but hardly minor. In the terms of the argument this essay makes, simply changing Landow’s sentence to “Hypermedia as a medium conveys the strong impression that its links force (generate, produce) coherent, purposeful, and above all useful relationships” would significantly alter the argument and the work that links are expected to do. Once they merely ‘signify’, a significant thing has already happened to the link, they have become representational; they do not have any intrinsic quality but are already at the service of other things, or perhaps less harshly, the argument has moved from what appears to be an ontological claim about links to epistemological problems: From a question of what links are to wondering what they mean.

To think about the link as an ontological event requires us to continue to think of the link in itself; however, the movement from the link as link to its definition in terms of a natural usefulness is symptomatic of much theory that begins with the link but in fact treats the links as a substrate for some other event, activity, or process (Tosca “Pragmatics,” “Lyrical Links”).

Furthermore, ‘signify’ connotes both ‘significance’ and ‘signification’. On the one hand this suggests an importance that links accrue because they are inherently coherent, purposeful, and useful. However, this quality exists because we use links that are purposeful and useful, not the other way around.

On the other hand ‘signification’ also suggests some familial connection to semiotics, but this familiarity would of course problematise the security of the term as signification

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would become subject to the sliding of the sign that in fact allows there to be a relationship between signifier and signified in the first place.

An argument such as this is not very far removed from Terry Harpold's work on linking in which the Lacanian bar separating signifier from signified can, in Harpold's insightful analysis, become the impossible space of the link — and hence account for its critical and literal invisibility (Harpold).

Force

Realism is a style that naturalises the representational system utilised by any particular narrative form. This rendering natural of what is in fact a semiotically complex and artificial construction tends to produce a conservative rhetoric of exclusion in which certain prohibitions become standardised as principles of structure. For example, in realist cinema the presence of the camera will be concealed, and the represented world will appear as if it were real and part of the everyday. Furthermore, the elements that build the story, for instance composition and editing, will be done in such a way as to emphasise the story rather than their artificiality.

This practice produces a form of reading in which the work of the reader is to recover meaning, sense, or even simply secured pleasure from the event of the text. For a theorist such as Bataille this transaction obeys an economy to the extent that readers exchange their time for some return from the text, and in reading realist literature this return is largely interpreted as benign, even mercantile in its promise of a return.

Similarly the interest in link legibility in relation to hypertext structure appropriates the possible or potential force of the hypertext link and orientates it towards this economy of return. The emphasis on what is characterised as an appropriate use of links is a reaction against a paradigmatic shift in how writing as narrative sequence can now be conceived.

Example

A similar analysis of the need for link clarity could as easily be performed on Nielsen, as well as most of the writing on hypertext structure provided by the hypertext computer science community. I concentrate on Landow's work to unpick this "ideology of use" that informs such writing not only because his work is authoritative but because as humanities research it appears to ground the epistemological assumptions of system designs and designers.

The sentence that I briefly analyse here appears immediately before the first of the nineteen rules that Landow elaborates upon. To concentrate on a single sentence in this manner could be considered as a deconstructive strategy, but to the extent that I wish

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to unpick the assumptions that this statement introduces, endorses, and relies upon, it is merely a hermeneutic strategy. In utilising one apparently minor sentence, from an essay of some twenty pages, and treating this as the fulcrum around which the essay revolves is, marginally, deconstructive.

Purpose

In describing links as “purposeful” it appears that an economy of return is suggested. Such an economy would privilege some order of intention as informing links, so that their purpose is defined in terms of their utility or instrumentality. Such an approach would privilege those links which demonstrate a clear intent in their presence and action so that it would be apparent why a link is present and what need it meets in being present.

However, “purposeful” can also be taken to indicate that links have intent, and it is their intent that gives them purpose. This is not particularly different from suggesting that links generate purpose, except to recognise that such a claim is again to reverse the hierarchy that appears to be implicit in Landow’s sentence. Rather than assuming a purpose to the link by virtue of the link’s intent (not forgetting that such intent ought to be transparent to the user by virtue of the application of the rules of hypertext rhetoric), purpose is retrospectively assumed to be attached to the link and interpreted as intent.

This experience of attributing purpose to a link after we arrive at its destination is common in hypertext fiction where we follow a link (and links in some cases can be randomly generated, making their ‘purpose’ problematic in the extreme) and then attempt to determine its purpose. This is not to dispute Landow’s observation, but as stated above, to reverse its implicit hierarchy.

Interestingly

Landow’s emphasis on the legibility and use value of link structures remains reasonably consistent. In his more recent *Hypertext 2.0*, for instance, we read:

Since hypertext and hypermedia are chiefly defined by the link, a writing device that offers potential changes of direction, the rhetoric and stylistics of this new information technology generally involve such change — potential or actual change of place, relation, or direction. Before determining which techniques best accommodate such change, we must realize that, together, they attempt to answer several related questions: First, what must one do to orient readers and help them read efficiently and with pleasure? Second, how can one help readers retrace the steps in their reading path? Third, how can one inform those reading a document where the links in that document lead? Finally, how can one assist readers who have just entered a new document to feel at home there? (124)

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Not

As proof of its intrinsic analogic structure a link, unlike writing, cannot in itself negate, it cannot say “not,” in much the same way that an image cannot of itself state a negative. It can only provide connection and in so doing establish homology or dissonance, similarity or contradistinction. This, rather crudely, is what I take to be the import of Stafford’s argument in her *Visual Analogy: Consciousness as the Art of Connecting*.

Useful

Use value is a concept that privileges the instrumental as a key quality of function, action, and work — in whatever way we wish to conceive of work. The manner in which I’d like to characterise it, and the contexts I have in mind for its use are in terms of a radical appropriation of Bataille’s ideas of the general and restricted economy.

Bataille, in the opening chapter of the first volume of *The Accursed Share*, argues for a distinction between a restricted and a general economy. A restricted economy is one which no matter what is expended (for instance time, capital, energy, or meaning) an assumption about a return on that expenditure determines how that ‘transaction’ is performed and understood.

A general economy, on the contrary, is one in which no matter what the terms of expenditure (time, capital, energy, meaning), no return is envisaged from however this activity or transaction is performed. Bataille in his own fiction writing, and in that of those writers and poets which he celebrated, tended towards a writing practice that approached a general economy.

Realism, in seeking to conceal its own processes of production, is, in effect, subject to a restricted economy where the play or flow of language (and pleasure, narrative, meaning, sense, taste, and so on) is recovered. Closure, meaning, and the minor pleasures attached are assumed and expected as the outcome and meaning of the work. Writing (and literature) as a wanton, productive, active, and singular event is domesticated into the already known and the stability of the secure and repeatable.

Hypertext theory’s assumptions about usability, and what I’ve characterised as the domestication of the link, fall within a restricted economy. Here the moment of risk that the link is becomes a point of excess that cannot be accommodated by a semiotic (or any other) economy that first regards the task or role of the link (or of writing) as enabling order and coherence, as is the case with hypertext theory’s emphasis on usability.

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Bataille

Bataille, rather dogmatically, states:

I will begin with a basic fact: The living organism, in a situation determined by the play of energy on the surface of the globe, ordinarily receives more energy than is necessary for maintaining life; the excess energy (wealth) can be used for the growth of a system (e.g., an organism); if the system can no longer grow, or if the excess cannot be completely absorbed in its growth, it must necessarily be lost without profit; it must be spent, willingly or not, gloriously or catastrophically. (21)

He has also argued that “it is not necessity but its contrary, “luxury,” that presents living matter and mankind with their fundamental problems.” (12, italics in original).

In relation to the link, and to link use and usability, there is always attached to the link a moment or element of risk and openness which is the excess that Bataille has described as “luxury”. Luxury, of course, is defined by its excessive irrelevance to use.

Anxieties

Links are moments of risk in writing and reading.

When writing in a manner that we might characterise as ‘hypertextual’, that is, a writing in which the materiality of hypertext is not confused with the convenience of electronic dissemination, the link always remains open as a point of possibility. You can link from any point within a node to, in principle, any other point; you don’t need to finish writing the content, nor do you need to assume that the reader will have read all the content within the node. Indeed, in a system such as Storyspace, you can start a link for a node which does not yet exist!

This excess or openness is radicalised by the link as that moment in writing when the writer decides (is called) to link. This point or moment contains within it a series of possible futures that falls outside of our ordinary conceptions of writing. When I write, grammar and the formal rules of language composition in English (in my particular case) constrain the set of possibilities for what can follow. These constraints are what allow us to learn how to write, and this is what allows writing to be the iterative, recontextualising practice that it is (see for instance Derrida’s *Limited Inc*). In other words, writing a sentence (and perhaps how we’ve learnt to make an argument) can be thought of as a series of decreasing options as the sentence, or argument, proceeds — choice appears to be largely inverse to length (a point Douglas also makes in connection to linear fiction in *Books Without End*).

However, when I’m linking, there are no such restrictions or possibilities. The link does not require, need, or even recognise a codified set of rules for what may or may not be linked, either in terms of origins or destinations. To this extent the link always

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presents itself as a virtual outside to the codified norms of language, that is to grammar, syntactic organisation, and rhetoric.

For the reader, the link is also a moment of risk. This risk is that of comprehension and of readerly control. To follow a link is to surrender, in that moment of choice, control to a system whose logic of operation and connection remain unknown. A link is, then, in such a system, little more than a roll of the dice, and just as the dice may have a small set of outcomes (let's say one in six), the particular outcome remains unknown in each instantiation. A link always operates like this, and for the reader this excess is a bet made with, and for, each link followed. That its force has been colonised by an existing model of writing is not surprising, as these qualities of the link move it outside of the system and processes of writing as we have ordinarily conceived them to be and so remain largely invisible to such systems.

Furthermore, the logic of the link, to the extent that such performative events can be thought of to contain or express a logic, is analogical rather than binary. Their operation is one of similitude, that is analogy and metaphor, of differences in degree that are able to tolerate the similar within a system of writing that is not node-link-node (this-then-that) but is more accurately node-and-node (this-and-this).

Closed

Writing on the rhetoric of hypertext, while acknowledging the significance of the link to hypertext, has been unable to recognise the extent to which the link is outside of grammatical and syntactic categories. This invisibility of the force of the link largely results from an economy of writing that privileges clarity and reason. However, the link problematises this through its analogical form which perhaps owes more to images than to language.

Links cannot state the true or the false; they cannot negate, and so they are only ever subject to an ethics of good and better — or poor and worse. This is why Landow's rhetoric must become a series of rules, of prohibitions and constraints, for it appears that the link aligns itself with the capriciousness of the visual rather than the 'rigour' of the written. This is an old debate, one that has been documented by Barbara Maria Stafford and W.J.T. Mitchell, and Landow, in "Hypertext as Collage-Writing," makes this very move. However, it does appear that this debate may now have new spirit, along terms that are yet to be developed or explored, as the logic of the image has asserted itself within the field of writing. Links have an economy of excess that seem more applicable to the image and its ability to argue than to the forms of logical argument that we associate with writing.

Usability and rhetoric remain fundamental terms and categories in any conception of hypertext writing. However, the effort to develop rules and grammars of hypertext

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rhetoric represent efforts to recuperate the link within a restricted economy that seeks to ground a potential poetics within the singular and unitary. To the extent that such a practice risks canonisation, hypertext as an active, creative, and riskful process for thought will remain stymied and unavailable. Twelve years after the World Wide Web was invented hypertext is an eccentric exception in academic writing — critical and creative scholarship needs to be begun.

Again

(Disavowal, closure, a restricted economy — it matters little what the currency of the economy of the link is, but that what is concealed by the link (as labour and as object) has the capacity to undo and threaten the logic that the hypertextual object requires to be a work. This is an alterity internal to any hypertext; it is not an 'outside' that comes to inhabit or haunt this writing by virtue of a hermeneutics of violence, nor is it the arbitrary imposition of a theoretical template willynilly onto any particular hypertextual writing. To turn aside from this is an economy of disavowal which appropriates the hypertext link as its currency.)

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CHAPTER FOUR

Hypertext Structure as the Event of Connection

Miles, Adrian. "Hypertext Structure as the Event of Connection." *12th ACM Hypertext Conference*. Aarhus: ACM, 2001.

This paper received the "Ted Nelson Award" at the 2001 Association of Computing Machinery Hypertext Conference. It conforms to the ACM styleguide, and has been written as a reasonably straightforward conference paper. Extensive use of subheadings has been made to 'atomise' the writing.

This paper argues that links have performative force which allows for their 'meaning' to be understood retrospectively. This is in contradistinction to most theories of hypertext linking which regard linking as a forward projected understanding that needs to describe what it is, ahead of itself. Schematically, links create connection, which links and how cannot be predetermined, and so structure is determined retrospectively.

Abstract

This paper proposes that within the practice of writing small scale, local hypertext, critical questions of relevance to all hypertext researchers are foregrounded, in particular problems of excess, context, and teleological interpretation.

Introduction

Hypertext theory, whether considered from the point of view of systems development, as a creative endeavour, or in abstract terms, appears to routinely return to questions of structure, navigation, and coherence. These problems haunt the conceptualisation of hypertext as it inevitably finds itself drawn between the poles of potential structure, and the realised and individuated event that is the particular reading of any hypertext. Within this, theory and systems design has primarily concerned itself with large scale structures and its attendant problems of architecture, or with readers' use of hypertext documents. However, between such industrial textual processes and the problem of the reader lies the experience of writing hypertext as hypertext. The hypothesis I wish to

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pose is simple. Within link node hypertext it is clear that context is fundamental to link interpretation, and that context is largely reader (i.e., pragmatically) determined [46], in no manner is the significance of the link exhausted by any particular context in which it may occur. Furthermore, a significant factor in the contextual interpretation of the link is the development of narrative schemas, and such schemas determine meaning retrospectively [6]. This suggests that structure in hypertext is produced pragmatically, and its principal meaningful structures are defined retrospectively. The tension between links as pragmatic, open, and excessive, versus the teleological imposition of coherence, is the space within which hypertext writing defines its own practice. This paper explores this middle terrain between what could be characterised as industrial hypertext, and hypertext reading. To examine this I intend to rely on the assumption that link node hypertext is a postcinematic writing practice [25, 30, 31]. Finally, historically the concern with closure and excess has concentrated on reading hypertext, this paper is informed by the tactics of an engaged hypertextual writing practice.

Link Excess

Links generate what I'd like to characterise as an 'anxiety' within hypertext. This anxiety is evident in relation to writer's and their use of hypertext, a reader's ability to derive pleasure from reading hypertext, and is present in most theories of hypertext and linking which seek to provide rules for the application, role, or relevance of links in hypertext (see [22] for a generic summary of the role of links, and [46] for a recent survey of rhetoric and hypertext). This is perhaps unusual, given the literature's general celebration of the link as textual liberation and, in some cases, formally constitutive of hypertext. The anxiety I am referring to is evident in the manner in which much writing on linking wishes to domesticate the link as some category or species of rhetorical figure, always and already at the service of some other role, for instance to facilitate navigation, allow cognitive and associative mapping of ideas, or the incorporation of otherwise disparate arguments, documents, or objects, within a larger docuverse. In such work the link always remains the servant of other processes, but such thought obscures, indeed actively turns away from, any consideration of the link in, or of, itself.

That such rule formation around links is irrelevant to their function is reasonably demonstrated through the simple comparison that Tosca has made with lyric poetry [45] and Miles with cinema [30]. Tosca's point, when applied to links, is elegantly simple. When writing poetry there are numerous 'rules' of connection, yet we recognise that these rules (of rhythm, timbre, rhyme, visual structure, thematic connection, etc) have no hierarchy and are not exclusive. In a poem you can place any word in any other location (as you can with shots in narrative cinema), and there is clearly no need for formal syntactic and semantic rules of organisation for a poem (or a film) to be

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meaningful — that there may be such rules for some genres of poetry does not change this fact. This would certainly seem to be the case in hypertext and suggests that hypertext linking ought to be considered as more analogous to poetry than to prose — if you like it is hard not to be ‘poetic’ when we write hypertextually. This suggests that hypertext theory’s fascination with coherence, order, navigation, and rhetoric becomes a policing of what is always the unruly link and its escape into an immanent economy of excess and non-linguistic force.

It has been argued elsewhere that links have performative force ([30]), indicating that we no longer ought to define them as grammatical moments but as fluid and mobile vectors that construct relevance ([41]) and context through their leap. The performative force of the link is invisible to ‘ordinary’ conceptions of rhetoric because this force is only expressed and realised in the activity (the moment) of the link, and it is this invisibility that has led to the description of the link as a sort of vacant ‘connecting’ device. Hence the link, in itself, is regularly discussed in terms of what it enables, such as multilineal narrative, but rarely is it explored or theorised ontologically. This appears to be the case largely because a great deal of the work in hypertext (whether from computer science or the humanities) assumes an empiricist and ‘realist’ notion of discourse: works should be, or are, transparent in their effects, intentions, and meanings. This concentration on largely empirical and instrumental questions of successful meaning negotiation (what might be called the preservation of textual integrity in the face of possible interference), is why such work has struggled to account for the success of such noisy hypertext systems as the World Wide Web.

If, on the other hand, we accept that hypertext structure is implicitly poetic (or cinematic) rather than grammatical, then how we conceive the question of connection ought to be fundamentally different. Just as we willingly accept that poetry may, for instance, only concern itself with sound, quite independently of what we think of as sense, we ought to be able to consider the link in an analogous manner — this for instance may let us appreciate Bernstein’s insight that repetition in hypertext is not a vice [4].

This returns us to the ‘anxiety’ of the link. I would like to suggest that what the link enables or performs, which is not transparent (cognitive, logical, rational, etc) instrumental connection, is in fact outside of such a rational economy, and in our insistence on defining the link as instrumental we are in fact disavowing this ‘outside’ [20]. Indeed, it appears to be a common mistake in hypertext theory (shared by many in film criticism) to mistake the ability of the link to generate a meaningful connection as evidence of the link only realising an immanent relevance.

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Marginalia

For a theorist such as Harpold this outside is defined by Lacanian lack, and the imaginary plenitude of the link is the subject's misreading of the absence that lies within all signification [18-20]. More prosaically, I'd like to suggest that the contextual and pragmatic force of the link, and its affinity to non-grammatical forms of association and connection, allows us to theorise about link's and excess. Indeed, to the extent that links are non-linguistic they perhaps share a great deal with other non-linguistic forms of communication (music, painting, sculpture, and cinema all suggest themselves) in that they will always maintain a reservoir of excess that linguistic description and analysis can never accommodate. In the relation of image to word this is largely the province of Mitchell [33, 34], though McCloud and Drucker offer exciting work informed by their own creative practice [13, 28], and Stafford's recent argument connecting analogy and the visual is clearly relevant [42]. Simply put, there is a possibility of theorising the excess of the link specifically through its non-linguistic economy, a project that I believe is yet to be undertaken — notwithstanding Moulthrop's 1991 call for a 'deconstructive hypertext' [35].

Excess (II)

The general condition of the link is that by virtue of its force relevance is perceived within the nodes joined. This relevance does not need to reside within the nodes themselves, but in the fact of their retrospective connectedness. The 'anxiety of the link' that I'm describing is the recognition that this force falls outside of nomenclature and (linguistic) reason. This force is evident in the manner in which the link recontextualises the before and after of its own act through what Deleuze and Guattari have described as an "incorporeal transformation" [10]. That is, the link is an imperative that affects what the node means in quite fundamental ways, yet leaves the node itself untouched, or unmarked. This is the model of Austin's performative speech acts, and Deleuze and Guattari's order words (and it should be added bears a strong similarity to Harpold's analysis of the imperative of the Other in the context of hypertext [17]), and can only be instantiated in the moment of the individuated action of a link. This is an 'excess' because for this to be the case that a node is considerably more than a navigational cue or aid. It is within this 'more' that the excess of the link is to be found.

One way in which we can describe this excess so as to be able to consider it theoretically is through the distinction that author and philosopher Georges Bataille makes between a general and restricted economy. Within a general economy there is an expenditure (of meaning, goods, pleasure) without instrumental return [3], that is an expenditure where the primary intent of the 'transaction' is not to recover anything 'useful' from the transaction. Within a restricted economy, on the other hand,

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expenditure is only ever conducted with a view towards a return, a recovery of that which has been expended.

While a pure general economy may not be possible, it nonetheless can be seen to inform many apparently 'useless' activities, for instance art, play, even probably fireworks, and of course some might even argue that death is a general economy to the extent that it apparently never exhausts itself and appears to give little in return! In a general economy, there is always a remainder, an excess that cannot be recovered. In a poem this might be, literally, its meaning, and so we are left to speculate forever on its intent. In the case of hypertext links, this is their general condition. Links always have a remainder, a residue of contextualising force that extends against and into the moment before their promise, and at the point of their enaction into an open future that can only ever be a bet against an unknowable outcome. Which is to say that after the link has arrived it then recontextualises what was, and before the link has arrived we are always subject to the risk of the radically open. As Harpold says "there is a principle of indeterminability (a generalized "chance") operating between the gaps in the reading that may sometimes turn you back on your path" [17] p. 194.

In such circumstances to think of a link as broken, redundant, irrelevant, or inappropriate requires an assumption of instrumental use that relies on an ideology of use value — a restricted economy. This returns us to questions of empiricism simply because we can only treat links as wrong or false within an instrumental economy. However, links are not true or false, rather a link is good or bad, which is to say felicitous or infelicitous ([1]) and this can only ever be a question of context. For example, of the 282 links in "Hyperweb" [32] one is to a deliberately malformed URL, its point being to generate a 404 error and so in this particular context a 'false' link does in fact have significance in itself.

That links can be utilised instrumentally does not alter this. If, however, link node hypertext is lyrical [45], musical [36], or cinematic [25, 30] then it is difficult to argue that there can be any links apart from felicitous links. A poem may be good or bad, but certainly not true or false in any empirical sense, and the same applies to a musical score, a film edit, and links.

Narrative Schemas

Excess, and the felicitous quality of the link, ought to cause hesitation in developing specific rules of link use as neither is amenable to predetermination. The variability of context, compounded by hypertext multilinearity, also makes it difficult to determine the varieties of readerly practice that may happen. Tosca has argued for the role of context in hypertext, relying on the example of the deeply complex nature of everyday communicative acts [46]. As she indicates, the significance of context and pragmatic

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interpretation in such circumstances is not so very different from narrative in general, where readers accept certain principals of intent and causal relation and on this basis schemas of understanding are developed. Such schemas are pragmatic and based on our experience of narratives in situ, and so are able to operate as high level abstract maps that combine bottom up testing [12]. As Branigan describes [6]:

narrative is a perceptual activity that organizes data into a special pattern which represents and explains experience. More specifically, narrative is a way of organizing spatial and temporal data into a cause-effect chain of events with a beginning, middle, and end that embodies a judgment about the nature of the events as well as demonstrates how it is possible to know, and hence to narrate, the events. (p.3.)

and that:

In a narrative, some person, object, or situation undergoes a particular type of change and this change is measured by a sequence of attributions which apply to the thing at different times. Narrative is a way of experiencing a group of sentences or pictures (or gestures or dance movements, [nodes] etc.) which together attribute a beginning, middle, and end to something. The beginning, middle, and end are not contained in the discrete elements, say, the individual sentences of a novel but signified in the overall relationships established among the totality of the elements, or sentences. ([6] p.4.)

For Branigan a narrative is a series of transformations understood by a relation of cause and effect where two deep cognitive functions are utilised, an awareness of purpose, and an awareness of pattern. Purpose, or intention, is not to be confused with authorial intention, merely that the narrative intends that the connection between parts (for instance nodes and their links) is posited as meaningful, and so assumed to be understandable in appropriate contexts (the game of interpretation becoming one of hypothesising possible appropriate contexts). Pattern is the active process of identifying meaningful sets of relations, which requires the ongoing testing and amendment of assumptions and expectations of relevance and causal priority.

This is what Branigan refers to as a schema, and readers utilise schemas to identify the patterns which arise in a narrative. A schema is the way in which data or information is made meaningful through the application of a template in which “probabilities to events and to parts of events” are assigned [6 p.13.]. Branigan’s interest in schema’s is not to help determine what a narrative means, but how it organises itself as information, and the information processing that a reader (or viewer, or user) must perform. The narrative schemas readers produce are hierarchical and constantly subject to change, these hierarchies are not stable because the relations of cause and effect that are understood to influence these hierarchies are regularly modified by the reader and the narrative. For instance, it is common for a narrative event or element to shift from an apparently minor

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to a major role (or the reverse) subject to our interpretation of later events and how we then apply these to our original schema.

Such processes are fundamental to understanding a narrative, and must mean that how connections between parts are understood changes during the course of our reading. That the same applies to reading in hypertext, where pattern [4, 40] and repetition can become integral to the work [21, 49], is well known, but what is important to our argument is not the role of schema's per se (see also [7]), but the significance that closure plays in the successful application of a narrative schema.

Closure

Within hypertext criticism closure has largely been discussed in terms of its hypothetical absence. For instance, the common observation of the way in which a hypertext work may resist closure, whether through ambiguity or simply lacking a specific ending [5, 22, 24], or the ways in which a reference work may continue indefinitely as additional connections, documents, and essays are incorporated. Douglas has recently written extensively and in great detail on closure and hypertext narrative [11], but rather than concentrating on the nature of closure in itself I'm wanting to consider the manner in which closure generates teleological principals which impact on excess and meaning.

A Logical Aside

The activity of scholarly inclusion remains an ideal that is important for a great deal of continuing research into hypertext, though as an ideal it has perhaps received less criticism than it deserves, for it appears to rely on a Platonic idealism, even with a celebration of the multilinear path. Not only can all documents relating to, for instance, poem "Y" not be linked (if only because commentary remains an ongoing activity), but this connection in itself generally forms a specific document that excludes the possibility of others. Finally, the assembled docuverse itself, if it is granted some status as a text on the poem "Y" cannot, logically, refer to itself and so remains outside of its claims for inclusiveness. That is, the set formed by the documents about poem "Y" which the docuverse seeks to represent (or enable) would, by virtue of itself, be in fact a part of the set of documents it wishes to create — a dilemma beloved by deconstructionists. There will always remain an outside, an excess, that saturated linking, multiple linking, or a Nelsonian docuverse appears troubled to acknowledge.

Closure (II)

Hypertext criticism tends to characterise closure as the inevitable outcome of linearity where the determined narrative end grounds meaning within the illusions of semiotic

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security, while the open hypertext remains a more accurate index of not only the flow of semiosis [22], but of contemporary experience [43, 47, 48] or the postmodern text [11, 43].

As several commentators have suggested [29, 44], these claims are as relevant to print as to hypertext works. However, my point is not to criticise this idealism — I regard this idealism as fundamental to what might be thought of as the ethics of academic hypertext, something Landow, and Bolter have contributed to substantially. However, within these assumptions of closure, whether relegated to a history of easy satisfaction or celebrated as the end game of a new millennium, lies concealed the problem of the importance of narrative teleology.

Before addressing this specifically, it should be noted that narrative closure is routinely equated with narrative completion, that is the end of the work. Such notions of closure can be thought of as large scale to the extent that they rely upon an assumption of a textually consistent complete narrative, always a problematic issue in any complex hypertext. This is the case in Rosenberg's definition of the session [40], though here closure is radicalised as it is now largely defined by readerly discretion, rather than privileging the text as most other theoretical approaches do (this is, of course, the major importance of Rosenberg's paper as it repeatedly demonstrates the role of the reader in determining minimal signifying sequences in hypertext — an intriguing fancy would be an analysis of a major hypertext combining the five codes Barthes' applies in *S/Z* [2] with Rosenberg's three narrative levels!).

As Rosenberg demonstrates, a key difference between hypertext and print narrative is the manner in which the reader determines such 'micro' closure during the narrating of the narrative (what Ricoeur, following Genette describes as narrative utterance [39]), presumably because hypertext conflates the performance of narrating into the active link following reader and the more ordinary level of the text's own narrating. What I wish to emphasise here is the role of the reader in not only constituting the narrative sequence [31] but the manner in which the sequence (whether episode or session to use Rosenberg's terminology) is constituted by closure. That is, an episode is generally only recognised or described as an episode when the reader successfully applies criteria of logical coherence and pattern to a series — i.e., a schema. Where this has not occurred it is reasonable to hypothesise that a pragmatic reader (as opposed to Chatman's ideal reader [8]) would not define the sequence read as in fact an episode.

Another Aside

It would appear to be reasonable to hypothesise that when small scale sequences in a hypertext resist closure, the work as a whole tends to remain 'open', and where the minor sequences of a hypertext provide closure, the work as a whole tends to provide, in turn, a stronger order of narrative closure, a position I believe supported by Bernstein's

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categories of patterns [4]. This is not to suggest that closure at the level of the episode means that the work as a whole cannot be open or ambiguous in terms of narrative closure. It is easy to imagine a work consisting of clearly articulated episodes, but the relation of episodes to each other remains largely unmotivated in terms of realist or literal narrative conventions. For instance much of Adrienne Eisen's [15] online writing seems to fall into this structure. This is not limited to electronic writing though, as it applies equally to the short stories of Raymond Carver (*Elephant* and *Short Cuts* for instance), or the films of Robert Altman (*Nashville*, *Short Cuts*, *Prêt-à-Porter* are excellent examples). However, where episodes are able to be identified as episodes (in Rosenberg's sense) it is probably easier for the reader to provide schemas to account for the relation or relevance of these episodes to each other, compared to those works where a reader feels unable to determine episodes that cohere as narratives. Much the same applies to the manner in which a work is linked. Links can be open or closed to the extent that they originate from abstract terms or narrative cognates (see for instance [38]), and in terms of their destination, which can be similarly lyrical and associative [45] or direct and literal.

Closure (III)

However, not only is a hypertext sequence largely defined by the attribution of closure but this must occur retrospectively — a sequence of any order can only be recognised as a cohesive sequence once it is completed. This is an excellent example of Branigan's description of top down and bottom up processing that narrative schemas require [6].

As Culler has noted

It is true that if the hero does battle with the villain much of the interest for the reader may depend on the uncertainty of the outcome; but one can say that this is also uncertainty about the function of the struggle. The reader knows its significance and its place in the tale only when he knows the outcome. . . . The plot is subject to teleological determination: certain things happen in order that the récit may develop as it does. [9] (p. 209.)

Narratives, as causal sets of logical processes, are always understood teleologically, so that for any narrative (and in turn any narrative sequence, including of course Rosenberg's episode [40]) it is the end that largely determines how we come to understand the logical connection of its parts. This is the reader's assumption of the 'point' of the narrative, however a reader wishes to contextualise or hypothesise this 'point', and the parts of a narrative gain logical and local sense backwards, courtesy of this point. Furthermore, while sequence can only be constituted as a sequence retrospectively, once constituted teleological constraint overdetermines causal connection at the expense of other narrative and formal attributes.

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This is an extremely important point for any theory of hypertext narrative, and for any hypertext system design that wishes to define or visualise the significance of the relations between nodes. While a linear work can largely attempt to define the relation between its parts according to specific hierarchies of significance or meaning — much as Eisenstein's attempts to articulate a visual dialectic of film making [16] — a multilinear hypertext work struggles to achieve a similar outcome simply because of the variability between what constitutes a particular episode and what is understood to be the finally narrated narrative, each of which will vary from reading to reading.

Put simply, context and the authoritative role of teleological closure dominates how the connection between parts are interpreted. The manner of connection may contribute, or even contest (at least certainly render ambiguous), the meaning of the relation between parts, but this can only be achieved afterwards with that guarantee of order that an end determines. This is not to suggest that ambiguity, the open ending, or an indeterminate narrative are not possible, only that such endings still operate as a teleological ground informing how we then understand the events narrated [11].

For example, imagine a hypertext where links that relate to a specific theme have an individuated colour and specific visual effects attached to them. Argument A's thread is yellow and enacted links always produce dissolves between nodes, while argument B's thread is blue and enacted links always produce animated marching windows. Where these two threads intersect links are green and enacted links combine animated marching with a dissolve. Additional cues could also be added to indicate if a green link endorses or criticises this common thread. While such a hypertext has already presumed what the relations between nodes could be, quite independently of any particular reading context, it disregards the fact that the reader, in understanding, articulating, and using the argument, will pay little or no attention to these formal markings. How the connections are understood, that is what the argument is, will only be determined by how the reader determines its end, and this will recast all that came before. In such contexts the colour of a link, even the representation of the connection between nodes, is erased, just as in a film it is only film theorists who remember whether we cut from a wide shot to a low angle close up, when redescribing a narrative.

Because the relation between parts can only be interpreted by virtue of an end it is difficult to conceive of a set of definitions for illustrating or representing connection (whether logical, rhetorical, or dramatic) that can be provided prior to their individuated use, and that can survive the reader's pragmatic reconceiving of the terms of this argument or narrative. When we retell we rebuild, which is simply to say we forget — that we still want to decorate the work of the link is simply another expression of its luxurious excess.

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Aside (III)

Culler, fine structuralist that he is, suggests that parts of a narrative ought to be conceived of as functions rather than events. In this way their role is not defined in terms of a series of branching possibilities that actions suggest, but as functions enabling the narrative to get to its end. For instance, a film noir might begin with a semi naked woman running down a dark road because the narrative requires the function of mystery and enigma more than it needs a set of branching possibilities — will she be found (of course she will), does she have an important role (of course she does), is it the 'hero' who finds her (of course it is) and in fact from structuralism's functional perspective he is the hero only because he finds her and receives the quest that she initiates.

Child aside

This is an intriguing idea when pushed, simply because it describes the reverse of how we ordinarily think a narrative works, but in fact accurately describes how we actually write or make our own narratives. When writing there is some sense in which we know where it is going (to some extent) and so the arguments made (retaining an academic context for the moment) are in fact functions which are present and used by virtue of their applicability and relevance to the end we have in mind. Rather than each idea opening outwards (much like an open cone), which is how we 'ordinarily' think of a narrative (each action opening a new set of future possibilities, all apparently equal), the model is in fact more like a funnel where each action is in fact a function designed to get to that focused point that is the end [11]. It ought to go without saying that given the nature of the link and excess that a 'genuinely' hypertextual writing practice would be a writing 'for' the cone, rather than the funnel.

Aside (IV)

Furthermore, the difference that an action makes to the story is to change the perception of the function of some prior act. For instance in the film *The Matrix* Neo's epiphany allows the function of Morpheus' sacrifice to be understandable. In terms of multilinear narrative this is well worth further consideration for if we think of narrative units (of whatever scale) as being functions rather than narrative acts (that is 'couple forming' rather than 'Fred meets Ginger and what should happen next?') then we might conceive of a narrative model that is able to accommodate multilinear recombination rather than the branching events, or indeterminate narrative, that currently dominates hypertext fiction.

Back to the Future

Mancini has cogently argued for the relevance of cinematic codes of representation to the presentation of information in hypertext environments [25]. However, as is apparent

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in her examples it is not the syntagmatic series and the relation between these parts that may provide a representation of argument or implicit structure, it is instead the simultaneous visual representation of the relation between parts within a common field — for instance the screen or interface.

In other words what is required, and Mancini appears to be suggesting, is a theory of hypertextual collage where diachronic structure is shown synchronically (see also [23]). This would be a practice that takes the temporal ordering of elements that is the hallmark of cinematic montage, that is serial ordering in time (diachronic structure), and to try to represent this spatially within a single field of view — all at once as it were. By presenting material simultaneously, which must be then primarily visual so that it can be ‘read’ as a whole (and where it is not visual it will firstly be treated as a graphic sign before it is regarded as a linguistic sign), a provisional context is provided largely because such images are already discursive in a manner that a sentence is not. This is perhaps why visual representations in hypertext appear to be more successful representations of structure, relevance, or meaning (such as MAPA [14] or VIKI [26, 27]) than purely linguistic categories. Such visual representations exist in an indexical relationship to their content, relying on relations of resemblance and analogy (“analogy is the vision of ordered relationships articulated as similarity-in-difference” [42] p. 9.), while linguistic models maintain the abstraction and absence of symbolic relations.

Where a temporal dimension is introduced, as in link node hypertext, the representation of the visual relation between parts tends to have a minimal influence on how the whole is understood, particularly in relation to the order in which these parts are presented. For instance, in the cinema a dissolve could mean flashback, flash forward, dream, loss of a character’s consciousness, drunkenness, general punctuation between scenes, subjective memory, abstract pattern, or something I haven’t thought of. What is dissolved, what image appears over, through, or under another image, can be highly significant, but this is always determined by the teleological orbit of the narrative which can only be performed from the point of view of its end — there is nothing that inheres in a dissolve to signify anything except a moment of connection [30]. The reader, when recalling the narrative (or for that matter the reader when utilising various schemas to understand the narrative) tends to disregard the dissolve entirely as they reconstruct a meaningful interpretation of the work.

Similarly, though Eisenstein has written extensively on dialectical argument utilising fragments and montage (his “A Dialectic Approach to Film Form” should be compulsory reading for anyone who wants to think critically about hypertext argumentation [16]), and strongly demonstrated the manner in which the collision of two images (or nodes) can generate novel content, this work relies on transcendent principles of meaning production and order. For Eisenstein the generation of visual energy is directly translated into cerebral energy and thought. Hence graphic conflict may contribute a

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sense of ‘dynamism’ to something that ought to be ‘dynamic’ [16] but this quality of ‘dynamism’ is a positive attribute because the narrative celebrates modernisation and industrialisation. (“[T]he dramatic moment of the union of the Motorcycle Battalion with the Congress of Soviets was dynamized by shots of abstractly spinning bicycle wheels, in association with the entrance of the new delegates. In this way the large-scale emotional content of the event was transformed into actual dynamics.” [16] p. 58.) It is not difficult to conceive of the same visual dynamism as expressing or meaning something quite different in a contemporary context — we perhaps should not forget that Eisenstein and his colleagues celebrated Taylorism as a principle of sublime efficiency.

The isomorphic modelling of thought by cinematic juxtaposition which would lead to similar ‘ideas’ in viewers is perhaps not so very removed from the rhetoric of hypertext and HCI usability, but Eisenstein’s relevance for hypertext lies in his insistence on the experimentation of form as the relationship and conflict within and between parts. Shots are not merely shots, and montage is not merely the connection of parts but is the system generated by both. For Eisenstein this offered the possibility of thinking cinematically. Eisenstein remained fascinated by the ‘outside’ that this produced (thesis, antithesis, synthesis), about how two different things, when placed in collision, could generate an idea that neither contained, and while he recovered this ‘outside’ into the expression of a transcendent dialecticism it is the role of the outside that we ought to retain.

Closing

Any methodology that assumes specific interpretative outcomes from formal practices will be rendered historically irrelevant. This is because contexts shift, readers are recalcitrant, and all that inheres in the connections in themselves are the forcing of the generation of hypotheses and schemas to understand such connection. The pattern of connections formed by links, as understood by a reader, are ultimately grounded by what they take the ‘point’ of the narrative to be, and this is only determined by virtue of how they define the end of the work. It is not that these connections are neutral, but on the contrary always dynamic, and when combined with the pluralism, force, excess and semantic promiscuity of the link we recognise the immanent eventfulness of connection as precisely an event. The movement of information into knowledge, whether fiction or nonfiction, is never stable and in a temporally and visually dynamic environment it is this eventfulness that will teach us what we should be doing to compose in such environments.

To the extent that we write with an instrumental ending in mind our links and hypertexts will remain domesticated and quiet machines, and in the manner in which we are writing in this way we will misunderstand links as merely aids on the way to

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clarity. Endings close, they help constrain, and hide, that excess that links perform. This is perhaps why a great deal of new work in this medium has returned to questions of montage and collage (I'm reminded here of a Storyspace work in progress of Diane Greco's I saw in passing at Hypertext 2000, "The Country Between Us"), of simultaneity and similarity, not because we are evacuated of ideas, but because it is in the similarity and felicity that our pictures (screen, image, window, and link) engender with the difference and abstraction of words that a relevant and meaningful hypertext structure will be developed for a networked world. It is the tension between the always open link and the retrospective erasure of this excess in teleological determination that is the site of hypertext. To date most of the cards have fallen on one side of this fence.

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The material collected here is a selection of my published research from 1999 to 2009. It does not include any of the more than one hundred interactive videos, or digital media projects that I have undertaken since the early 1990s. The work is divided into three major sections; cinematic hypertext, softvideo, and networked writing, and describes the arc of my research up to approximately 2010.

I have selected these essays as evidence of the extent and quality of my work as a portfolio to meet the requirements of the PhD by Publication model. An accompanying exegetical essay contextualises and provides insight to the concerns and themes collected in what follows.

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II

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SOFTVIDEO

Softvideo is the neologism I introduced as a way to name and theorise what is peculiar to a digital and network specific videographic form, media, and practice. Softvideo requires video to be not only born digital but to also be consumed within networked computational contexts.

“Softvideography” is the first essay where I outline the concept of softvideo. “That Moment Might Do” begins to bring together my interest in cinema, Deleuze and hypertext by using Deleuze to theorise video blogging. “Softvideography: Digital Video...” is a book chapter that combines my interest in networked pedagogies with softvideo and multilinear forms, describing the arc my research has taken and the strong connections between my teaching and research. Deleuze returns in “Soft Rhizomes” where I use what remains the quintessential Deleuze and Guattari text in relation to the network to articulate how softvideo is a rhizomatic video form, while “Programmatic Statements” uses Deleuze’s cinema theory in relation to the movement image and editing to provide a robust theoretical framework for understanding and describing multilinear softvideo.

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CHAPTER FIVE

Softvideography

Miles, Adrian. "Softvideography." *Cybertext Yearbook 2002-2003*. Eds. Markku Eskelinen and Raine Koskimaa. Vol. 77. Jyväskylä: Research Center for Contemporary Culture, 2003. 218-36.

This is the first essay where I address the concept of softvideo. Softvideo is what happens to video as a form and an object when the computer is the medium of consumption and not merely the means of production and distribution. The essay arose from a paper presented at a cybercultures symposium held at the University of Bergen in 2002.

Abstract

Interactive video has much that it could learn from hypertext. Not the hypertext that is most of the web, nor the hypertext that is parodied in many of the essays in the recent interactive cinema anthology *New Screen Media: Cinema/Art/Narrative* (2002), but the hypertext theory and practice that has spent over 20 years actively making, theorising, reading, and researching multilinear narrative, multilinear structure, link typologies, narrative closure in interactive narrative, anti narrative, and so on and so forth. It would be academically trivial, and probably spiteful, to catalogue the way in which recent writing on interactive cinema literally reprises the anticipation, excitement and assumptions about interactivity and nascent futures that hypertext experienced, or to point out that in three or four years exactly the same retrospective criticisms will be made of interactive video as have been made of hypertext. Multilinear narrative, structure, and architecture are problems common to new narrative in general, so I'd like to extend this research more specifically with an investigation into 'softvideo' practice – critical resentment can take care of itself.

Softcopy

In 1988 Diane Balestri published a paper that by its regular appearance in introductory books on hypertext, for example Bolter (1991) and Snyder (1996), can be considered a canonical work. In this essay she discriminates between using the computer to author 'hard copy', that is work which requires a material substrate such as the page, and

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using the computer to author 'softcopy', work that is only intended to be presented via the immaterial substrate of the screen.

The implications of the distinction between hard and softcopy have been extensively explored in hypertext theory, and have been used to affirm numerous key qualities of hypertext as softcopy: screens are variable in their dimensions and may be multiple; work no longer need have a front, back, or middle; content can be changed at will; readers can manipulate the presentation of content through the alteration of font size and properties, window dimensions, text and window colour; content and structure can be variable during the reading or use of a work; a work may have multiple (and simultaneous) narrative architectures; and it may be unable to be represented or distributed in any adequate hard copy format.

However, much of the literature on softcopy appears to have concentrated on its implications for the presentation or reading of content or documents, whereas softcopy also has obvious and significant implications for how we consider the authoring of content, a point well made in a different context by Moulthrop and Kaplan (1991). All that is meant by this is that if we are working in a fully softcopy environment, that is working on a computer to present material that is only to be realised via the computer, then we can use new or different tools, and certainly different methodologies and practices, than those we might use for hard copy authoring and presentation. This should not be confused with the common Information Technology instrumentality that uses digital tools to do old jobs in new ways, softcopy is instead a paradigmatic shift in the sorts of objects that can now be authored which entails, like most paradigm shifts, new ideologies (or at least the revisiting of old ones) of not just reading but also authoring.

As an example of hard copy (print) ideology in softcopy environments, consider the role of alphabetisation, which we ordinarily use to serially order things like academic bibliographies. Of course, they only need to have this order because they have traditionally appeared on paper, so that if you need to find a particular bibliographic entry you need to know where in the list it ought to appear. However, in a softcopy environment this is no longer necessary (and its persistence is largely due to the hegemonic hold of print literacy in academic culture) because a simple search function can easily retrieve and display any bibliographic entry, anywhere in the document or docuverse. This is not an argument against the alphabetical ordering of lists in bibliographies, it is only to point out that features like 'sort' in word processing programs are there to facilitate content into hard copy and maintain existing paradigms of content authoring and dissemination. Most hypertext tools, on the other hand, tend not to rely on things like alphabetisation to sort or categorise information, including lists.

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To write in a softcopy environment is to begin to recognise some of the ideological assumptions drawn from the hard copy world that have naturalised (and socialised) our approach to the authoring, publishing, and reading of content in softcopy domains. These assumptions are derived from our intimate understanding and experience of the material resistance of hard copy environments (which for instance is why and how we have things like pagination), as it is a sophisticated material literacy that lets me make a list using a biro on paper rather than glass, and mistakes the decision to do this as my own. In print literacy this material resistance includes such things as the materiality of language (de Saussure's signifier), our tools of inscription, and what it is we think we want to say with these. That each of these have been naturalised by the hardcopy paradigm of traditional print literacy is foregrounded by softcopy as a writing and reading practice.

Softcopy Towards Digital Video

Simply put, softcopy suggests that it is not only the presentation of objects that may change in digital environments but also the sorts of objects that can be created. However, we can only make these new objects when we are able, as most of us are with print literacy, to recognise and write in and with the qualitative material resistances and affordances of the softcopy world. This materiality is often thought to be superfluous in electronic environments, after all digitisation erases difference at the machine level, but of course as any new media practitioner knows there is resistance in code, the screen, bandwidth, users, and so on. There is a difference however between being able to affirm this resistance as that which constitutes work — work as an object and work as praxis — and regarding this resistance as noise that an imagined electronic future will dissolve.

When we move to video and digital technologies it is apparent that digitisation is firmly established in the production work flow of film making at almost all professional levels, with significant creative and industrial consequences, as Elsaesser and Hoffman's (1998) anthology and McQuire's (1997) report show. Certainly, from introductory film schools to high budget features have adopted digitisation in various guises, and with the introduction of iMovie on the Macintosh and Windows Movie Maker on Windows XP, digitised video is largely the only way domestic users have ever had to edit their work. While the aesthetic influence of the digital as a mode of narration on commercial and industrial production remains relatively minor, though landmark narrative fiction works are probably Tykwer's *Lola Rennt* (1998), Figgis' *Timecode*, (2000), Cochran and Surnow's television series *24* (2001), and Nolan's *Memento* (2000), see for instance Hales (2002) and Dovey (2002), it is also the case that most of the digital tools used in cinema production have been resolutely orientated towards hard copy outcomes, and in fact treat digital video largely as if it were only hard copy orientated. This hard copy view

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also extends to computer based video work that is not intended for traditional screen based (television and cinema) delivery, such as online, CD and DVD content.

Desktop Digital Video Into Softvideo

Desktop based digital video is probably at a similar point to what desktop publishing was with the introduction of the first Macintosh in 1984. It is now possible to shoot, edit and print to tape broadcast quality video using a small digital video camera and a laptop computer (indeed Apple's influence here is striking with Final Cut Pro largely revolutionising and redefining digital video production as it moves from the desktop to the laptop). Like desktop publishing before it – right down to the almost but not quite affordable tools — desktop digital video primarily decentralises the ability to do what previously could only be done with very expensive, essentially centralised, capital and skill intensive resources. And, just like desktop publishing, its major effect is not to see a revolution in genres or a revisited poetics of cinema, but simply facilitates access to production resources so that more people more or less can now do more of the same.

This, it must be stressed, is not a bad thing. However, as hypertext rather elegiacly showed us, it was not WYSIWYG design and printing that led to significant new digital genres (indeed the laser printer is irrelevant in this context), but work that was designed to take advantage of the environment that the computer in its entirety provided. In the case of digital video, the same applies. For example, iMovie and Final Cut Pro, Windows Movie Maker, Adobe Premiere, Avid Xpress DV, and Media 100 are all digital editing systems intended to facilitate content for presentation in existing televisual contexts. This means, much like the printer in desktop publishing, that they're primarily used to print content back to tape, whether to the camera or a VCR hardly matters.

If you like, these digital tools are primarily orientated towards publication (or transmission) and this form of publication requires a linear time based substrate, the privileged model of which is of course film and its avatar the video cassette — video hard copy. Now, obviously I am suggesting that this is not so very different from using your computer to get words out onto paper, and it isn't. But of course it also suggests an alternative conception where we can use our computers to work with time based media where the delivery environment is not subject to the temporal temperance of cinema and video. This does not simply mean that we can now make works that are multilinear, which seems to have been the popular understanding (and practice) of much networked interactive media. As we've seen, softcopy in relation to writing includes much more than multilinearity, and while all the formal qualities of softcopy may be formed in relation to their interrogation of the stability of the page, they have also provided a poetics of screen based textual production and reception that productively looks outside of the page or the book. This suggests that we ought to be able to articulate a new poetics for desktop video — where historically digitisation in regard to video has been

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understood to be little more than a combination of a moving image plus sound track that can be played 'randomly' — that is neither specifically cinematic, videographic, or generically multimediated, a poetics that looks towards the formal possibilities afforded by digital, networked, screen based video. This poetics requires the video equivalent of softcopy, or as I prefer, softvideo.

Applied Softvideo

A softvideo poetics requires an immanent form of working with digital video that is perhaps modelled as much on writing as it is on film making practice. This is not an argument for the necessity or inevitability of code but only the simple observation that we have a sophistication in the way we use a biro and a piece of paper that is an exemplar of an informed literate poetics. We doodle, take notes, write in the margins, sideways, on recto and verso, apply different pressures for variable densities of ink, and so on. Contrast this to interactive digital video, as a specific, immanent, and emergent digital computer process, and what largely happens is that traditional praxis remains untouched. We shoot, we cut, we compress, we put the moving image plus sound track online or into our interactive work.

What is the difference between hard and softvideo? Largely that in hard video the digitised video remains a singular or if you like sufficient media object in or for itself. I mean this not only in terms of perhaps what the video segment, fragment or sequence might mean, but more specifically as an object in itself where the integrity of the object is and remains singular. It is a moving picture track with a sound track with a fixed duration. This is digital video as a delivery envelope, and even where such content might be inserted and made a part of multilinear interactive works, whether fiction, nonfiction, experimental, online, CDROM or DVD it is not interactive for the video remains mute in regards to interaction which generally happens outside of itself. In other words, it is not that much different from television, click, it plays, click, it stops, click, it gets louder, or perhaps quieter.

However, if we approach video as softcopy, that is as softvideo, then we can think about digital video in dramatically different ways. This thinking, of course, can only be preliminary as I think it is clear that the genuinely novel forms or genres that will emerge from a properly digital video practice are yet to be recognised, or even found. (In much the same way that I would argue that blogs are one of the first major immanent genres for networked Web based writing, and they took a good five years to appear, and probably another two years to become obviously visible and intelligible as a genre.) But such a thinking does and will ground itself within the materiality of digital video as a practice that hears and responds towards that which is immanent to, and enabled by, these technologies, a looking forwards toward the new rather than our current looking backwards to define the forms and uses for digital video.

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A first step towards softvideo is to no longer regard digital video as just a publication or delivery format, which is the current digital video as desktop video paradigm (which is of course the same as the desktop publishing model) but to treat it as an authoring and publication environment. This suggests that a major theme for a softvideo poetics to explore is the description or development of a videographic writing practice within video itself, that is to use digital video as a medium in which we write. To return to my hypertext analogy, it is the difference between writing in a native hypertext architecture (say for instance Eastgate's Storyspace, Apple's Hypercard, or even simply HTML) and writing in Microsoft Word and choosing to save your document as a web page. The former is writing hypertext while the latter confuses publishing in a medium with writing in the medium. To write in or with digital video should allow us to articulate a vocabulary of the elements that may constitute the formal contexts of softvideo, so that softvideo can become an engaged rather than imaginary practice.

Currently, as far as I can determine, QuickTime is the only readily accessible digital architecture that supports the qualities of softvideo, and what follows is an explanation and exploration of some of the implications of this as I have developed them in my own applied research practice.

As a simple example of what I mean by the materiality of softvideo is the difference in the way that a softvideo architecture conceives of frames and frame rates. If, for instance, I wish to show a still image with a continuous soundtrack, then in most video editing programs I simply import or capture (or draw) the requisite image, then stretch its duration to the soundtrack. When I save and export this work it will then draw this still image for the required number of frames at the specified frame rate. This is digital video as hard copy, for if my delivery environment is the computer screen then there is no need whatsoever to draw the single image at any frame rate, because there is not in fact a need for a frame rate in this sense — frames per second itself being very much a hard copy or hard video concept.

However, if I author my content in something as simple as QuickTime Player and do the same thing, then the final digital movie that is produced operates in a softcopy manner, QuickTime simply displays one image (one frame if you like) and holds it on screen for the specified duration while the soundtrack plays. In real terms this means that to add (keeping our example rather simple) an image to a soundtrack and then saving this as a completed digital video only adds the size of the still image to the final digital file. This is the case whether the movie runs for one, three, or twenty minutes. This is a softcopy conception of digital video.

A project that illustrates this well is "International Day of Time Dependent Art" (Miles, 2002, Figures Two and Three) where approximately two minutes of digitised video, or if you prefer 2MB, has been stretched to run for twenty minutes twenty seconds. Of

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course the effect of this is to make the indexical video content (what the video footage is of) appear in extreme slow motion, but the point is that this is a digital movie that now runs for over twenty minutes, yet is only 2MB in size. Stretching its duration to forty minutes, if I am authoring in QuickTime for softvideo, makes no difference to the file size — it would still be 2MB in size.

This is, of course, just a beginning, but it does suggest some of the ways in which cinematic duration becomes problematised in softvideo (a point I shall return to). More significantly for a softvideo practice is the understanding that an architecture such as QuickTime is a multitrack and multiobject architecture. What this means is that a QuickTime (and in the near future MPEG 4) file does not need to consist of one video track and one sound track, indeed the “Day” work mentioned above consists of nine video tracks, one text and one sprite track, but can more or less include any number of video, audio, text, picture, and indeed several other sorts of tracks. Now, this immediately makes possible various forms of videographic collage and montage within a single work, what Manovich (2001) describes as spatial montage. For instance, by combining one picture track with, say, nine video tracks, a movie like “canberra rain”(Miles, 2002, Figure Four) is possible, with the divided video panes in themselves providing a form of montage, a literal cutting, internally within the movie, while also being simultaneously a form of video collage. In addition, nine text tracks are available within “canberra rain” which adds another layer or level of collage within the movie as they toggle between visibility and invisibility in response to user activity, and of course as each text pane partially obscures the video panes it also becomes an additional level of montage, though a montage performed via collage.

When child movies (see for example “Child movies”, Miles, 2002) are introduced, that is tracks where the content is independent of the parent movie, then further formal problems become evident. For example in “Exquisite Corpse” (Miles and Stewart, 2002, Figure Five) three child movies are arranged within a wide screen parent movie. As the three videos and their accompanying sound tracks are child movies each can be played independently of the parent movie, and independently of each other. This also means that each child movie may also be of variable duration. In the case of “Exquisite Corpse” the user mouses into the upper or lower bar over each video window, which simply runs its associated video pane at normal speed, with full volume. At the same time the next video pane in the series plays at half normal speed, and then the next track at quarter normal speed. Mousing into another video track simply repeats the process in series.

A simpler outcome is effected in “voxxog” (Miles 2002, Figure Six) where the central video window is divided into four transparent sprites that count and store the number of mouse entries (that is the action of the user moving the mouse into the sprite space is counted) and this is used as a variable to control which of 70 individual images to load in each of the four smaller video panes. These four panes are childmovie tracks and

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so what gets loaded in this particular work is conditional on when and where the user mouses within the video space. Of course these could also have been loaded on the basis of time, a combination of time and user activity, or indeed just randomised.

One Softvideo Poetics

It is important to recognise within these works, and in softvideo practice in general, that each of the tracks that constitute a QuickTime work are independent objects able to be scripted by the softvideo writer (softvideographer?). That is, each track can be conceived of as analogous to individual nodes in a hypertext work. Furthermore, each of these tracks (as objects) have a range of properties that can be controlled or negotiated via a softvideo writing practice, which in this case is literally scripting, so that their speed, visibility, volume, size, colour, transparency, direction of play, mobility, and even their presence, can be engaged with. While a softvideo movie may contain nine video and nine text tracks each can easily be made to move, play, overlap, disappear, reappear, and so on on the basis of readerly actions.

As a point from which to begin, certainly in the contexts of my own applied research practice, these formal elements constitute the domain of one particular softvideo practice (for softvideo is a methodology rather than a genre, style or formula) involving the use of softvideo for networked interactive desktop video. These works, known as vogs (video blogs) appropriate the generic form of the personal blog as one appropriate model for articulating a softvideo argot. This means the vogs are works that consider themselves to be sketches rather than monuments, after all, in an age of desktop consumer digital video it is probably time that video became as disposable (or cheap) as the word. As the vog manifesto (Miles, 2000) states, networked interactive desktop video are an applied softvideo practice that recognises a set of key terms as enabling and productive constraints. These terms include their production and delivery via a network, on desktops, they require and assume interactivity, and they treat digital video as an authorial plastic architecture rather than a delivery format.

Vogs are networked in that they are distributed via existing, viable network infrastructures, often including low band. In addition, a vog may utilise the network as an integral part of its softvideo practice, for instance in appropriating objects outside of itself that reside on the network providing links to objects that are available on the network, or in a more sophisticated model utilise things like QuickTime's child movie abilities to load external content when requested. However, vogs are also networked in a less technical sense through the softvideo writing model they offer. They are small works that, like blogs, tend towards a public intimacy and offer a model for what I'd characterise as a distributed softvideo writing practice, in the same manner as blogs (Mortensen and Walker, 2002). In other words, they are less about consumption (watching others content) than exploring models for authorship and production, for as

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blogs and most other successful and viable networked communication technologies indicate, it is the ability to participate as communicative peers that is much more significant and viable for distributed networks than our reconstruction into new consumers.

A vog is interactive in that the user has to do something, and this something affects in a literal way the work itself. This is more or less Aarseth's (1997) 'ergodics' where the reader or user needs to perform non-trivial actions to read the text, and these actions are non-trivial because they have consequences for the text. Hence, clicking a play, pause, or stop button is not ergodic, nor is it what I would characterise as interactive — unless we want to call our everyday use of television interactive — as they are essentially trivial actions (much like turning the pages of a book) and do not qualitatively affect the text in itself. Of course, this also presents the possibility that while an individual vog ought to be ergodic, it would be perfectly reasonable when considered as a genre or a collected body of work to have a vog or vogs that in fact are not ergodic. This would be analogous to those hypermedia works that might utilise passages where there is little user choice, for instance parts of "Grammatron" (Amerika, n.d.) or "Hegirascope" (Moulthrop, 1997), and recognises that when interactivity is taken as a given then the lack of such interactivity becomes significant and meaningful. A Web example of this would be the "last page on the internet" screens where the playful irony of the work can only operate because of our now taken for granted assumption that all web pages are in fact linked in and out.

Finally, as an applied videographic networked practice vogs recognise that the visible context of publication or distribution is the personal computer screen. This does mean that the context of viewing is individual, personal, and probably domestic. It also means that users in such environments are generally time, bandwidth, and screen poor. Simply put, most people, most of the time, may not have two hours to interact with your content each week, and so much like blogs, vogs tend to be brief and either self contained or episodic. Even where users have significant bandwidth, for example first world universities, this still poses considerable restraints on the screen dimensions and resolution of softvideo works. In addition, users not only generally have smaller screens than those who work professionally in new media, but of course as a personal and domestic space user computer screens are also being used for other things at the same time, so a vog does not usually attempt to own all of a users screen space. This reflects the way that people actually do use their computers, ordinarily having several windows, programs and activities underway at once. An appropriate use of softvideo for such contexts then ought to recognise this and insert itself within or around what is the desktop computer equivalent of Raymond William's (1990) televisual flow.

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Conclusions (Consequences)

The implications of a work as simple in structure as “Exquisite Corpse” (Miles and Stewart, 2002) are quite dramatic. As each of the child tracks has been scripted to loop “Exquisite Corpse” is a film with no duration, that is it has no end. This is a much more radical implication than simple video looping suggests, where such looping has tended to be singular and stable and so no fixed end simply means iterative repetition, for here there are three loops, with completely independent and variable durations, where the speed of play is partially controlled and negotiated by the user. Hence, to play this work, and here play becomes a very literal and active verb, the user via their action and the scripting is controlling the playing rate of each of the three tracks, and as they move from one to the next the duration of each is constantly changing, effectively always changing the duration of the whole.

Furthermore, the relations or combinations established between each of the three video panels is and remains an open set, for mousing through the movie in the manner required to play it produces forms of collage (images on a common plane in simultaneous vision) and montage (when and where you mouse effects visual changes in the relations between consecutive parts) meaning there is no fixed work, canonical order, sequence, or teleological point that the relations among each of the three works aims towards. Hence, not only is the work of no fixed duration due to the combination of three variable loops, but also each time it is played performs a new and singular iteration of the work.

The recognition that each track within the work is in fact capable of being an independent entity is a major paradigmatic shift in terms of traditional cinematic practice. It does begin to suggest the ways in which softvideography is a qualitative shift from the more usual methods of digital video production and it also helps to illustrate the way in which softvideo is analogous to hypermedia writing rather than traditional visual and audio editing practices where *mise-en-scène* considers the parts within the scene as ‘objects’ to be ‘written’ with, and montage as a second level principle of organisation and decision. In the final work these choices appear as fixed and from an authorial and directorial point of view decisions are singular, as one shot is selected in lieu of another and then inserted into a fixed sequence. In softvideo each track, which of course can be of variable duration, location, size, content, and type, becomes an object to be written with, where this writing with is constituted by or in the event of authoring the work. Each track within a softvideo work is now considered as an object so the activity of making or writing softvideo is constituted by not only the decision about which objects to include and when, but also which of the variable properties for each of these objects ought to be scripted, and what that scripting might affect. These objects could be video sequences, soundtracks, still images, text, or even entire other QuickTime movies. Softvideo becomes more or less a form of ongoing

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and always variable, and so open, *mise-en-scène*. Once we recognise that tracks in a QuickTime softvideo work are discrete objects writing with these, providing an interface that controls them in some variable manner, and then actually playing these works (where it is clear that to play means much more than stop, pause, start), suggests that softvideo always requires and participates in an engaged and individuated process. It's model is always a contextualised singularity.

All that I wish to mean by this, and I do want to insist on the change it represents, is that rather than compose the work visually and acoustically (before the camera and then in postproduction), then 'flattening' this work into hard copy, there is an ever present malleability to the material that now extends from the moment of content production, past that moment of traditional authorial closure, into its future. This malleability is not the question or problem of the ways in which the work will always be interpreted differently, but affects the very nature of the object that is to be interpreted, as such a work, at least in some respects, will always be a qualitatively different object in each presentation. It is not that the object produces varying interpretations but that users in the act of reading the work will inevitably produce varying works.

That the practice of softvideo raises significant and productive questions for traditional cinematic practice and theory ought to be obvious. One major question revolves around the way in which softvideo problematises montage as a fundamental mode of time based discourse, for each of the works discussed shifts the location, role and function of montage away from the preselection and serial ordering of an eventually fixed sequence towards other possibilities. Montage as a principal of selection and organisation can now reside somewhere between the shooting or gathering of material, a dynamic combinatory system of construction (more or less automated), and a user who (more or less) knowingly controls and determines the particular montage event and sequence.

The use of multiple windows further complicates this as the relation of window to window offers a complex collage practice, whether this be via a multiwindowed work or, in the case of the vogs, that the works appear in an always and already multiwindowed environment (the PC screen) so that a simultaneous visual relationship to other windows is always present. When time is added to this, so we recognise that the collage that is the computer screen also varies in time (this window now opens over that window) then we have a combination of collage and montage that does appear to be one of the major formal properties of such digital environments (Landow 1999, Manovich 2001).

While cinema has always had a sophisticated relationship to temporality it has also had a certain belligerence — ninety minutes of film or video has always and will always occupy ninety minutes. Not in softvideo. Like cinema and hypertext, it is the manner in which the parts reflect a qualitative change in the whole that is the principle of meaning and construction in softvideo (Deleuze 1986, Miles 1999). This suggests that not only

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is spatiality largely not of great significance for such screen based works, but that the cinema's indexical relation to time may no longer be the bedrock for a screen based interactive softvideo practice. However, as Deleuze more than adequately demonstrates (and for that matter Chris Marker's *La Jetée*), cinematic duration is not the same as the record or representation of time (time as quantity) but rather the expression of a qualitative change in an always open set. This suggests, to me at least, that Deleuze will offer softvideo an applied argot that will assist in our theoretical consideration and development of a new desktop cinema practice, a theoretical endeavour that I hope will complement a possible future softvideo practice, a videographic écriture.

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CHAPTER SIX

That Moment Might Do: Videoblogs and the Any–Instant–Whatever

Miles, Adrian. "That Moment Might Do: Videoblogs and the Any–instant–whatever." *Post Identity* 5.1 (2007).

This essay, in its original form, was an interactive softvideo essay authored in QuickTime (Figures Seven and Eight). It contained spoken commentary and various still images arranged in a multilinear outline. Each image corresponded to one of the section headings below. What is included here is the commentary, arranged according to its sections. The work uses Deleuze's concept of the "any–instant–whatever" as a theoretical frame to approach video blogging.

Introduction

All following quotes are from: Deleuze, Gilles. *Cinema One: The Movement–Image*. Trans. Hugh Tomlinson and Barbara Habberjam. Minneapolis: University of Minnesota Press, 1986.

Movement, conceived in this way, will thus be the regulated transition from one form to another, that is, an order of poses or privileged instants, as in a dance. (p.4)

The modern scientific revolution has consisted in relating movement not to privileged instants, but to any–instant–whatever. Although movement was still recomposed, it was no longer recomposed from formal transcendental elements (poses), but from immanent material elements (sections). Instead of producing an intelligible synthesis of movement, a sensible analysis was derived from it. (p.4)

[Everywhere the mechanical succession of instants replaced the dialectical order of poses: "Modern science must be defined pre-eminently by its aspiration to take time as an independent variable." [Bergson, *Creative Evolution*, cited in Deleuze] (p.4)]

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It is in this sense that the cinema is the system which reproduces movement as a function of any–instant–whatever that is, as a function of equidistant instants, selected so as to create an impression of continuity. (p.5)

If the equidistant points are chosen well, one inevitably comes across remarkable occasions; that is the moments when the horse has one hoof on the ground, then three, two, one. These may be called privileged instants, but not in the sense of the poses or generalised postures which marked the gallop in the old forms. ... If these are privileged instants, it is as remarkable or singular points which belong to movement, and not as the moments of actualisation of a transcendent form. (pp.5-6)

THE COMMENTARY

“conceived in this way”

Once upon a time it was thought that the world was a fallen place (indeed many still believe this) and that all of the earthly forms were only shadows of their possible true and ideal form. A circle, here in the world, could only ever be not quite perfect compared to the circle that I could imagine, describe mathematically, or expect to find in a promised land.

Now while in our vernacular existence such ideal forms may never be achieved (bracketing the problem of whether it is a legitimate problem), it has not meant that many art forms, for an awfully long time, aspired to the expression of such ideal forms. This is the art of the pose. Of the frozen gesture that is imagined to express the essence or quintessence of a moment, emotion, or event. Much Renaissance religious art springs to mind, as does courtly dance, and of course more recently the traditions of classical portraiture – which of course appear in some early photography.

In such a universe movement can only be understood as the interval (and a dangerous, potentially fallen interval at that) between one pose and the next. Or, as Deleuze suggests, one privileged instant and the next. In this conception movement is quantitative, as it is the distance between privileged instants (which in themselves would be qualitative moments, it is the difference between the Stations of the Cross and what falls between the stations) and as such is always secondary to that which they may progress between. Here movement is not a relation in itself, and is not even particularly that which relates one privileged instant to the next, all is invested into these instants–in–themselves so reifying an epistemic regime of essence, wholeness, and transcendental perfection.

Now, as Deleuze later notes, we still have the occurrence of privileged instants, the difference now, is that we no longer conceive of the world as being constituted by the attempt to unveil or achieve such moments, or that the everyday is the sum total of the distance between such inadequate moments and the poses available. In the secular

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world of narrative closure, for example, the denouement that facilitates the closing of all stories within popular media is the unveiling of just such a privileged instant. A moment that in the familiar formulaic of such storytelling is understood as having always been there, waiting.

(It is interesting to note, however, that in a modern literate and media dense world, it is possible to conceive of the privileged instant as that which cannot be seen, that refuses the pose. For example think of the sublime religious cinema of Robert Bresson where the conclusion of each film is an unveiling of the transcendent and sacred — which is why in fact it can never take the form of the pose — and so must happen off screen.)

Now, for video blogging I am going to take it as a given (you're welcome to argue this with me) that it is currently defining itself against the mirror of contemporary popular television, and to a lesser extent various forms of independent film practice (documentary, essay films, travelogue, no budget cinema, home movies, and so on). Now, and I don't know where this will lead (if anywhere), but it might be productive to recognise that we could characterise contemporary television (I have in mind in particular things like television news, current affairs and traditional television documentary) as a television of the pose, of a disciplined (in many senses) instant that always knows what is next (hence the popularity of the blooper) and always tries, and certainly accepts, the privilege of its instants. While much televisual news presentation may have moved from the gravitas of the 1960s, it retains its autonomy and authority as a series of known and repeatable poses (the desk, direct address to camera, the 'call' or segue to reporters on location, motion graphics, and their role as 'anchor') that, as poses, are transferable or exchangeable (between individuals, stations, even nations). In video blogging (remember, I suggested caution here, I really don't know where this is going) the pose is evident in the rapid adoption of a novel form of direct address to camera where the speaker is the director/author of the blog post, but their direct address now aspires to the informality of the traditional blog. Hence it is usually hand held, improvised, and more often than not perambulatory. This a pose which has some of the qualities and all of the aspirations of the privileged instant, yet of course since it is a video blog (by definition the video of the very everyday) consists of any-instants-whatever.

Movement here is literally only internal, it is not between other video blog posts and other video blogs, even where they may be named, cited or called to.

“modern scientific”

Empirical procedure requires measurement to be indifferent to that which it measures. A metre is a metre, and each moment of time is evacuated of duration (of a lived or vital temporal change) so that it can become the measure of other activities. This is

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best rendered as the movement of objects in space, or the change in time of some thing. In other words movement is now made of up repeatable and measurable units and movement becomes equated to the reproduction of such movements, or simply the record of the passage between points (whether in space or time).

In this conception movement, that which relates the before and after, there to here, has the possibility of becoming or being indifferent to what lies between (it is after all sixty seconds, and sixty seconds is sixty seconds and will always be so). This separation of movement from the thing, and the separation of movement into a quantitative measure, is obviously essential for scientific procedure.

Imagine conceiving of the history of media (and here media refers to the use of substrates to narrate things that are not, in themselves, of that substrate) as the movement from the representation or production of privileged instants towards the dissemination and multiplication of any–instant–whatevers. Greek statuary, Renaissance tableaux, the rise of the novel (a literature of the common), industrialisation and modernism through to mass media and now blogging with its media rich avatars. This original pose was also a compressed form of information, where the pose, the privileged instant, contained within it megabytes of deep knowledge or at least its potential. With the move to the any–instant–whatever knowledge was divorced from the pose, which after all is what allowed Shannon's breakthroughs in cybernetics.

Blogs as the media of the any instant whatevers. This is the basis of reactive criticism against them (are about anything, and so about nothing).

“mechanical succession”

This mechanical succession was of course made literal with the rise of the movie camera. The same apparatus was transposed to the video camera, and even with the move to digital video the mechanical nature of recording is maintained through the succession of instants and their recording. Indeed, the sample rate has largely stayed constant, with cinema having standardised itself at a sample rate of 24 frames per second, PAL video at 25, and NTSC video at 30 frames per second.

In all of this the sample rate is independent, it bears absolutely no relationship to that which is being recorded, an obvious point, but aside from Bazin's early insistence on the indifferent mechanical nature of the cinema one that we seem to have become acculturated to.

(By way of counter illustration, imagine strolling through a garden where the rate at which you could view each of the scenes that opened before you, from wide open vistas to the intense purple of an iris, was entirely arbitrary. Where to view was not

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determined by your interest, by the reverie of the stroll, but by frames per second or its equivalent.)

Is this where we get televisual flow from. and then from here can I move from televisual flow to blog flow?

“equidistant instants”

The principle that informs the recording of time based media is very simple. Each instant sampled is, from the point of view of the recording machinery, equal. The first, the last, all that lies between, are the same. They are the same media, same amount of information, same size. Furthermore each sample point is equal in its relation to every other sample point. This is realised through the metronymic exactness of the recording apparatus where each sample point is equally distributed in time from the other.

As a consequence recording registers any–instant–whatevers. The recording apparatus is indifferent to what is being recorded, unlike the pre-scientific recording of the pose.

I have argued in other places about the relationship between cinema and hypertext (Miles, 1999). In many ways connections established via links are conterminous with film edits in that they are able to establish new relations between parts and that an edit, like a link, effects an incorporeal transformation of its parts, which is what enables individual parts to be ‘broken’ and distinct parts to be rejoined. As a consequence hypertextual writing systems, while clearly post literate, can also be considered as a post cinematic writing.

Now HyperText Transfer Protocol (the ubiquitous ‘http’ of the World Wide Web) is a stateless protocol, where stateless means that HTTP does not retain state information about the connections it services – at best it knows which page you may have just arrived from, but that is all, (which is why any part can be connected to any other part). As a consequence we can see that for blogging each post is equidistant from another from the point of view of linking. Indeed spatiality, such as it exists, is translated into time online as how long something may take is a much more significant question than where is it coming from, even though the two may be intimately related.

It is this equidistance between posts that has facilitated the development of the complex link ecologies that are the hallmark and innovation of blogging. Individual textual blog posts, while equidistant from each other, would not in themselves appear to be the product of equidistant instants, certainly not in the manner of contemporary mechanical recording. However, from the point of view of other media systems it is a small step to recognise that blogs are a movement (and I stress this as a general movement rather than the specific mechanical, scientific and equidistant sampling described by Deleuze) towards such equidistant instances. The difference however, is

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that the any–instant–whatever is realised not through a specific mechanical apparatus of recording but within the logic of blogging as a medium. Blog posts can be, and often are, the textual equivalent of an any–instant–whatever, whether this be via the dullest blog in the world (Walker, n.d), the various cheese-sandwich of the day efforts (Bernstein, 2006), or more commonly what an individual blogger chooses to write.

The distinction being drawn here is minor, but needs to be clear. From the prejudiced perspective of mass media (which has, in the Internet Age become more accurately “High Mass Media” as opposed to the net’s “Low Mass Media”) blogs are precisely about any–instant–whatevers. In this they are much like the personal diary, except now through the agency of the link forms of movement are created between parts that generate novel forms of continuity.

“singular points”

While the machinery for recording time based media is based on sampling equidistant and immanently equal moments, as a consequence privileged instants are revealed. These are those moments recorded, sometimes by accident other times by design, that would otherwise be unavailable. This could be because they happen too quickly and so reproduction allows temporal manipulation (think of the pattern of a drop of water in slow motion), or by happenstance. Such moments are remarkable not because they return us to the transcendental form of the pose, but because amongst the eventful change of the ordinary the exception is recorded.

Fundamental to this is that these moments, Deleuze’s ‘singular points’, are a product of movement, the consequence of movement, and are not derived from or the expression of the pose, of the idealised extraction of movement into a fixed form. Movement has priority, and as is clear throughout the first chapter of *The Movement Image* movement is not the quantitative travel of an object from one place to another, but is the qualitative change from one state to another through time:

Thus in a sense movement has two aspects. On one hand, that which happens between objects or parts; on the other hand that which expresses the duration or the whole. . . We can therefore say that movement relates the objects of a closed system to open duration, and duration to the objects of the system which it forces to open up. (p. 11.)

How can I have a blog post that stays, always, open to other relations (because it remains available to be linked in to)? Because the possible (in Deleuze’s terminology the virtual) sets that it has before it are part of a whole which is open, where the open is that which allows and is qualitative change, that is duration. If an individual blog post did form a set, that is a bounded group (whatever terms we may use for what constitutes membership of the set), including the set of possible future relations, what needs to be accounted for is, precisely, the post’s possible movements through these sets (as

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they will, of necessity, be plural). Now, as it finds itself, via links, amongst new sets of relations, it will find itself, in itself, altered. For example it is trivial to write something that criticises or recontextualises another blog post, and by linking to that post so changing that other post's possible meanings. This is different, radically different, to simple hermeneutic claims about multiple interpretations — it is an act of incorporeal transformation where the object itself becomes something different to itself without transforming or changing the thing itself. (Exactly the same process happens in cinema as Kuleshov's experiments showed.)

How can this be? And in spite of appearances that is not a naive question, rather it is one that we have forgotten how to ask precisely because we have become acculturated by such televisual economies (the instant connection that is the edit). Blogs slow this down, but it is the same activity, and it is enabled because these relations are about qualitative changes between parts, and such qualitative change is available because duration provides an always changing (and so open) whole upon which

This suggests that blogging, that is plain text blogging, is post televisual and that it is continuing a thinking of duration that the cinema inaugurated. It also suggests that video blogging is more conservative in relation to this post televisual economy to the extent that it remains enthralled by the televisual as a reproduction of movement and not movement in itself (immobile section versus mobile duration).





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CHAPTER SEVEN

Softvideography: Digital Video as Postliterate Practice

Miles, Adrian. "Softvideography: Digital Video as Postliterate Practice." *Small Tech: The Culture of Digital Tools*. Eds. Byron Hawk, David M Rieder and Ollie Oviedo. Minneapolis: University of Minnesota Press, 2008. 10-21.

This originally appeared as a book chapter and discussed how softvideo relies on a postliterate conception of practice and discourse. It also outlines the implications of softvideo within the teaching of media studies.

Introduction

I open the box to unveil my new home computer. It might be portable, it might not, but if I'm at all interested in making my new purchase the 'digital hub' of my new 'digital lifestyle' then my computer probably has several USB ports, an IEEE 1394 (also known as FireWire or iLink) port, DVD burner, and if I went for all the options, 802.11b or 802.11g wi-fi and bluetooth. What this means, outside of the lifestyle advertising that accompanies such hardware, is that it is now technically trivial for me to connect my IEEE 1394 enabled domestic video camera to my computer, capture high quality full resolution video, edit this video, and then print this video back to tape or export it in a digital format for DVD authoring, email, or to put online. But, aside from digital home movies, what would I now do with all this audiovisual empowerment? In this chapter I'd like to suggest two answers to this question, one looks backwards to our existing paradigms of video production, distribution, and presentation, while the other looks, if not forwards, then at least sideways, to recognise that desktop networked technologies offer novel alternatives for not only production and distribution, but for what constitutes video within networked digital domains. This possible practice treats video as a writerly space where content structures are malleable, variable, and more analogous to hypertext than to what we ordinarily understand digital video to be. I call this practice softvideography.

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Digitization and Production

The influence of digitization on film production is well documented, rampant and certainly shows no signs of abating (McQuire). These large scale changes in the film and television industries are affecting all sectors of the industry, from big budget Hollywood features to low budget independent documentary, yet these changes generally maintain cinema and television as a specific cultural and aesthetic institution, so what has been affected are the means and processes of production, but not the form itself. However, the rise of domestic audiovisual technologies, for example software suites such as Apple's 'iLife' quartet (iDVD, iPhoto, iTunes, and iMovie), or Microsoft's Windows Movie Maker, threatens to do for home video what the original Macintosh achieved for the word with the invention of desktop publishing: the rise of desktop video.

While the rise of digitization has encouraged the distribution of access to a wider range of video tools, and has clearly affected the distribution of labour and expertise within various cinematic and televisual industries, these desktop tools have largely concentrated on maintaining 'film' and 'video' as hegemonic aesthetic or material objects. This is what I would like to characterise more specifically as the material hegemony of video and film, and this hegemony is maintained by the manner in which digital video tools support existing paradigms of what a video 'object' is. This means that video for software designers, users, and consumers is still conceived of as a linear, time based object that consists principally of an image and a sound track. Even where multiple tracks may be used in what is professionally recognised as postproduction—image and sound editing, sound design, effects and so on—these are generally 'burnt' down, much like layers in Adobe's Photoshop, for final delivery.

This hegemony has been maintained in teaching video and cinema, where it is common for vocational and professionally or industry orientated programs to utilise these technologies in the same manner as the broadcast and film industries.

Before exploring and demonstrating some of the potential consequences of this, and its implications for teaching in professional, vocational, and creative programs, I'd like to contextualise this paradigm shift using the example of print. This may appear odd, given the evident and obvious distance between print and the moving image, however I believe that the example of print, digitization, and hypertext has a great deal to teach image based new media practices. As I've argued elsewhere (Miles, "Cinematic Paradigms for Hypertext"), hypertext can be viewed as a postcinematic writing practice in its combination of minor meaningful units (shots and nodes) and their possible relations (edits and links). A great deal of the theoretical issues presented by multilinearity and narrative, whether fiction and nonfiction, including structure, causation, readerly pleasure, closure, repetition, and coherence, have a long and sophisticated history of analysis and work in hypertext. For example, many of the

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essays in Rieser and Zapp's (Rieser and Zapp) recent anthology on new narrative and cinema mirrors the excitement and anticipation that hypertext authors and theorists experienced twenty years ago. Indeed, the isomorphism of the arguments and claims in some of the essays is sadly uncanny, where you could substitute 'interactive video' for 'hypertext' and not in fact notice any difference!

The isomorphic relation which exists between hypertext theory and the new wave of interactive video theory represents a traditional theoretical blindness towards the cognate discipline of hypertext in image based new media practices, and lets us anticipate, on the model of hypertext, the three historical waves of criticism that will happen within interactive video. The first, of which Rieser and Zapp's anthology is a good example, is the work that is produced by those who establish the field and who primarily see a rich series of possibilities and a yet to be invented future. This work is full of excess, anticipation, and an almost naïve expectation about the implications of the technologies for audiences, genres, and media futures. The second wave will largely react against this first wave and will offer critiques of interactive video on the basis that interactivity isn't 'really' interactive as it is scripted, that linearity is inevitable at the micro level in terms of some sort of minimal narrative structural unit, that linearity is an inevitable consequence of readerly actions, and that there have been numerous historical antecedents for the work anyway. Finally, this will mature into a third wave of theory, probably dominated by a second and younger generation of scholars and practitioners, which will accommodate and accept the idealism of the first wave but adopt a much more theoretically pragmatic attitude towards interactive video in relation to its possible media histories and futures.

This history helps us understand contemporary work in interactive video by providing some larger contexts in which it can be inserted. More significantly, it also provides a short circuit by which we can map, or at least point towards, some possible futures simply by recognising that the minor disciplinary and definitional wars that will occur—what is interactivity, when is interactive video interactive, is it still cinema?—is important to the development of the field but only in terms of the productive problems it will generate, rather than the hypostatised positions it will produce.

Softcopy Hardvideo

Diane Balestri (Balestri) in a canonical 1988 essay characterised the distinction between using a computer for writing in terms of hardcopy and softcopy. Hardcopy is where we use a computer to write but we maintain our publication medium as the page, more or less traditionally conceived. This is to use all the benefits afforded by desktop publishing and word processing, for instance spell and grammar checking, nonlinear editing, cut and paste, WYSIWYG design, inclusion of graphics, outlining, typographic design, reproducibility, and the various other formal and informal writing

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practices that have accrued to these word-based technologies, however hardcopy retains the material hegemony of the page. Content is still presented in primarily linear forms, the dimensions are relatively stable within a document, documents tend to be single objects, pagination and textual features such as headers, footers, alphabetisation, indices and tables of contents are enforced to manage usability. Readers and writers are largely constructed via the constraints imposed by the medium, for example closure, temporal coherence and linear cause and effect are distinguishing features and have been hypostatized as the major formal properties of writing and narrative.

Softcopy, on the other hand, is the use of the computer for writing where the publication format is understood to be the computer screen associated with a modern graphical user interface. This means that content spaces are no longer pages but screens, they can be multiple, variable in size, altered by the user, and that content can now be presented, and not only written, in multilinear and multisequential ways. As has been well described by much of the traditional published literature on hypertext (Bolter; Gaggi; Landow; Lanham) the function of the reader tends to change in such environments. The implications of softcopy for the reader have probably been overstated because there are many reading practices that are multilinear and semi-random, television viewing armed with a remote control springs to mind, while traditionally the use of a dictionary, encyclopaedia or lifestyle magazine are also good examples of non or multi linear reading. However, for writers softcopy has much more substantial implications as writing on the basis that your work lacks a definitive beginning and end, may be read in variable sequences, and not in its entirety, does deeply affect the authority and task of the writer and the status of the text as a particular kind of object. The example that hypertext, hardcopy and softcopy provides for desktop video is that the relationship between computing as a practice and the discursive objects authored is the same in word processing versus hypertext as exists between desktop video and interactive videography.

The necessity for desktop video software to adopt a hardcopy paradigm is apparent when video material is to be 'published' on film or video tape, as both formats basically require an image track and an audio track, though this has some variation across formats. Such media are quintessentially linear and time based as they physically require the continuous playing of their substrate through a projection or reading apparatus, and so ideally support the development of time-based narrative arts. Of course, it is theoretically possible to have only a single still image presented for the duration of a work, for example Derek Jarman's 1993 feature *Blue*, which consists of a single image held on screen for 79 minutes, but of course in this case an image is recorded and represented 24, 25, or 30 times a second for the duration of the work. The technical necessity of this serialised reading and display requires any digital video editing software to reproduce this so that once editing is completed it can be 'printed

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down' so that any native digital file structure must match the material demands of video.

In other words, the majority of the tools that are used domestically, professionally and pedagogically for editing video and sound on the computer adopt a hardcopy, or as I prefer hardvideo, paradigm. This hardvideo paradigm is evidenced by the way in which all editing systems assume and provide for publication back to tape, and so maintain the video equivalent of hardcopy for video on the computer. Hence, these video and audio editing systems, much like word processing, provide numerous advantages and features compared to analogue editing, but do not require us as 'authors' or readers to question or rethink any of our assumptions about video as an object. A simple way to illustrate this is simply to think of frame rate and frames per second. Film has traditionally been standardised to 24 frames per second during recording and playback (though technically this is varied during recording to achieve things like fast and slow motion and stop motion animation), while video is either 25 or 30 frames per second (PAL or NTSC). However, if the computer were to be the publication environment for a digital video work, what would constitute frame rate? Frame rate exists in digital video largely as a legacy of its hardvideo heritage. In the example of Jarman's *Blue*, to edit this film on a digital edit suite and then to 'publish' the film, even to the computer rather than to video or film, would require the editing program to 'draw' the image 24, 25, or 30 times a second for its 79 minutes. However, a softvideo environment would have no need to do this, simply because the image is static for 79 minutes on a computer screen so all a softvideo tool would need to do is to draw it once, and then simply hold it on screen for 79 minutes. This is how QuickTime works when it is used as an authoring and publishing environment, and this drawing of the frame once and holding it for a specific duration is an example of the difference between hardvideo and softvideo.

This difference may appear to be only a quantitative difference as in the softvideo example the image track of this 79 minute movie would literally only be as big as a single blue image at, let's say, 1152 x 768 pixels at 72 dpi. This image, even at very high quality (little or no compression) would be approximately 100Kb in size, whereas the hardvideo digital equivalent for this image track would be approximately 600MB. However, once we introduce the network into the softvideo paradigm, this difference in size moves from a quantitative to a qualitative change.

Networks

Pedagogically, the distinction between hardcopy and softcopy in relation to text has, in my experience, proved to be a useful analogy for introducing and illustrating the relation of hardvideo to softvideo. Even where students have regarded themselves as primarily image makers they are deeply immersed and interpellated in and by print literacy, and so it provides a familiar context from which to problematize our 'commonsense'

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notions of what constitutes a possible softvideo practice. However, Balestri's original work pays little regard to the role of the network, and it is obvious that while the difference between hard and softcopy, and for that matter hard and softvideo, does offer a paradigmatic shift, the introduction of networked technologies and their associated literacies offers a further and dramatic qualitative change.

In this context the writer-reader of the Web has become the prosumer of the digital hub, combining consumer electronics with desktop technologies to make and view, produce and listen, distribute and download. Clearly, the network is the most fluid and dynamic environment for this to take place in, and it is in the combination produced by desktop video with the network that allows for the rise of a genuinely videographic discourse. This needs to be a practice that accepts the constraints offered by the network as enabling conditions, and will become a form of video writing that, like hypertext before it, will produce a hybrid form that no longer looks backwards to existing media forms and instead peers forward towards the future genres that it will invent. What prevents this possible future is largely the constraints provided by adopting television or cinema as the primary index defining desktop video as a practice.

Softvideography

Once the computer screen and the network are regarded as the authoring and publication environment for softvideo, video can be treated as hypertext, and, in the case of QuickTime, digital video moves from being a publication environment to a writerly environment. This ability to write in and with the multiple types and iterations of tracks that constitute the QuickTime architecture is the basis for softvideography. There is, perhaps, some irony in this, as in the past I have argued strongly that hypertext systems, particularly sophisticated standalone environments like Eastgate's Storyspace are postcinematic writing environments (Miles, "Cinematic Paradigms for Hypertext"). In this postcinematic conception of hypertext, nodes are structurally equivalent to cinematic shots in that they are minimal meaningful structural units, and links operate much as cinematic edits, joining these meaningful units into larger syntagmatic chains. Of course, the difference in hypertext, unlike traditional cinema or television, is that the syntagmatic chains formed are singular, whereas in hypertext they are plural, and their particular formations can vary between the reader, author, and the system. This is in fact a claim I regularly make with my undergraduate students undertaking hypertext work, and after six years I still have not had a student, all of whom have had some form of audio or video editing experience, not understand that this is in fact a very simple but powerful way to consider hypertext content and authoring. However, in softvideography this cinematic hypertextuality is returned to cinema, but in a manner that means considerably more than linked movies. To illustrate this I will use the example of hypertext.

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As a writer within a hypertext system, it is useful to consider each node as a minimal meaningful unit that may, or may not, appear in any particular reading. This approach to writing hypertext encourages the writers to shift their conception of authorship and reading away from a print and televisual model which assumes that the user or reader will comprehensively read or watch the entire work, from beginning to end. It also means the writer needs to recognise that each node exists within an economy of individuated readings where the link structures authored or generated constitutes the possibility for this economy. The content of a node has a meaningful status outside of its specific or possible link structure; however, nodes gain their meaning by virtue of the larger structures that they form via links. Simply, each node is a variable that, in conjunction with its links, may or may not appear in an individual reading. Whether they get 'used' or read is subject to various authorial, readerly and scripted decisions. They may appear, or they may not, and when they appear can be varied. The same consideration of content spaces is necessary in softvideography, so that the softvideograph equivalent of nodes is not conceived of as fixed or essential units or blocks, but as available and possible. This does require a shift in conception, largely because in such a temporally subjected media as video all shots or other significant units within the work are regarded as essential and inevitable. Shot sixteen is always shot sixteen, and because of this is thought of as in some manner quintessentially necessary to the work.

QuickTime is the structural architecture that supports softvideography in this way. In general, QuickTime provides two broad ways of treating content so that a movie's structural units are contingent and variable and not immutable and fixed. The first way is to take advantage of QuickTime's track based architecture, where a QuickTime file can consist of not only numerous track types, including video, audio, text, colour, sprite, midi and picture, but also multiple instances of each track type. Therefore, it is possible to make a QuickTime 'movie' that contains three video tracks, four soundtracks, a text track and two picture tracks. Each of these tracks is an object within the 'movie' and as an object it is structurally identical to how I have characterised a node, so that each track object, for instance each of the three video tracks, is able to be made available within the single movie on a contingent or programmatic basis. This means that you can script a QuickTime movie so that each of the three video tracks plays, or some combination of the three plays, and similarly with the soundtracks you may play all soundtracks at once, some combination of these, and of course you can vary the volume of each of the soundtracks subject to system, user, movie, or external variables. This applies to each of the track types, and individually for each track, and all of these can be varied in time, as the QuickTime file plays, which obviously suggests that complex permutations and relations are possible between all of the tracks of the QuickTime file.

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An example of this is “Collins Street” (see Figure Nine, Miles, “Vog: Collins Street”) which is a small QuickTime work that consists of nine video tracks, three sound tracks, one sprite track, and a colour track. The sprite track, which is a fully scriptable track type in QuickTime, contains nine still images that are temporarily collaged over individual video panes, and the colour track is simply the movie's black background, which in QuickTime is not an image but more like a vector based track and so draws a colour at a specified size. As “Collins Street” (a downtown Melbourne street) plays the user can mouse over each of the video panes, and doing so ‘triggers’ the sprite track which turns on and displays for a pre-scripted duration a jpeg image which contains text. The same sprite track also controls which of the three simultaneous soundtracks is being heard, and its relative volume. While this particular work might be thought of as an experimental documentary, it does illustrate some of the things that can be done using QuickTime, and the way in which tracks can be considered ‘independent’ objects within the movie, so that the movie now becomes not a linear audio and visual track but a container for a multiplicity of such tracks that are enabled variably.

As a more complex example, imagine a video image of a student cafeteria, with several tables of animated conversation in view. Mousing over each table could, for example, allow the user to hear the conversation at that particular table, while clicking on each table could load a new QuickTime movie that would take you to that table. To make this example more sophisticated, imagine that within this cafeteria scene when you click on a particular table to ‘zoom’ in to that specific conversation is significant—to click on a specific table in the second thirty seconds loads a different movie than if you had clicked in the first thirty seconds. Once you begin to appreciate that this is possible, then the sorts of narratives and content that can be made becomes distinctly different to our existing conceptions of video narrative. Time dependent, or otherwise variable links, embedded within the field of the video, shifts authorial activity away from the ‘button’ model common to multimedia and most existing forms of online video. These contextual intra-video links are qualitatively different sorts of link events than navigational, volume, and play buttons, in the same manner that text links within a written hypertext work are qualitatively different to those links constructed and provided by a navigational menu (Ricardo).

The second manner in which QuickTime supports work like this is through its provision of ‘parent movies’ and ‘child movies’. A parent movie is a container movie that may, like any other QuickTime movie, consist of numerous tracks, but it will also include one or more movie tracks. A movie track, which should not be confused with a video track, is a QuickTime track that allows you to load external QuickTime content, in effect other QuickTime movies, into another movie. The movie that contains the movie track is known as the parent movie, and the content that is loaded within the parent movie is known as a child movie. Child movie content can be any data type that QuickTime

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can read, and it can reside anywhere that the parent movie can access, so if the parent movie is designed to be delivered via the network, then the child movie content can, literally, reside anywhere else on the network. A parent movie can contain multiple child movie tracks, but more impressively an individual movie track in a parent movie operates as a list so that it may contain numerous individual external files. For example, you can make a QuickTime parent movie that contains a child track, and that individual child track consists of, let's say, a list of nine sound tracks. The parent movie can be scripted so that one of the nine child movies is loaded subject to whatever conditions or actions are scripted for, and this can be altered dynamically during the playing of the parent movie. Child movies exist in complex relations to parent movies, as it is possible to tie a child movie's duration and playback to its parent, or for the child to be independent of the parent. Where a child movie is slaved to the parent movie it may only play when the parent movie is playing, and it will stop playing when the parent movie ends. Where a child movie track is not slaved, then it can play independently of the parent movie's duration, and even separately from the parent movie's play state, so that even where a parent movie may be paused, the child movie can continue to play.

One example of this is "Exquisite Corpse 1.1" (see Figure Five, Miles, "Exquisite Corpse 1.1") which is a triptych which has a single parent movie which loads one child movie in each of three movie tracks. Within this brief work the movie tracks appear as video panes in the parent movie, but since they are child movies the three video movies that appear all reside outside of the parent movie. The child movies have been scripted to loop, and for their duration's to be independent of the parent movie, which in this case is a QuickTime movie that is only one frame long. In addition the bar above and below each video pane is a sprite track, so that mousing into any of the bars controls the volume and the playback rate of each of the three child movies, such that the current video pane plays at twenty four frames per second at full volume, then the next plays at twelve at zero volume, and the next at six also at zero volume. Each of the three movies varies slightly in content, and the effect of this structure means that to view the movie the user literally plays the movie, and that when and where they mouse controls the combinations formed between each of the three simultaneous video panes. This has several rather intriguing consequences. The first is that as each of the three child movies have durations that are independent from the parent movie, and from each other, then the work as a whole would appear to be endless, or at least of indeterminate duration. This is not simply the looping used in animation and programming, and described in detail by Manovich (Manovich), as there is no sense of necessary or inevitable repetition involved. The work continues, indefinitely and variably, until the user stops, and while they play it loops, but the combinations formed, the rates of playback, what is heard and seen will always be novel. The sense of duration implied here is fundamentally different to that associated with film and video, which have traditionally been subject to and by time.

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Another implication of this structure is that if we consider montage as the relations between images in time, then here montage is apparent not only within each video but also in the ongoing relations between each video pane, and that this larger set of relations is partially controlled by the user. Hence montage, which is ordinarily conceived of as fixed and immutable, has become unfixed and mutable, which in turn provides a preliminary illustration of how the 'place' or 'site' of the event of montage, will move towards the user in interactive video. This is analogous to the manner in which hypertext theory conceives of the reader's role in relation to the realised text, so that the discursive system becomes a field for the provision of possibilities, and individual readings or playings becomes the realisation of individual variations within this field of possibilities.

Softvideo Pedagogy

There are several software packages available at the time of writing that support using QuickTime as an authorial and writerly environment. Some of these tools are cross platform; however, much of the innovation in interactive video appears to be developing around Apple's OS X operating system, and QuickTime remains the only widespread audiovisual file structure that conceives of time-based media as something other than a delivery platform. QuickTime Pro, which is what QuickTime becomes when you pay the licence fee and register your existing copy, provides access to a great deal of these authoring possibilities. EZMediaQTI is a recently developed commercial software package that provides a very simple interface to much of QuickTime's underlying programmable architecture, while Totally Hip's cross platform LiveStage Professional is currently the major tool used in QuickTime authoring, outside of programming QuickTime in Java. However, it is not the software product that is the tool in the context of interactive networked video, but QuickTime as an architecture, and like considering text on a page as an 'architecture', the specific tools are less significant than developing literacies around what the architecture makes possible. It is these literacies that allow us to not only use these software products as tools, but lets us appropriate them for novel uses and possibilities. After all, one of the major issues confronting teaching technologies in networked and integrated media contexts is the balance and confusion students experience between learning the 'tool' and learning what can be done with the 'tool'. To encourage this I use three simple exercises to help students move their attention away from the software as an apparatus towards their 'content objects' as the apparatus. Or, to return to my earlier terms, to stop thinking of the software as the architecture and understanding that the architecture is a combination of what and how the work is 'built'.

The first exercise uses QuickTime Pro only and is intended to show that you can make collaged and montaged time-based video works using very simple technologies. The

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introductory tutorial for this exercise, including all the necessary content, is published online (Miles, "Desktop Vlogging: Part One"), and demonstrates how to import still images into a QuickTime movie, scale the image to a nominated duration, for example to accompany a soundtrack, how to then embed other still images to create a collage, and then to embed video tracks over these image tracks to end up with a collaged movie that contains four still images, one soundtrack and three video tracks. While demonstrating the desktop nature of such work, after all QuickTime Pro is a simple thirty dollar piece of software, it also foregrounds the manner in which tracks in QuickTime are samples and fragments of a larger whole, and not completed content that is exported via QuickTime for publication. After this tutorial, students are then invited to collect their own material, using domestic camcorders, digital cameras, scanners, and minidisk, and to make a short standalone QuickTime collage. As experience builds constraints are introduced to the exercise, so that the final work must be two minutes in length and may be limited for example to a total of 2MB, containing a nominated number of specified track types. This aspect of the task is where one facet of network literacy is introduced as bandwidth in its various forms becomes concrete under such constraints.

The second exercise is based on this QuickTime collage project that students have already completed and uses QuickTime's HREF track type which allows a movie to load Web based content as it plays. The HREF track is a specific type of text track within QuickTime that contains a combination of timecode and URLs. Timecode is how specific moments in the film are nominated and the URLs can be either 'manual HREFs' or 'auto HREFs'. For example this is an extract from a HREF track indicating an in and out point for each HREF, and also illustrating that some HREFs are manual and some are automatic.

```
[00:00:00.00]
[00:00:02.00]
[00:00:04.00]
A
[00:00:06.00]
AT
[00:00:10:00]
```

The usual way in which a QuickTime movie with a HREF track is used is to embed the movie on a web page within a frame, and to use the HREF track to target another frame, and so the URLs contained in the HREF track are automatically displayed in the target frame as the movie plays. The distinction between an automatic and a manual HREF is simply that the automatic HREF URL will load in the nominated frame as the movie plays, while the manual HREF URL will only load if the user clicks on the movie during the relevant time interval. The URL that the HREF track indicates is simply a Web page

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and so can contain or display any content that can be displayed via a Web server and within a Web browser, including of course other QuickTime movies.

The task for the students is to write a series of text only Web pages that the QuickTime file loads as it plays within the frame, and for these pages to complement the collaged QuickTime work in a meaningful way. They may, of course, make a new QuickTime collage piece for this task. Text only is nominated because it loads much more quickly than any other sort of content via http, and so is viable for this project when the work is viewed on the Internet. It is also to encourage students to begin to think about the relation of word to image in terms of aesthetic practice and narrative, and of course to model the idea that text may exist within the QuickTime movie as embedded, concealed and operative code rather than surface effect and narrative. This assignment also provides a very minimal form of explicit interactivity between the user, the QuickTime movie, and the loaded pages, particularly where HREF or a combination of HREF and auto HREF URLs are used, and this requires students to extend their understanding of the possible relations between parts outside of the example of the single QuickTime collage and towards external objects and their possible relations to their movies.

The HREF track is ordinarily written using a simple text editor, imported into QuickTime, converted into a HREF track, exported from QuickTime with time code added, and then edited for reimporting into the movie. This is clumsy, and there are more efficient ways of doing this, but it also demystifies what a text track and a HREF track is in a QuickTime movie, and insistently demonstrates the desktop nature of softvideography as a writerly practice as in this example an interactive Web-based, mixed-media movie has been made using only QuickTime pro, and whatever free text editor comes with the computer's operating system.

The third exercise is also network based and is to help students think about and understand the possible relations between parts and the implications of this. While the intention of softvideography is to use QuickTime as a writerly environment this does extend beyond the internal relations of tracks and samples to include the relations of external tracks or samples, which is of course important when working with parent and child movies, as well as understanding multilineal environments in general. The formal task, which can involve video, still image, or a combination of both, is to develop a narrative that consists of seven shots where each of the seven shots may appear at any point in the sequence. In other words each shot or image may appear once at any point in the sequence of seven, and regardless of where it appears the sequence must still retain narrative coherence. Intertitles can be used, though this counts as a shot. The students then embed their video on a web page that contains a script that automatically randomises the insertion of each of the seven movie files. This is done by taking advantage of QuickTime's QTNext tag, available when QuickTime is embedded via

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HTML, which allows you to play up to 256 QuickTime files in a row, so that as the first QuickTime file ends the QuickTime plug in then requests the next file, and so on. This means that when the Web page that contains their movies is viewed, each individual viewing displays one of five thousand and forty possible sequences.

This exercise is useful because it allows students to see how complex narrative or multilinear possibilities develop from quite simple and small sets, and that complexity is not synonymous with the large scale nested or branching structures that is common when students first start trying to conceive of multilinearity. This task also demonstrates one of the most difficult aspects of new media narration, for to conceive of seven possible moments, images, shots, or words that can be randomly presented in this manner, and yet retain something that might be identified as narrative, is a particularly demanding task. Many of the works produced are more like tone poems or mood pieces, what film semiotician Christian Metz has catalogued as a bracket syntagma (Metz), which of course suggests the difficulty of constituting narrative via fragments that need to be narratively 'permeable' in this manner. Incidentally, this exercise also helps students in their reading of canonical hypertext literature, such as Joyce's *Afternoon* or Moulthrop's *Victory Garden* (Joyce; Moulthrop), as it provides them with a cognitive and formal template to understand the structural problems and processes of these works. This might indicate that narrative is not a reasonable expectation of work that is intended to be as multivalent as this.

Conclusion

When we learn to treat desktop digital video as a writerly space, with all the baggage that this connotes, we can recognise that an architecture such as QuickTime is a programmatic environment and like many other networked programmatic environments involves consideration of the relations between image and word. This is the crux of what constitutes new media and networked literacy and is why digital video as a networked, distributed and writerly practice becomes an exemplar for the issues confronting teaching and learning in contemporary media contexts. Softvideography reconfigures the relation of author to viewer in the domain of time-based media and provides one model for a future pedagogy that emerges from the implications of networked digital practice. Such tools ought to allow us to reconsider not only what to do with video and sound online, but also offers the possibility for developing novel expressions of learning and knowledge. This is an ambitious agenda, but one that our students deserve and require for the networked ecology that they are inheriting.

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CHAPTER EIGHT

Soft Rhizomes 2: A Softvideography Essay

Miles, Adrian. "Soft Rhizomes 2: A Softvideography Essay." *Artifact* 1.2 (2007): 96-105.

This essay has an interactive video essay that mirrors the textual content provided here. The interactive video and this essay were accepted for publication. The work was invited by Charlie Breindahl, one of the founding editors of *Artifact*, who was interested in exploring the idea of the 'soft' media which he had first heard me raise at an Association of Internet Researchers (AoIR) conference in Maastricht.

There is an interactive QuickTime version of this essay too, which I regard as the major version of this work, though in retrospect it is largely unusable in terms of its interaction design. What follows is the text that I narrate through the interactive work.

Introduction

What follows is the transcript, come script, for a pair of interactive, web based QuickTime essays. These interactive versions are regarded as the primary work or document that is "Soft Rhizomes 2.0" (see Figures Ten, Eleven, Twelve and Thirteen), with this textual version being its supplement. (This is perhaps the reverse of the usual order of things, certainly for those disciplines that treat the word and writing as its primary medium, for in those disciplines it is common for the media artefact to be wielded as illustration, that is as secondary to the word. Here the text is supplementary to the media object, its illustration.) This writing and the interactives are offered as sketches for a different practice of an engaged humanities practice, a practice that "Soft Rhizomes 2.0" is a step towards but not yet, fully, a realisation of. Such an object, like the sketch books of a painter, the notebooks of a writer, or the visual diary of the architect, are legitimate forms of practice that in themselves fall outside of the formalised feints at encompassing comprehension and completion that completed or finished work usually expresses. Work in this vein is tactical, informal and suggestive more than inclusive and by implication exclusive (the difficulty that traditional

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humanities writing may have with acknowledging an outside to what is being written of). It can, like those books that designers produce of their own practice, provide openings and fissures for other ideas, for counter or misreadings, and is intended as a contribution towards the 'material media studies' advocated by Hayles. It explores a contemporary, digital academic practice that is grounded in the materialities of thought and media. It is, finally, written and made in the belief that within the humanities we have the opportunity for new practices and new genres that not only change the dissemination of knowledge but its very production.

Softrhizomes32.mov

This is an interactive QuickTime essay (see Figure Twelve). To play the work simply use the buttons across the bottom of the video window. Clicking on these takes you to a specific point within the timeline of the movie and will play that individual section, or chapter. The content that will be played is an audio (academic) commentary and, for much of the duration of the work, a small embedded video will also be visible and playing content. This content is a selection of material extracted from other networked interactive video blog posts I have made over the previous six years, and bears no essential relation to the commentary. Clicking on the Firefox icon in the lower right of the video window will load this text within a web browser.

softrhizome3.mov

In this iteration of the Soft Rhizome essay an identical structure is repeated (see Figure Thirteen). However, the embedded video window is now a 'child movie' which means that it exists as a completely separate media object from the enclosing movie. As a result of this the embedded video can be played quite independently of the enclosing movie. This is the basis of the rhizome templates that the work explores, and such a form raises significant questions about video in networked contexts. For example, we ordinarily regard video as being a time based media with an image and sound track where it has a set duration. However, when we can include child movies it means we have a movie that is able to include media outside of itself, and that this outside media can have play states quite independent of the containing object. A major implication of such work, apart from the interactive possibilities it may provide, is that it rather dramatically breaks the temporal model of film and video that forms the basis of these media.

This second version is a second sketch, and tries to show the very simple difference that softvideography — that is what happens when video becomes 'soft' — provides for networked time based media.

Adrian Miles

Critique

In spite of what I write in the following script the soft rhizome interactive essays remain largely backward looking. They owe much more to the essay and to the lecture than they do to a genuinely networked interactive essay video practice. This is, partly, because it contains so little video. On the other hand if it were to run to 40 or so minutes, of video, then the 14MB works would become closer to 200MB and in that break their ability to meaningfully exist within a networked culture. This is one of the possibilities that child movies offer, as it is possible to create interactive academic video based works that load content on demand, so if someone only wants to hear one part of the work then that is all that is downloaded to the client. The integration of video into this, so that it is not only documentary, yet also more than illustration, remains the subject of ongoing efforts.

On Method

This is an interactive video essay. It is not what I would call a “multimedia” work, which for this writer at least suggests CDROM interactivity with buttons, some text, and some sort of closed rich mediated experience.

So, how do I characterise this? To be blunt, I’m not certain yet. It is a sketch, in the sense of being a small working-out-in-progress, or working-out-in-situ of a design problem: how do you make an academic, interactive, time based work that is neither textual in the traditional (and conservative) sense of the written word, nor just documentary in the traditions of cinema and, more pompously, television?

And also a problem of teasing out or around a way of working that is relevant to, or for, some sort of other humanities academic practice that responds in a way that is complicit with, yet not merely obsequious to the affordances of new media and new methodologies. For example academic blogging, hypertext, and rich media more broadly, a working with the network and mixed media that acknowledges the new speeds of knowledge transmission (imagine writing a book about blogging that has the usual, let’s say, three years from conception to publication – what is it going to say about blogging that is ‘on the money’ in three years time?), so a writing that participates in the time and porousness of the network and the vectors of what Mark Amerika has in non academic contexts described as “surf, sample, manipulate”?

This problem is one of address, structure, and of course content. As we will see, or as more accurately I will try, this softvideo essay (for that is what I call such a work) wants to at least be able to acknowledge the network as not so much an outside of the work or of this work, but as part of the weft and warp (to rely on the habit of cliché — after all, as I will argue, much of our approach to video in new media contexts retreats to the pragmatics of habit) of the work. That it can’t do this entirely, not yet, does not lessen the desire, or even the idealism, of such an attempt.

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Address. It isn't an essay. It isn't really a spoken presentation (though it is going to rely heavily on the spoken word, but this is a beginning point for an exploration, it certainly is not, should not be, where such work resides – this is not a talking essay!) but it will rely on the redundancies of the spoken, or more accurately the oral. This text is available, all by itself (and I know that most academics, most of the time, will read rather than listen to this, though podcasting and turning this into a petite radio lecture would probably achieve as much), and I'll umm and ahh my way through the script, even possibly repeating or rephrasing, in the manner of a didactic conversation – aka the conference presentation and of course lecture. It may lack the subclausal rigour of the written, but as we should have learnt from Barthes some time ago, assuming we listened and not just echoed, the writerly is not the same as the written.

My voice is not some silly pretence of presence, or plenitude, or any other equally suspicious equating of the record with a here and now (video blogging is already almost festering with cries of how much more 'real' or 'authentic' video is). It just helps me say stuff. As I said, this is still a bastard form, a parody of what it ought to be.

Structure. This is a softvideographic work. This might become clearer as you proceed through the work, in whichever manner you wish, though given the novelty of the form, it might not. It combines text with the form of the academic lecture and conference presentation, and includes video fragments. In this work writing is an activity of discovery and creation, rather than merely a representational activity of reporting and describing the already known. The concept of writing as an open and creative activity extends the idea of writing towards the event of a making where the soft materiality of the digital moves writing as an act beyond text. Hence in softvideography we write with video. This writing includes not only the combination of text and image within time based media, and vice versa, but also a scripting and authoring within the field of a malleable digital architecture so that softvideographic writing is analogous to (well, I'd suggest synonymous with) all forms of writing that participate in hypertextual economies of parts and wholes. This is a different writing to the traditionally privileged genres that text has historically developed. It is a writing in situ, it is marginal, provisional, and exploratory.

This work, is, as I said, an academic sketch. It looks towards the personal essayist style of Chris Marker, the puncepts and electracy demonstrated and advocated by Gregory Ulmer, and situates itself very firmly in the belief that the intersection of text and image, where each retains its specificity and does not surrender itself to the other – in other words images are not merely illustrations to the textual, or words simply descriptors and captions to the visual – that this intersection of text and image is deeply troubling to humanities academic practice. This is, fundamentally, a design question. And now, in an age where to write slides between the performative (for example writing a link, embedding an image) and the discursive, video too has the potential to become writerly.

Adrian Miles

Softvideo

Softvideo, and softvideography — a term that I introduced in 2003 (Miles, 2003), describes the way in which our conception, understanding and use of the televisual could be changed when we adopt the Internet as our primary medium of distribution and the personal computer as the major tool of production and consumption.

The suffix 'soft' is derived from Diane Balestri's (1988) distinction between hard and soft copy in relation to writing. Hard copy is the use of a computer to write, but where the medium of publication, or in my terms distribution, is paper. In other words hard copy. In this model the now taken for granted features of the computer, for example the ease of editing, correction, restructuring and also typographical design and control that Word Processing and Desktop Publishing affords are fully adopted by the user as an aid and even as a material contributor to writing. These features are all a product of basic computational properties such as random access, the non permanence of inscription on a screen, and the reduction of what we perceive and experience as 'content' into the computational vernacular of a banal binary difference.

Once published, that is translated into hard copy, these features are obviously lost. Hence in the hard copy universe the author of content has full access to, and appreciation of, content as contingent, fluid, volatile and plastic. The reader, on the other hand, is still presented with and uses an object that is obdurate, fixed, linear in form (though not necessarily in reading) and always expresses the canonical structure or formation of its creators. In hard copy the window has returned to the page, and so now fixed, two sided and resolutely sequential. Text is marked onto a receptive substrate and becomes more or less permanent (so much so that if you need a different sized font because of failing eyesight an entirely new object must be 'made').

Softcopy, on the other hand, is the term applied to writing when the computer screen becomes the medium of publication. The obvious difference between soft and hardcopy is that all of the affordances of the computer can now be retained after publication and so are available to the reader. Typography becomes, potentially, as fluid for the reader as for the author (for example all modern web browsers allow their users to change the font size of any page they are viewing). The simple scalability of the window is maintained so content is no longer bound by the page, and of course parts can now literally interconnect so that the promise of things like the academic footnote and reference have the potential to become the performative hypertextual link.

Hypertext theory has done an excellent job of describing the implications of this for what sorts of texts we might then create. Of course much of this has not been realised, though I suspect this is as much to do with writers and designers' inability to surrender ownership as it has been the recalcitrance of consumers to other media forms. I will return to this, anon.

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Softvideo is the same in relation to video. Hard video is where we use computers to capture, edit and post produce televisual content, including the use of motion graphics and complex post production special effects (the sorts of things you would use Adobe's After Effect's or Apple's Shake or Motion to achieve), and then publish to hard copy media, for example film, tape, or even DVD. In this context all of those affordances of the computer, that the author-director-producer has embraced with delight, are unavailable in the distributed content.

Very simply, in hard video we are still in the business of making the video equivalent of books — they have covers (on which we place credit sequences) and a fixed duration, order, and time line. They are to be, by and large, used as 'whole' objects, and as producers our naive expectation is that this is how they will be consumed, and I use 'consumed' deliberately.

Why is this naive? Because most media users, most of the time, do not politely consume content in its entirety. Words are skimmed or skipped in books, people have even been known to miss entire pages or chapters! Rarely, today, is an entire CD listened to in the specific order in which it is published, let alone any individual track without environmental interruption of some sort. Television is notoriously social in its consumption and use, and with the addition of channel surfing it is obvious to all of us that nothing is watched from beginning, through its middle, and to its end without disruption. Certainly in my own country (Australia) even the television networks are contributing to this by shrinking the credit sequences of television drama so that an advertisement for the next program can appear alongside the current shows credit sequence!

Softvideo is where we use the computer not only as the medium of production but also as the form of distribution and publication for televisual content. As a consequence, just as in softcopy, many of the attributes available prior to 'publication' that is those things now taken for granted by televisual practitioners, could be made available to the users of this content.

This poses significant problems, after all, aside from the banal and now ubiquitous idea of interactivity via DVD — which is often little more than additional commentary and the possibility of viewing the completed work as poorly named chapters (when did you view a movie via DVD that really did consist of chapters — when will a movie finally be made for DVD that really are chapters?) what would softvideo be?

Well, one way to begin to explore this problem is to recognise the affordances of digital video, in much the same way that blogs have developed in light of the affordances of a networked, distributed hypertextual soft copy environment, and to then test, play with, and experiment with the implications and possibilities enabled via these affordances.

Adrian Miles

However, we really do need a word of caution here, and in many ways blogs are a good example. At this point it seems reasonably clear that, outside of some creative art works, it is not terribly clear what, how, or why, the specific affordances of softvideo should be used. In other words we don't really know what sorts of stories can, could, or should be told using softvideo, or indeed if stories are even possible.

(My own early views on this are that softvideo needs to look much more strongly to music, both electronic and popular, to find its forms rather than to the more obvious progenitors of television and cinema. Music is not afraid of loops and repetition, which are fundamental to these forms, and it also happily lives in what I would describe as noisy domestic worlds — music, while serial, is designed for repetition (you always replay your favourite songs), and popular music has made great use of a short duration and so allowed itself to be easily woven into the time of the everyday.)

So, to return, the affordances of softvideo. In my own work, and this essay serves as an example, I use QuickTime. This is because QuickTime is not a file format so much as an architecture, and as an architecture it has some very useful abilities, and by this I mean much more than being able to play a wide range of file types or formats. QuickTime movies consist of tracks, and may contain as many tracks as you wish. A track could be video, sound, text, still image, midi sound, interactive sprite, or even what we call a child movie. More importantly you can include as many of these as you wish.

This means, very simply, that I can make a QuickTime movie that might have three video tracks, six sound tracks, and five images. There could be several interactive sprite tracks that respond to user or other indices (for instance time of day, network location, mouse position, user history, system settings, and so on). What is fundamental to this, and poorly understood by many users of QuickTime and indeed televisual and new media practitioners, is that this architecture is preserved after publication. That is, my finished, published, networked distributed QuickTime softvideo work is actually still technically and practically made up of these parts that are joined in whatever manner I have authored. A coalition of media, loosely joined.

This is completely different to hard video, where of course I can make a work with multiple video windows, layer sounds and so on, but once I publish this, these are rendered down so that I end up with an object that consists, basically, of an image track and an accompanying soundtrack. Not so in softvideo, here even after publication I have three separate video tracks, six separate sound tracks, and five separate jpegs. Because they are retained as individual objects within the QuickTime architecture, so in effect QuickTime is actually combining them for me in the space of my movie in much the same way that a browser combines text and images from HTML into the space of the browser screen, it also means that they can be scripted. That is, I now have an architecture where while I may have three video tracks, only one might be visible, and if

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and when others appear can be conditional on anything that can be scripted for, and in QuickTime this vocabulary is as large as you would expect for any programmatic media.

This, in a nutshell, allows video to approach the condition of hypertext, where links (in the case of video we'll treat sprites as synonymous to links) may or may not be followed, and link destinations can be determined not only by user choice (clicking to follow) but also reader history and combinations of the basic boolean conditions of 'true', 'false', 'if' and 'else'.

Now, of itself, this might just mean that QuickTime could be interesting as a self contained multimedia authoring and publishing environment, and I suppose it does mean this. However in terms of softvideo we also add the ability to (obviously) publish and distribute content online, and such a 'movie' (I'm actually not sure it should still be called a movie) can include, as content within some of its track types, material that lives 'outside' of the movie itself and is called in, dynamically, from the network.

At this point the possibilities for softvideo are profound in relation to existing televisual media practice. A preliminary way to begin to explore one facet of these possibilities is through the rhizome templates that I have developed and publicly distributed.

Child Movies

The rhizome templates rely on a feature of QuickTime's architecture which are generally known as child movies. Child movies are a specific track type within QuickTime, and they consist of a list of file names (it can be as long as you like, and can even be loaded dynamically via XML) which operate as pointers (URL's if you like) to specific media assets. These assets can be any file type that QuickTime can play, so video, sound, still image and the like.

The advantage and usual use of child movies is to make a parent movie that operates as a container for this content. To illustrate, imagine that I have several video files, instead of including them into the one QuickTime file, which of course would make it large in terms of file size, I can store them elsewhere and they are only used if, and when, the parent movie loads them. The simplest use to make of this is to build parent movies that operate as front end browsers to much larger stores or sets of content, and so as far as the user is concerned they are simply downloading something small and lightweight. If they only view one of the child movies, that is all they download — the user does not need to download all the assets, only those requested by the parent. Such an architecture has obvious benefits for networked writing and distribution.

However, since the parent is now playing within itself content that resides outside of itself some interesting possibilities become available. It is trivial to allow the child movie content to play or to have play states, that are independent of the parent movie.

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For example the parent movie could be paused, and the child movie continue to play. This also means that the duration of the child movies, whether video, sound, or video with sound, is independent of the parent movie. You can now make a movie that has video embedded within video (for example) but the embedded child movie video can run longer, or shorter, than the parent.

Remember too that QuickTime supports multiple track types, and multiple iterations of each track type in the one QuickTime file. This means I could have, for instance, two child movie tracks in a parent movie, each loading content quite independently of each other, each with different durations, and their play back states can be as independent or as fixed as the writer wishes.

This confuses most televisual practitioners as they think it is no different than embedding video in video in their editing or postproduction suite. However, it is. In what I will call the traditional model of hard video once the work is exported for publication and distribution the embedded video is slaved to the parent video: it becomes basically a single video track. In playback, when being viewed by a user, it is not possible to pause the embedded video while the parent continues, or vice versa. Nor is it possible for the embedded video to vary in duration or playback speed (for example) to the parent video, or vice versa. Child movies allow all this, and so pose intriguing and rich questions for televisual practice. It becomes a simple environment in which to sketch fluid and malleable relations between video windows and shifts our conceptions of such apparently straightforward decisions as montage towards new paradigms. The rhizome templates are a series of usable sketches to explore these questions.

Rhizome Templates

The rhizome movies are a series of (currently) six templates for the production of light weight, networked, softvideo works. They are intended primarily as sketches, in the sense of being open, partial and incomplete, and more specifically in providing the sketch pad material for others to be able to play with, and explore, some of the very basic affordances of softvideo from the point of view of the utilisation of child movies.

There's probably a bit too much packed in there, so I'll rewind a bit.

Technically, the rhizome movies are 320 x 240 pixel QuickTime movies. Each uses two internal video windows of 160 x 120 pixels to present two simultaneous video streams. Each rhizome template determines what to load in either video window through an associated XML file. Very basically, if you want to use a rhizome movie you download the relevant template and hand edit its XML file to point to the external video (or jpeg) files that you want played in your rhizome movie. This means that what you play in the rhizome could be located on your computer, or of course anywhere on the Internet, and

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potentially you can obviously include material that is not yours. The XML file is read by the QuickTime movie whenever it is launched – in other words at run time.

The rhizome templates are able to do this through QuickTime's ability to read external XML data, and the child movie structure of QuickTime, where external media assets can be dynamically included into a parent QuickTime movie.

Each template relies upon user action in some manner. This is a basic principal of softvideography, and a key interstice where softvideography proposes basic problems about form — hard video restricts user action to the simple choice of forward, and then some navigational aids (the televisual equivalent of page turning) which is forwards or backwards faster. In softvideo the authored object requires user action for the work to play and seeks to incorporate this 'interactivity' as a material quality of softvideography. If the user does not play with the softvideo artifact, then it doesn't run, or its mode of performance is qualitatively different to what occurs when the user plays with a softvideo work.

(This user action should not be overstated, it is often no more sophisticated than the level of interaction you might experience in following links on the Web, however there is a suggestion that softvideo works ought to be ergodic (Aarseth 1997) so that playing with the work effects qualitative changes in the work itself. Hence even if the interactivity is trivial the effects this has upon the form or content of the work should be significant and effect non trivial change. For example stopping a video is trivial and has trivial effects, while being able to vary the playback rate of two different videos, in the same space, has the potential to produce an open series of patterns or relations between each video.)

The XML file that each rhizome template uses could be dynamically generated programmatically, for example as a consequence of a search request, but it is sufficient to merely edit the existing XML files to include the URL's of the media assets you wish to include in your own uses of the rhizome templates.

The rhizome templates explore one very specific affordance of softvideography, which is based on QuickTime's ability to play child movies. A common rationale for the use of child movies is to script QuickTime movies that are basically 'front ends' to much more content, and this other content is called to the client dash user if and when it is requested. For example you could imagine a small and quite simple QuickTime movie that dynamically loaded, if the parent requests, sound and video clips relating to various tracks in a concert (or an album). Instead of having to include all of this audiovisual content into the one file structure, necessitating obviously very large files, a parent movie simply downloads much smaller, network friendly chunks based on what the client actually requests.

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However, this is basically an instrumental use of this affordance, for as the rhizome templates demonstrate it is also possible to use the ability to load other content independently of the parent movie to experiment and problematise the essentially canonical forms of televisual and cinematic media. In other words by utilising two video panes that load and play video simultaneously, yet independently of each other, a softvideographic architecture is enabled that problematises hard video's intransigence in regard to duration. In hardcopy video the time of the work is slaved to this duration, twenty minutes of image track is always twenty minutes of image track, regardless of what content, and how many video windows, may be present within it. However, as each of the rhizome templates demonstrate, in softvideography video may have multiple video windows where each window is now presenting content that has a duration independent of each other and is outside to the hegemonic time line of traditional time based media. This is, if you prefer, much like having two monitors alongside each other with each displaying content from completely different sources. The difference that the rhizome templates allow, that is the difference that makes a difference, is that this now operates inside a common or single televisual 'frame', and that the activity of one can be communicated to the other — whether on the basis of their play state, user action, or external (environmental) cues hardly matters. I go into this in detail in the soft rhizomes pane of this essay, here I intend to describe what each of the rhizome templates does.

Rhizome Templates 1 — 6

The first rhizome template consists of only two video files (see Figure Fourteen). Each is loaded into the parent movie, and they automatically play, independently of each other. There is no user control available (they are designed to be recalcitrant in regards to the user) and since they loop you end up with a continuous dialogical movie.

Rhizome two (Figure Fifteen) has the same simple structure as rhizome one, but user interaction is domesticated by the provision of controllers for each of the two video tracks. This lets users pause, rewind, fast forward, etc either of the video tracks, independently of the other. This has the benefit of making the structure of the work visible for users and those trying to understand what to do with the basic architecture — after all, the idea that you may have two videos playing alongside each other, simultaneously, yet each is, for all intents and purposes, completely independent of the other, is a bit of a change from how we ordinarily think of the screen or space of video.

Rhizome three (Figure Sixteen) has the same video structure as rhizome two, but now in the XML there is provision for a third track. This should be a soundtrack, as in the parent movie (the visible rhizome movie) this additional track, while loaded and set to automatically play, is not given any screen real estate at all. In this way the third rhizome offers the possibility to experiment with sound. For example each video could have its own sound track, and this third, looping soundtrack (which again as a child

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movie track also plays back and loops completely independently of the video tracks) can then operate as commentary, counterpoint, or in any other way with the video tracks. Alternatively the video tracks could now be silent, or only contain sync sound effects (that is location sound) and the new soundtrack provide some sort of meta commentary, music, or other sound effects that contrast with, complement, or otherwise riff with the visual material and their possible sound tracks.

Rhizome four is built on the same structure as rhizome three (see Figure Fourteen, as there is no way to visually indicate the mouse event changing audio in a figure, and the rhizome template is visually identical), however there are now mouse events added to each video pane. This mouse event is triggered when the mouse enters into a sprite field (sprites being interactive tracks layered in the QuickTime work), and causes the video in the other video pane (that is the video that is playing alongside the video that you mouse in to) to slow down, and to mute its soundtrack. However, like rhizome three, rhizome four has a third track that is loaded and played which is intended for an independent soundtrack – of course if you don't want this soundtrack all you need to do is load a tiny jpeg in its place – it isn't visible and the rhizome movie won't crash because it can't resolve a url in the XML file. To restore the video to its normal playback speed simply clicking the other video restores the original speed. In rhizome four such simple mouse activities, that is mousing into the space of the video, enacts simple changes in the conditions of the movie – it varies the sound (by muting the soundtrack of the target video) and slowing the video. This slowing is exponential as the frame rate is calculated as 1 divided by the number of mouse entries times the playback rate (eg 1/1, 1/2, then 1/3, 1/4, 1/5, 1/6 multiplied by 'normal' speed).

The fifth rhizome template is the reverse of rhizome four (see Figure Fourteen). Here the mouse event also mutes the target video, but instead of slowing down playback it increases playback speed. This is a work which accelerates, and once again clicking a video pane restores the other video to its normal speed.

Finally, the sixth rhizome template (Figure Seventeen) offers a single video that plays in the left video pane, while the right video pane consists of 5 child movies. Only one is played at any particular moment, so to load, and play, consecutive movies the user clicks on the first (left) video pane, which then loads the next video clip in the series. This template moves away from the simpler dual video structure of the first five rhizome movies as it now provides the rhizome writer with the opportunity to change or vary content on the basis of a simple user action, eg clicking a video image. This template then proposes a new range of questions in relation to softvideography as the problem it suggests is how to narrate (if narration is the appropriate activity) when provided with such an ergodic videographic structure.

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The rhizome templates and more details are available at <http://hypertext.rmit.edu.au/vlog/rhizomes>

Rhizomes and Facets

It is a theoretical commonplace to use Deleuze and Guattari's (Deleuze and Guattari, 1987) image of the rhizome as an explanatory trope for hypertext, contemporary information architectures, and new media (see for example Moulthrop, 1994 and Burnett, 1993). The better work recognises that their use of the rhizome is not metaphoric, and is intended to be taken literally as a statement of the nature of these structures – in other words they are not like a rhizome, but are rhizomes.

Now I have no intention of specifically revisiting what nowadays runs the risk of theoretical cliché (or for that matter mere habit of thought as Deleuze might say) by also pursuing a rhizomatic line. However, I do want to briefly explore one of the qualities of the rhizome described by D&G to explore how softvideography recasts the concept of the edit, certainly from the point of view of traditional and existing hard video practice, and specifically in the examples afforded by the rhizome templates.

A rhizome is a botanical term, and I find it a particularly unproblematic way to consider networks, networked practice, and as a more than adequate descriptor of those qualities that constitute some aspects of networked affordances. As I mentioned, there is little to be gained from iterating each of the six 'rules' of the rhizome described by Deleuze and Guattari (1987, 3-25 passim, though you could mouse in to the text icon on the rhizome screen in the softvideo vlog essay to read them). However, to contextualise my own (pragmatic) appropriation of the rhizome I probably do need to demonstrate the ways in which I take its terms to be literal, and their applicability to softvideography and networked practice. I often teach my students about rhizomes by the use of a potato (so please bear with me).

A potato is a rhizome. As most of us know, when we grow a potato we produce potatoes. That is, a one produces a many. Each of the potatoes produced is, for most sensible purposes, the same. There is no 'central' potato that is more important — for us, for the plant, for the species — than any of its other tubers. You can plant any one of them to repeat this process again, and unlike trees (the arboreal) it is simply nonsensical to think that there is a single tuber that all other tubers revolve around, or defer to in any significant manner. This is the external facet of the rhizome, the external facet of the multiple, and describes how the rhizome expands upon and from itself so that each of its nodes or elements (the tubers) is quite independent of the others, yet expresses some filiation in some manner towards the others, and also how each node has the capacity to similarly 'seed' further rhizomatic growths. In other words the parts of a rhizome are connected, but the connection is a relation that establishes connection, rather than a

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connection that defines the integrity or viability of the node. On the contrary, branches connect to a trunk which is connected to a root system, breaching any part tends to be catastrophic for that which is connected 'above'. Similarly outside of the botanical, a traditional book has a fixed linear structure, so the erasure of a part of it (the loss of several pages for instance) tends towards the catastrophic for that which follows.

Similarly, any single potato can also be subdivided (cut up) and in its turn planted, and each subdivision (more or less) will also produce new potato plants, with another conglomeration of tubers. In other words, each tuber contains within itself, and expresses, a possible (or in Deleuze's terms virtual) multiple of plants. This is the internal facet of the multiple, where a single plant (which we might misjudge as a whole but of course is actually always moving towards the multiple, the one becoming a many) is in fact not a whole as we might ordinarily think of a whole, by virtue of this ability to survive subdivision (we don't usually think of those things as whole retaining their attributes after being cut up into smaller parts). Once again, this is not the case with the arboreal, it is perfectly reasonable to cut a potato tuber in half, and plant it, but it makes less sense to try and plant (that is to grow, to have an event of the future) half a tree. Exactly the same principle applies with books, where 'half' a book is not really an intelligible idea — whether you literally cut a book in half, or just removed half of the pages or content. In the latter case it would still be a book in being a printed, bounded paper artefact, but it is considerably less clear (though philosophically and narratologically intriguing) what it is that we would be reading in such circumstances.

(As an aside this is where new mediums such as blogs are qualitatively distinct from older forms. It is perfectly reasonable to think of there being 'half' a blog for example. In blogs there is a global whole that is constituted by its parts, but much like our potato colony these parts are connected and it is by virtue of their connections that they have a relation, rather than a relation of literal contiguity. Remove half of all blog posts and you still have, for all reasonable intents, a blog.)

Hence the internal aspect of the rhizomatic has, enveloped within each whole single node, further 'wholes' so that if the node is fractured those qualities that make it whole are still present. In the case of a potato, cutting it up does not prevent it from still exhibiting the same potentials (to become a whole potato plant and in its turn produce multiple tubers).

Therefore within rhizomatic economies the 'single' units have the ability to replicate which is not a reproduction of the same (each tuber is quite individual, it is not, after all, cloning that we are describing), but the expression of the multiple as a virtual. This multiplicity is virtual in the Deleuzian sense whereby it is perfectly possible, whether it is realised or not (where the virtual becomes the actual), and has this internal aspect

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where subdivision still allows the expression of this virtual multiplicity, and an external aspect where it is also able to express a virtual multiplicity.

Which seems to have bought us some distance from Softvideography (I did ask you to bear with me), so let us try to return. All that I have just said and written about the potato also applies to cinematic editing. Imagine you have a film or video shot of, lets say, a person standing in a doorway. The view is from outside looking in (it might be from a melodrama, or perhaps it's home in a John Ford western). This shot lasts, oh, twenty seconds. I can shorten it so now it lasts ten seconds. However it is still, essentially, an image of a person standing in a doorway, with the view from outside looking in. I halve its duration again, and of course the same applies.

(This is not the same as saying the shot will mean the same thing as it is shortened, in the same way that half a potato versus an entire potato is something quite different to a hungry person. However it is to recognise that what the shot means, and here Kuleshov's experiments need to be recognised for their specific achievement — that relations are produced between parts and that by virtue of changing these relations other meanings are able to be produced for these parts. This strongly suggests that some parts of what the film image means is not dependent on what it represents or states, but on the relations that it is placed within. These relations are external to the terms, which is why, as Kuleshov showed, the same terms can be placed in new relations and made to do other things.)

What is happening with our shot of a person in a doorway, from outside looking in? Clearly it has within itself the ability to be subdivided, to be shortened, yet still able to express a sensible whole. This is obviously not the case with the word, where to shorten it tends to destroy the ability to make sense (unless you're a sound artist), eg "wh to short i ten roy th lity o ake sen" is the previous sentence edited down. So the cinematic image, by virtue of its duration, its presence through time, has an internal aspect where it is able to be temporally subdivided yet retain its virtual possibilities for sense making as a whole.

Similarly, our shot (and remember we could have chosen any other example) has an external aspect where it can be joined to any other shot. No matter how much shorter it becomes, the ability to form relations with other parts is not dissolved. This is so strongly the case that the only prohibitions that exist about joining differences together via the edit are imposed by a very arbitrary set of constraints known as 'continuity', yet unlike the serial nature of grammar in language, discontinuity risks little in the cinema. This is evidenced not only by the presence of continuity 'errors' in all feature fiction films (contrast this with grammatical errors in novels) but by the ability of genres as diverse as documentary, through to music video, to completely ignore continuity, yet apparently suffer little by way of being able to make good common sense for its viewers.

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This suggests that cinematic shots, in relation to editing, have rhizomatic qualities. There is an internal multiplicity — one shot can be subdivided into ever smaller parts but still survive as the shot, and an external multiplicity where it can be very easily (and even in the prohibitions of continuity simply inserting what the trade knows as the ‘cutaway’ allows any shot to be placed in relation to any other) and always connected to another.

These distinctions largely occupy Deleuze in the opening chapters of *Cinema One* (Deleuze, 1986), though there they are not presented in terms of rhizomatic structures. It is as if the shot has a series of facets, some of which are internal and some external. These facets are multiple, and of course can exist in any of many virtual relations to these internal and external sets. Obviously an editor can make a shot shorter and shorter (the limit point being a single frame), and can also join that shot, at any point, to another. Now, these relations are virtual because they are present as possibilities of the shot. The act of editing is to actualise this virtual and so solidify this virtual in the event of the actual. That, however, is hard video, that is editing for hard media, where to edit is to reduce the set of virtual possibilities internal to the shot, and externally in regard to possible other relations, to an actualised, individual event.

In softvideo it becomes apparent that the hardness of the edit as usually conceived is softened by softvideo’s hypertextual abilities to retain a shot’s virtual relations as possible relations. That is, in softvideo there is the opportunity for the internal and external facets of the shot to be retained as virtual and to be realised as an actual via each ‘performance’ of the softvideo artifact. A softvideo work requires user interaction of some form, and in the case of the rhizome templates this user action can affect the duration of a shot, and as the existing templates utilise a two video pane structure (what Manovich, 2001, describes as spatial montage) they also provide a continuous and continuing series of possible relations between each sequence.

Similarly, it would be trivial to make a softvideo rhizome work that would allow an ‘edit’ to occur on the basis of a user action (or any other external parameter) and so the edit as the specific and single actualisation of a virtual possible becomes a provisional and singular actualisation of the virtual whereby the virtual as an open set of other possibilities is always retained, and available in every iteration of the work.

This is a rhizomatic editing. An editing that is not merely the shifting of the decisions, or some aspect of the decisions, to the individual user (which is synonymous with first wave hypertext theory’s celebration of the newly empowered reader) but an editing that is an anti-editing editing to the extent that the single choice of the moments that are the internal and external aspects or facets of the shot no longer exist. In its place are the always open facets of the shot and its relation to its internal and external sets. The user, in each and every event of the work, plays with the determination of these relations. Of

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course the content that appears within a work may still be constrained, though this is not, in principal the case with the rhizome templates where anybody can repopulate them with their own choice of content, but this should not be confused or used as a critique of the qualitative change in editing that softvideo effects. In lieu of the absent and removed moment that is decision realised in an enacted edit, the decision to cut there, and join there, we have in its place the preservation, in some manner, of these internal and external facets as virtual.

This is editing as a soft design practice, for in soft design artefacts are no longer fixed but instead become possible events. The activity of design as the decisions which are enacted and canonised in the artifact now becomes the provision of the contexts that allow these same decisions to be performed by the user. In relation to softvideo and editing I suppose this should be called soft editing.

The rhizome templates are sketches towards and around the possibilities of softvideo, softediting and soft design as the development for such possible encounters.

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CHAPTER NINE

Programmatic Statements For a Facetted Videography

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This essay arose from an invited presentation at the first Video Vortex conference, held in Brussels in 2007. In this essay I use Deleuze's concept of the virtual and actual to build upon my theoretical investigations of softvideo, using recent work as case studies.

What happens to editing when video moves from a hard to a soft environment? This chapter is a rough-cut sketch that explores what video editing is, and the implications of this for an emerging, network specific video practice. While this essay discusses video with some degree of specificity the practice that is under consideration is not video art but those works that are, for want of a more accurate term at this historical point, representational and indexical in some manner. They're videos of things. Such representational practices dominate internet based video practice including commercial, populist, critical and creative uses.

Granularity

Granularity is a term that is appropriated from hypertext and refers to the smallest meaningful unit within a system.¹ In hypertext this would be a node, in a blog it would probably be a post, and in video this is the shot. Obviously what constitutes 'smallest' and 'meaningful' are sensitive to different contexts, so that in classical hypertext a node could contain a single word, a phrase, or several paragraphs, as could a blog post, and of course a shot could be of extremely brief duration through to the recent examples of 90 minute plus continuous takes. However, historically it has been the granularity of the cinematic, and now videographic, shot that has provided the basis of cinematic practice as the capacity to subdivide a shot into smaller parts, and then join them to other

1. For a useful, though awkward, early overview see Rolf Schulmeister, Structural Features of Hypertext, *Hypermedia Learning Systems*.



similarly subdivided shots, is the basis of editing which forms the keystone to cinematic narration.

From the point of view of granularity the most significant feature of the shot is that it is always and already whole. You can't have 'half' a shot as if the shot is twenty seconds and you then cut it in half you end up with two shots of ten seconds, each of which is still whole. This, of course, demonstrates that the 'wholeness' of a shot is qualitative, not quantitative, so that the integrity of the shot is not tied to scale or even duration. This is a significant feature of the shot, and while not unusual in the general scheme of things (for example our emotions provide a common enough example of something that is qualitative in the sense being discussed here) it is quite unusual in terms of a discursive and creative mode of practice because for so many other ways of doing to cut something in half, or other sized bits, produces quite different things. For example, you can't just cut a sentence in half and still have a meaningful unit, or a book, or a line of a poem. Yet in video the granularity of the system is such that it can be subdivided in terms of duration and still be immanently meaningful — it is still a shot of a gun, or a vase of flowers, or of someone walking.

These are the wholes that film deals with, and this attribute of wholeness is external to the shot precisely because the shot can be subdivided. If this were an internal quality then cutting the shot would qualitatively change it, but as is well documented the most significant way in which the shot can be fundamentally altered is by the relations it is placed within — where and how it is placed within a sequence.² This provides evidence of the external relations that are a necessary attribute of the shot, as the meaning or value attributed to the shot is highly contextually determined by these sequences. What that image of a woman's face is understood to mean (apart from its simple and possibly trivial denotation as a particular woman's face) is determined by the shots it finds itself surrounded by.

However, once we recognise the importance of such external relations we can see that any shot must, by definition, exist in a multiple set of possible relations with other shots (this is what allows for editing in the first instance), and that the specific art of editing in traditional film and video practice is of course the determination of these relations into a fixed, canonical and singular linear form. (A form that in the traditions of all good modernist and romantic aesthetics will appear to make perfect good sense in and of itself.) Editing is therefore the production of relations between small wholes into larger wholes where the larger whole (the sequence, the work) appears to be self sufficiently

2. This is a commonplace in film theory ever since Kuleshov's original experiments. Jean Mitry, *The Aesthetics and Psychology of the Cinema*. (1997), p. 100.

whole.³ These variable wholes are possible because its constituent parts have a high level of granularity.

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This granularity has been very important to the relevance and use of digital technologies in film and video editing since non-linear editing systems offer the sorts of functionality in relation to sound and image that word processing has afforded text. In traditional film editing (as with the typewriter and traditional typesetting) sequences had to be edited manually, and there was no way to preview or visualise any transitions between shots apart from direct cuts. Older forms of video editing were even less flexible than film because it relied upon linear tape systems, so in many instances it would be impossible to insert an edit into an already cut sequence without overdubbing whatever footage was already at that point on the videotape. Computer based non-linear editing obviously does not have these limitations, and so allows for the visualisation of a wide variety of transitions and effects, and of course the insertion of new material at any point into the timeline with the ability to shift existing editing footage to accommodate the new insertion, or if you prefer to overwrite existing footage.

This suggests that video's granularity (like text in word processing) has been instrumental in facilitating the development of digital editing and desktop cinema — that if video were not made of small parts with loose connections then the applicability of computing to video editing would have been lessened. These systems, just as with word processing, offer all the advantages of the digital for the production of content, but remove them for the user at the point of publication. For example, while using a word processor it is trivial to move text, annotate it (with voice, image or other text), change fonts, resize the screen and so on. But as a word processor all of these tools are actually directed towards getting those words on paper (hence pagination, page numbering and so on). Once on paper, all of those things just listed (and many others) are gone. It is exactly the same with video, where similarly the video work is malleable and fluid in quite extraordinary ways while being edited, but once committed to publication these features are removed — it becomes resolutely and immutably flat. This is what I have, elsewhere, described as the distinction between hard and softvideo⁴, where in softvideo it is possible to imagine a video architecture and practice that is able to retain this granularity after publication, where videos can be created that consist of shots that no longer have a canonical sequence. The multiplicity of possible relations between shots, which granularity affords, can then be preserved and made available to the user or viewer as a material property of the completed video text.

3. This is the project of the opening chapters of Deleuze's *Cinema One*. (1986).

4. Adrian Miles, *Softvideography, Cybertext Yearbook 2002–2003*.

Two Softvideo Systems

Two projects that achieve this, albeit through different strategies, are Videodefunct and the Korsakow System.⁵ Videodefunct (see Figures Eighteen and Nineteen) currently allows the publication of clips or sequences that are individually tagged and then dynamically displayed through a triptych structure based on the user's selection of tagged terms. By having a suitable reservoir of clips, with enough tags (so that clips share a large range of tags, many of which they have in common), the user can compose, in concert with the system architecture, individual videographic works by selecting individual tags. In Videodefunct the user selects a tag from an initial list. This generates a series of thumbnails where, again, the user makes a selection. This loads and plays a video in the central pane of the video triptych, and simultaneously generates relevant tag lists under the remaining two, empty video windows. Selecting these tag lists reveals a thumbnail index, which then allows videos to be loaded and played when selected. What may appear, and what sequences may be developed, are subject to this play of author defined, user selected tags and clips, with the sequences shown, and the relations created between sequences via the triptych video panes, always being variable and open through the ongoing aggregation of additional content (more clips) and of course by users selecting other tags or even repeating the same tags which can return other clips and sequences.

Similarly Florian Thalhofer's Director based Korsakow System (see Figure Twenty) achieves a very similar outcome through the use of what is in effect a tagged clip library which supports basic Boolean operations. Within this architecture a clip can have any number of text tags applied to it, including at specific points in an individual clip's timeline, and the engine searches for matches to these tags from its library based on the authored rules. This produces very complex associations between clips in the system, which can be as open or as closed as you wish. In other words clips can have lots of possible connections to other clips or a highly constrained set, and through the use of its Boolean rules it can make connections based on the usual criteria of 'is', 'is not', 'else', and 'if'. In addition it is able to preserve rudimentary state information⁶ and utilise this as a parameter so that the number of times a clip has been played can be used as a governing rule for clip selection (or non selection). For example, a central video plays, and as it plays the system identifies clips that meet the criteria that the author has defined. These criteria might be that at the beginning of the active clip a search is made to find other clips that match a specific term, and then at twenty seconds find clips that don't contain a specific term, and at thirty seconds select a clip at random. These clips

5. Deverell, Keith, Seth Keen, and David Wolf. "About." *Videodefunct*, and Florian Thalhofer, [Korsakow Syndrom]. *Korsakow System*.

6. State information refers to a computer's ability to record and retain what actions have been performed, or in this case clips viewed. HTTP was designed as a stateless system — by default a web page does not know your reading history, but in systems that can record state information (for example games) such information can be used programmatically to vary the system.

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are displayed as thumbnails below the central video window, and selecting any of these loads this in turn in to the central window and plays it, and this clip will then parse its arguments and populate the clip pane. This architecture is very similar to a hypertext system such as Storyspace⁷ with its use of guard fields (rule governed link structures) and provides the possibility to produce ‘tangle’ like series within a larger work that are densely interconnected (whether as shots or sequences doesn’t matter), and then narrow corridors or pathways out of such tangles into other densely connected series,⁸ or some combination of these — a structure utilised in HTML by Amerika’s “Grammatron”,⁹ and in Storyspace by Joyce in *Afternoon: A Story*¹⁰

In both of these examples we have three major levels of sequence and relation operating. The first is determined by whoever creates and selects the shots or sequences that form the basic clip library within each authoring environment. These are, strictly speaking, hard video as they are fixed in the usual and traditional way of shots and sequences. The second level operates largely through what is commonly known as spatial montage¹¹ where relations between shots and sequences are no longer only temporal within a single video window but now spatially distributed across the screen. In the case of Videofunct this is realised through its triptych of video panes, while the Korsakow System offers a single dominant video window below which appear thumbnails of related clips. Through this collaging of video windows montage moves from being only the sequential relation of parts within a single video window — this and then this — to both the sequential relation of parts and the simultaneous relation of multiple screens to each other. Finally, a third level operates where some aspect of decision making is granted to the system itself where, much like the throw of a dice, the constraints can be quite strict but the outcome remains and is determined outside of the user or the author’s individual agency.

For Videofunct and the Korsakow System the attachment of tags to shots in concert with rules of combination proves capable of producing complex patterns and relations amongst their respective libraries. As a consequence this larger video work, that is a single Videofunct or Korsakow project conceived as a whole, is precisely the generation and discovery of such patters by users.¹² This poses significant and

7. Storyspace is a primarily text based, standalone hypertext system. It remains in use today, and provides much more complex link operations than we have become accustomed to within the HTTP specification. This allows complex structures to be easily written and published. See <http://www.eastgate.com/storyspace/index.html>

8. The term tangle is taken from Bernstein’s work on hypertext patterns, which is very relevant for authoring environments such as the Korsakow System. See Mark Bernstein, “Patterns of Hypertext,” *Proceedings of the Ninth ACM Hypertext Conference*. (1998).

9. Mark Amerika, *Grammatron*.

10. Michael Joyce, *Afternoon: A Story*. (1987).

11. See Lev Manovich, *The Language of New Media*, (2001), p 322–6.

12. Pattern here is intended to be very broad. The patterns could be purely formal and aesthetic, completely narrative driven, or some combination of both. However, in both systems, though in

fascinating problems in turn for narrative practice in such softvideo environments as we move from being video makers creating specific and single video works towards designers of combinatory engines and the possible narrative, and non narrative, discourses they enable.

Relations and Facets

These systems allow us to revisit and reconsider the role of editing. As we saw it is possible to cut a shot in any number of places and for the shot to retain its wholeness, and to then place this shot into a variety of sequences with other shots and that these sequences will have a substantial, if not a determinant, effect upon the meaning of such shots.¹³ As such we can describe the shot as a whole that has multiple possible relations to any other shot where these relations are determined by where the edit is made (an internal series of relations) and what it is then connected to (an external series of relations).¹⁴ I intend to describe these relations as 'facets' as facet has connotations of a shot being multifaceted, of having an enormous number of views, or faces, towards which it looks out towards other shots, where these facets are not just internal to a shot but are constituted by the very possibility of the relations it may form with other shots. These facets are then not determined internally, as some sort of immanent given where you could catalogue all the facets of a particular shot, but rather they come to be by the interest they arouse (I can't think of any other way to describe this at the moment) in or for other shots by the attitude or pose they offer other shots.

In practice any edit may have several such facets simultaneously, and, as a shot is more or less infinitely divisible (it can be cut at any point) there are an enormous set of facets available. Remember, it is not just each frame that may provide a facet, but also those relations with other shots and edit points that might inform a decision to edit, each of which in turn can be thought of as providing or having facets. They are orientated towards each other by the possible action of an edit.

For example, a simple shot may consist of a figure walking. What I am calling the facets of this shot are all of the possible parameters that may be used (consciously or otherwise) to edit this shot with another. These might include elements of the content of the shot, for example where the figure walks to or from, or what they walk towards. It could include pacing and duration, and the speed of the walk. Shot scale, angle, lighting, graphic patterning, colour, storyline, dialogue and character action and so on all provide quite different ways (Video Defunct makes pattern identification quite easy through the explicit declaration of its tags) the user needs to play within each system long enough to find the patterns of the system and to then make hypotheses about the principals informing the relations being formed to be able to 'interpret' works in both systems.

13. This is an argument I have elaborated in much more detail in relation to hypertext and cinema, see Adrian Miles, "Cinematic Paradigms for Hypertext". (1999).

14. This is deeply indebted to Deleuze's discussion of the frame and montage in Chapters Two and Three of *Cinema One*.

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facets which can be used in making an editing decision. In determining an edit some facets may be more important than others, and indeed may be more 'visible' than others. However, such facets are always a multiplicity and can be thought of as those aspects of the shot that are made to become available to other shots by virtue of the relations established through the edit. Which facets get identified are a consequence of these possibilities of connection. This is, historically, one of the reasons why things like storyboards and shot lists have been developed in professional cinematic and televisual production as they are, if you like, a way to domesticate and industrialise (manage) this multiplicity and so an effort to predetermine and constrain these relations towards normative and narratively hegemonic models with their attendant teleological structures.

Virtual and Actual

Conceptually what I have described as facets have a strong affinity with Lévy's concept of the virtual and the actual.¹⁵ Schematically, the virtual is that set of possible expanding futures that any instant has before it, where, for example, the possible futures I may have a few minutes from now are much more highly constrained in terms of what I may be doing than one year into my future. In addition, all of these possible futures are considered to be virtual, they are all present as possibilities in this future, and while some may be more likely than others, in terms of the virtual all exist. On the other hand the actual are those aspects or trajectories within the virtual that actually come to be — that are actualised. Now, Lévy makes a very substantial distinction between an almost garden variety sort of virtual and actual where what comes to be is a more or less mechanistic playing out of the consequences of the present moment, which he terms the possible. This is contrasted to a system where what comes to be actualised is a qualitative change, an act of creation. In the former what comes to be involves no creation or creativity, and so is about the production of the same rather than the new, while the latter is a response to a problem posed within the virtual. As Lévy notes:

Actualization thus appears as the solution to a problem, a solution not previously contained in its formulation. It is the creation, the invention of a form on the basis of a dynamic configuration of forces and finalities. Actualization involves more than simply assigning reality to a possible or selecting from among a predetermined range of choices. It implies the production of new qualities, a transformation of ideas, a true becoming that feeds the virtual in turn.¹⁶

Editing has these qualities of actualisation precisely because editing establishes novel and external relations between parts. These relations do not reside implicitly within the shots — if they did it would not be possible to edit any shot into another — yet it is clear

15. Most particularly in Pierre Lévy, *Becoming Virtual: Reality in the Digital Age*. (1998).

16. Lévy, *Becoming Virtual: Reality in the Digital Age*. p. 25.

that what these shots do and mean is certainly as much a consequence of the relations they are established within as it is of what the content of the shot may be. (A shot of a gun firing is a gun firing, but what comes before and after that particular shot makes all the difference to what we understand that shot of the gun to mean.)

In addition editing, certainly editing that wants to move away from the simple representation of a highly descriptive storyline (which in Lévy's terms would be editing that is subject to the possible), is a response to the problem posed by the shot and its possible relations, where this problem is a 'knot of tendencies or forces that accompanies a situation, event, object, or entity'.¹⁷ Clearly in video editing these forces are never singular (which accounts for the intense promiscuity of video and film, we can and do join anything to anything), yet in traditional hard video practice this promiscuity and the qualitative possibilities immanent within every shot must be reduced to a single and fixed vector at the point of editing, and is forever hypostatized within the published work.

We can then define editing as the activity of actualising the virtual that each shot expresses. The shot poses and contains problems, where each of these problems express what are best thought of as vectors of force offering particular trajectories – how to narrate the story, cutting on action, colour, narrative event, shot scale, shot length, contrast, mise-en-scene, total length of the work and so on. How a work is edited becomes the actualisation of these virtualities, and in their actualisation they are not merely possible (the realisation of the same) but are the creation and invention of the new.

These actualisations, while made linear, sequential and fixed in hard video, provide a theoretical and practical point of difference for a softvideo poetics. A softvideo architecture that allows these multiple facets to remain available, in some manner, after the work is 'published'. This is the achievement of Videofunct and the projects created within the Korsakow System as each allows for a multiplicity of actualisations between shots and sequences after publication.

Conclusion

A theoretical argot is needed to make concrete the concept of these facets, and to describe how video works may acknowledge the granularity of the shot and the multiplicity of these facets after publication. Such a model implicitly requires, and accepts, that the network and computer is no longer merely a tool of production and distribution, but is integral to the possibility of being able to create and use video online.¹⁸

17. Lévy, *Becoming Virtual: Reality in the Digital Age*. p. 24.

18. Blogs and wikis are an exemplar here for while we can print a blog or a wiki such objects, once printed, are clearly no longer a blog or a wiki — they are network specific media. Yet in the

Videofunct and the Korsakow System are substantial steps towards a softvideo practice that is able to maintain the faceted nature of the connections between shots after publication. Each provides a system for the production of multiple relations between content and user, and while it is a commonplace (and naïve) error to describe systems such as Videofunct and Korsakow as 'interactive' they are more accurately and productively characterised as combinatory environments which provide templates or structures that provide for the possibility of connections being formed. That is, they are not authoring or publishing systems in the traditional sense in which I author and then 'publish', but engines that allow content to be contributed and then 'mixed' (for want of a better term) in an ongoing basis. Such practices look strongly towards design and systems development as our role here moves from being content creator towards the architecture of poetic and possibly autopoietic systems. As the example of blogging demonstrates, where technical features such as a publicly available permalink for every post and trackback exists a fine level of granularity is preserved producing an architecture where parts can easily be loosely connected to other parts. Similarly video must maintain its granularity after publication so that it becomes porous to its own possible connections to those clips that are near to hand (those in the systems clip library) as well as far (other clips available via HTTP requests). In this way any video shot or sequence remains available to be actualised after the moment of publication. While such an architecture is only one element towards realising a softvideo practice it provides the affordances to develop highly granular works that allow for the multiplicity of connections between parts. This contributes to a videographic poetics that is able to look beyond internet video's current atavistic misjudging of the merely televisual as a properly network specific videography.

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case of online video, in the majority of cases, nothing changes in the video object if it is viewed online, on an iPod, projected onto a wall, or shown on a television screen. A blog or wiki into print is an act of material translation, that this is not the case with online video indicates the extent to which traditional and conservative notions of video as a particular sort of object retain hegemonic authority.

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The material collected here is a selection of my published research from 1999 to 2009. It does not include any of the more than one hundred interactive videos, or digital media projects that I have undertaken since the early 1990s. The work is divided into three major sections; cinematic hypertext, softvideo, and networked writing, and describes the arc of my research up to approximately 2010.

I have selected these essays as evidence of the extent and quality of my work as a portfolio to meet the requirements of the PhD by Publication model. An accompanying exegetical essay contextualises and provides insight to the concerns and themes collected in what follows.

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II

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Networked Writing

A key theme throughout my research has involved the theory and practice of novel forms of humanities writing and scholarship within the context of computers and the Internet. This has included the writing and publishing of hypertext specific essays, interactive video essays, and numerous web based research projects and portals. This work, which I have here loosely collected under the banner of “networked writing” includes linear, multilinear, text, network based and multimedia forms. It includes ways to theorise blogging (as the first indigenous medium on the World Wide Web) in relation to documentary and its role in media education, through to the extension of Deleuze and Lévy’s work on the virtual and actual to develop a material theory of hypertextual academic writing. Finally it includes a substantial book chapter, “Hypertext Teaching” which outlines a pedagogy of reading multilinear texts.

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CHAPTER TEN

Blogs: Distributed Documentaries of the Everyday

Miles, Adrian. "Blogs: Distributed Documentaries of the Everyday." *Metro*.143 (2005): 66-70.

This brief essay examines blogging as a documentary practice, relying on Nichol's canonical work on documentary cinema. It continues my interest in the ways that film and hypertextual forms intersect, as well as offering a way to engage with blogs beyond the then commonplace observation of it being a diary practice.

What the average citizen needs is not a steady stream of facts, passed on by organizations fearful of going out on a limb, but interpretation, which might in other arguments be called editorialising, persuasion, orientation, ideology, propaganda, or, as here, representation.

What Is a Blog?

A blog is an Internet based, personal publishing system. It is different to writing traditional homepages, or managing personal web sites because these activities generally require pages to be written individually using specific software, the individual management of links, individual design across all pages, and the development of relatively sophisticated understandings of information architecture, style sheets (and style sheets have only become a recent option), and so on. However, even with these simple procedures, site maintenance of home pages and personal web sites was time consuming and 'good' sites required a lot of technical knowledge. Then blogs came along.

Blogs use what is called a Content Management Systems (CMS) to author, build and maintain content. A CMS is not used to produce single web pages, but as its name implies, allows the management of content across an entire site. Blogs generally store content within a database, which exists separately from its Web pages and republishes the entire site into new Web pages each time a change is made. This makes it simple

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to redesign your entire site, because everything is now template driven: change your templates, republish, and every single page in your site now expresses your new design and includes new content. No more changing by hand ten, 100, or even a 1000 pages.

Furthermore, blog systems have automated most of the simple 'information architecture', access, and design problems that we face when wanting to maintain content online. This has been achieved through the development of various conventions within blogs, and any standard blog engine will adopt these features. For example, blogs recognize that online content is generically volatile and dynamic. The front page of a blog is therefore expected to routinely change as new posts are made. However, blog architecture also understands that all material needs to be permanently available so that it can be linked to and found in the future. This 'linking to' is after all what binds the Web together (it isn't called the Web for nothing). Blogs have developed the convention of a permalink, which is attached to each post on the front page, and indicates the permanent URL for each entry. This permalink is automatically generated for each blog post, and allows others to locate the permanent address of individual entries, facilitating future reading.

In addition blogs, much like the diary that is one of its antecedents, automatically archives each entry according to date and time of publication. It may also include individual posts within themed archives as well. Blogs usually have an option allowing public comments on individual posts, provide a search engine to find specific content, and let you modify and customize each of these features. Finally, most modern blogs support a function called 'trackback'. Trackback ensures that if someone else writes a blog post specifically mentioning your blog post, then your blog will know about it. Trackback is achieved by all sorts of 'invisible' communications going on behind the scenes between various blogs. This 'back end' communication is one of the key aspects that have allowed blogs to grow as a genre, as it helps provide the glue that binds all these pieces into loose affiliations. Unlike a diary, a blog is not thought of as an individual site, but as a discursive event that participates in a collection of relations to other sites, and other people. It is a writing that binds parts into wholes as blogs are not only a collection of fragments within one site but also participate in network ecologies. The relations established between blogs (as evidenced in individual blogrolls) and between posts (evidenced via commentary across blogs), is fundamental to the genre. It is a distributed, networked writing and reading practice.

This adds up to a lot of sophisticated technology, something that most of us simply wouldn't have the skills, time or resources to make. Blogs are not in themselves particularly complicated, but rather, a very good implementation of a very good idea. As a result, blogs have blossomed into a significant genre. They have recognized that content online should consist of small idea based chunks. This content can be written in a variety of styles and voices, should be readily accessible using existing technology,

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and is about weaving connections, pathways, and commentary between distributed parts.

While the technical infrastructure of blogging is crucial to the genre, and has materially informed and defined many of the key aspects of blogging praxis, the blogs' overriding governing discursive quality is the manner in which it is embodied within the life world of its author. This is what brings blogs into the orbit of documentary, a connection which to date has probably been most strongly expressed in the recognized affinity between blogs and journalism. However, while quite a few journalists maintain blogs, and there have been several prominent news 'effects' attributed to blogs, this relationship is determined more particularly by the manner in which blogs utilize indexical markers and verisimilitude to participate in the economics of representation that is common to documentary.

Blogs As Documentary

Published in 1991, Bill Nichols' *Representing Reality* remains a canonical work in relation to documentary. It provides a strong definition of documentary practice that pays particular attention to the implications of structuralist and poststructuralist theory. Nichols' argues that documentary utilizes an indexical medium to make claims about the world that are subject to verisimilitude, and that the form exhibits a groundedness in 'the' world that is subject to numerous discursive contexts that are not only an attribute of film's indexicality. These relations of context, indexicality, and verisimilitude will also be made for the documentary economy of blogs.

My interest in exploring the relation of documentary to blogs is twofold. On the one hand, literary and cultural theory, while sophisticated, does not provide a very good heuristic for considering non-fiction work. In fact, the contrary is probably generally the case, since much of this theoretical work has tended to concentrate on demonstrating the fictional tropes present in non-fiction, and therefore the illegitimacy of general claims for 'truth' or 'objectivity' in traditional non-fiction forms. In cinema studies, documentary theory provides ways through such theoretical impasses, and it is hoped that similar methodologies will be useful to engage with blogs as non-fiction practice.

On the other hand, it is clear that as blogs become increasingly media rich they will offer new forms of web based documentary practice. Having a theoretical methodology that recognizes the affinities between what has been generally understand as a literary genre, and an existing audiovisual documentary practice, may assist in the critical and creative development of these emerging genres.

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Modes of Documentary

It would be relatively easy to demonstrate an affinity between documentary and blogs via the modes of documentary that Nichols defines. For example, the four dominant representational modes of documentary: expository, observational, interactive and reflexive, and the characteristics of each, are clearly attributable to blogs in general. However, blogs depart from this typology in typically combining all of these modes within a single 'text'. While some blogs could be seen to tend towards a specific mode (for example political opinion blogs are probably more expository than reflexive), as a hypertextual and networked genre, a blog will routinely entertain all four modes. This is not a zero sum game of theory where blogs become a catch-all theoretical category, but is rather the expression of the polyvocality that network cultures and literacies afford discursive praxis.

Blogs emphasize this plurality and it forms a basic condition of the genre. This is as much a product of the formal material qualities of blogging — a 'document' made up of irregular fragments — as of its historical location at the end of the 'late age of print'. Modes, in Nichols' definition, are no longer that which separates works, but are now accommodated within genres that anticipate, recognize, and authorize the continual mixing and recombination of these modes. Not only does this describe blogs, but it would also be a reasonable description of contemporary post-whatever documentary practice.

Index, Quotidian, Verisimilitude

Documentary arose with the advent of appropriate technologies of record. Today, we are considerably more sophisticated in our understanding of the relations between images (analog or digital), what they purport to represent, and what they may mean. However, what appears untroubled by this discursive complexity is the continuing desire to engage with the world in meaningful and significant ways through the agency of non-fiction. The world is increasingly recorded and replayed, in numerous and volatile contexts. While the 'objectivity' of this indexical record is no longer assured, or even particularly relevant, the ability and desire to engage with the world and to then author identity experientially in such contexts, appears as the benchmark for 'prosumer' technologies. It is also their potential.

The distinction between consumption and production in this context traces a line between each of these points. At one end is the consuming individual, satisfied with the minor spectacle of their own media production. At the other end is the authoring individual, allowing these tools to be interrogated by, and to interrogate these technologies, via the shift from analog consumption to the pluralities of digital authoring and reproduction. Blogs are located in the threshold between these two points. It is the difference between situating the self as participant in and of the

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simulacra, versus the possibility of experiential and individuated modes of engagement. It is a writing in, versus a written by.

What is apparent in these new constellations of recording-as-writing, or recording-as-rewriting, is that a groundedness in the world remains. For example, in their everyday use, outside of the realm of the professional media industries, these technologies are used primarily as apparatuses of the everyday. They are used to document the quotidian of the consumer, but in this digital moment, also become amenable to appropriation for uses along or outside of existing media institutions. In other words, these reproductive technologies support the rise of alternative media practices and genres, where their common feature is a change from reproduction to configuration; that is a writing with.

These practices are qualitatively different to pre-digital media use, where authoring was largely constrained to methods of record (photographing being the major form), and the writing of more complex media forms was the preserve of media industries. Blogs are clearly a participant within this change, where the most popular of media, that is writing, has mutated into a discursive practice that exists in an indifferent relation to existing media forms. Hence blogs, like contemporary digital technologies in general, herald and facilitate a return to broader technologies of writing. Such practices, while amenable to fictional genres, also orientate themselves towards the world in a desire to make claims of, or to document this world. An indexical intent is expressed within these new technologies of writing.

This is a key intersection between documentary and blogs. Documentary appropriates the agency granted by the indexical to facilitate the claims it desires to make. Likewise, blogs have embedded within their generic methodology, networked specific indexical 'markers'. Blogs emphasize an indexical relation between author and world, between what is written and the world. This is not to ignore or discount the regular appearance of subjective writing within blogs. Rather, it is a recognition that blogs ordinarily regard such subjective writing as a consequence of their groundedness in the world of the individual author, which is what separates such entries and the larger genre in general from fiction.

Just as there are subjective and essayist documentaries, which in no way lessens their status as documentaries, blogs not only accommodate but privilege the subjective engagement of individuals with or in the world. Indexicality in this context appears not as a literal condition of a recording medium but via the elements that surround and are included in blogs. Blogs generically include a viable email address, a descriptive paragraph (or link to a biographical homepage), links to other blogs that constitute a discursive community, and the use of textual markers such as proper names, geographical locations, and date and time stamps. As with the supplement of the

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signature, these 'collateral' indexical markers operate as a naïve authenticity, but they also provide that verisimilitude which is an engagement with the world.

This 'everydayness' of blogging grounds practice in the lifeworld of the writer, and tends to assist in legitimating the blog in terms of its purchase upon the world. The claim that blogs are documentary-like because they express authentic voices could be viewed as idealistic, but that would be to misread the argument. More simply, blogs routinely contain linguistic, extra-diegetic markers which have the effect of locating the blog, and blogs in general, in the world. The notion of authenticity here is related to the indexical markers described, so that these textual markers operate much like the analog indexical relations evident in film. This is not to overstate the point, but is to insist that when a blogger mentions a place, time, or person, such places, events and people do exist. What is of interest here is not the possibility or impossibility of textual markers grounding such authenticity, but the desire within this environment for such rhetorical and material practices to develop.

Again, this brings blogs close to documentary in their mutual desire to demonstrate connectedness to the world. This is not the same as saying they are objective statements about the world, nor that they are true in the factual sense. But they are making truth claims, and like documentary, blogs have developed an argot that assists in grounding and legitimating these claims. The point is not how secure such actions may be, but simply that both expend considerable semiotic or discursive energy in the obligation to do this.

These textual markers are a form of verisimilitude. This is the economy of documentary argument where, as Nichols' demonstrates, the documentary 'effect' is less a product of the indexicality of the image than a series of contexts that are employed, and read, granting purchase within the world. This purchase is not factual in the quaint sense of being objective, but is understood to be a view about the world that is evidentiary, representational and argumentative. They are claims made about the world and as such are subject to contestation, but they do nevertheless remain claims about the known, or a knowable world.

It would appear then that documentary and blogs share similar representational economies in their engagement with the world. While blogs appear to be more personal than documentary, this does not discount the connection between them. However, the affinity is perhaps more significant not merely because we can demonstrate that both make arguments about the world (all non-fiction does this after all), but that the manner in which this is conducted bears specific and shared formal qualities. In other words, it is productive to consider blogs not so much as a form of non-fiction writing but as a networked documentary practice. What documentary and blogs have in common is the development of specific rhetorical and representational strategies to legitimate

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themselves as non-fiction. These strategies involve more than the propositional phrases common to non-fiction writing, and extend into specific ways of indicating and grounding themselves within the world. In documentary film, this might be as simple as relying upon the indexicality that is the excess of analog recording media. In blogs, these strategies include proper names and network specific markers (such as email addresses) that attempt to secure the blog in its verisimilitude.

This is why blogs have so rapidly adopted, or been co-opted by, existing recording media, including photos (photoblogs), audio (audioblogs), and video (videoblogs). The accelerating movement of blogs into mixed media is not because blogs facilitate the distribution of these expressive forms, but because they are an immanent medium of record, argument, and representation.

Documentary Blogs

Blogs propose a non-fiction, media rich practice that provides a viable model for network specific documentary practice. In this model it is apparent that existing work flows of preproduction, production, exhibition and distribution are irrelevant. In networked writing and production, the distance between creating or doing the work and its dissemination is radically diminished. Additionally, the problem of distribution and exhibition shifts from one of where to exhibit, to ensuring sufficient bandwidth to support possible audiences. The idea of audience now changes. These documentary blogs would now be constituted by small parts that can be interconnected, generally by other practitioners.

The documentary 'work' now emerges from the relations established internally and externally by this broader documentary community. Similarly, the use of syndication, now a significant feature of blogs, might allow individual documentary authors to produce subscription 'feeds' about specific content. This can be done across a range of different documentary blogs, and individual feeds are then aggregated in a single web page. In other words, there could be multiple documentaries, made up of multiple parts, with multiple author-producers, each syndicated and then collected within a different networked location. These feeds can contain text, image, sound and video. Imagine a documentary that consisted of such video fragments, with descriptive metadata that could be reconnected in multiple contexts.

An example is provided by podcasting, a blog technology that has developed recently. Podcasting is where audio content (for example interviews) is self-produced and published via a blog. Where it departs from being the usual audioblog is that a specific RSS feed is generated from the blog that includes pointers to the audio entries. Client software, similar to an email client, is used to subscribe to these syndicated feeds. Relevant audio files are automatically downloaded to your computer, and in some

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cases synchronized to your iPod for listening on demand. In the case of podcasting, a grass roots audio documentary and music practice is developing that allows work to be easily distributed and consumed using existing portable audio devices. This is already suggesting interesting possibilities for alternative radiographic and audio-documentaries, particularly in terms of production and distribution. Similar systems are currently under development for video distribution and aggregation.

Another example is offered by the recent development of flickr.com , a networked photo sharing and cataloguing CMS. In this system, each subscriber is able to post photographs, include metadata, and it produces individual RSS feeds. This allows you to place your photo album within an existing blog, to search for photos according to tags and to aggregate content. Using flickr and RSS, it is possible to view on a daily basis, all new photos for any given tag. At the time of writing, a search for 'Melbourne' indicates that there are 434 photos. I can view this online as a slide show or subscribe to this via RSS. By subscribing, I could then embed this visual content into other web pages, or simply view the material via a RSS client.

The work in each of these examples is produced by individuals and distributed globally. The content is unedited, in all senses of the term, and it should be apparent how communities of interest and new connectivities may emerge from these processes. These developments pose exciting futures for documentary practice because the same activities can be accomplished using video content. Imagine shooting brief video sequences, editing and publishing them electronically, and then distributing and aggregating this content. What kinds of documentary could be made if content is separated by place, produced by individuals distributed in time, and able to be aggregated according to specific themes in varying combination? Is it still documentary? Of course. Does it have a director? Not really.

This imagined, micro documentary practice, where the medium of production, distribution and publication allows these micro documentaries to be collected and presented more or less 'together', would express significant differences in tone, content, style, manner and engagement within the individual works. Such a project would be blog-like, and would be a combination of individual works that may be primarily expository, observational, interactive or reflexive (to borrow Nichols' terms). But the experience of the work, as the collection of these separate parts, would clearly be of a plural, mixed mode genre and discourse.

At such a moment, documentary has shifted from being mediacentric (video or film for example) and fixed (in length, format, location and so on), towards being networked, open, pluralist, polyvalent and dialogic. This is the threshold we face today. While existing media forms will continue and even thrive, it should be obvious that these technologies afford new genres, styles, and methodologies. This future needs to be

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created. It offers an alternative documentary practice that is, to borrow some rather fashionable intellectual argot, nomadic, deterritorialised, and smooth. It awaits invention.

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CHAPTER ELEVEN

Media Rich Versus Rich Media (Or Why Video in a Blog is not the same as a Video Blog)

Miles, Adrian. "Media Rich versus Rich Media (Or Why Video in a Blog is not the same as a Video Blog). *Proceedings of BlogTalk DownUnder*. Sydney, May, 2005. http://incsub.org/blogtalk/?page_id=74

This was originally published as a multilinear hypertext essay online, with one major cluster of nodes collected as a pseudo linear written piece. It provided three interactive QuickTime prototypes to argue for, and demonstrate, how video could and needed to become porous to the network to become blog like, and that this was a move towards softvideo, and a more genuinely network specific video media form and practice.

Introduction

Blogs are now a media commonplace with regular mentions and appearances in mainstream media and an apparently exponential rise in use within education, knowledge management communities, and various forms of Web based self publishing. While definitions of what constitutes a blog are, in the manner of all such definitions, problematic, videoblogs pose this problem afresh with recent and rapid developments in this nascent field.

My own views on video blogs are well documented, and have been for some time (Miles 2000). There are specific qualities or properties that a blog has which makes it different to existing forms of electronic writing and demonstrate that blogs are a medium in their own right.

For video blogging to be video blogging (as opposed to video within a blog), similar qualities or attributes need to be available to those who wish to make and view (or use) blog based video. A specific aspect of this is the granularity of blogs and ways in which we may conceive of video as being similarly granular – that video needs to be

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as granular as text. This hypertext essay is a discussion that has developed from an iterative theoretical and design project where video prototypes have been developed to explore and make visible the possibilities for alternative forms of video blogging practice.

The first prototype provides links to specific web pages with a combination of thumbnails and time based links, the second prototype begins to pose questions around quoting video within a video, while the third provides detailed commentary upon an individual, external videoblog entry.

Definitions

Dave Winer offers a technical definition of a blog, where “[a] weblog is a hierarchy of text, images, media objects and data, arranged chronologically, that can be viewed in an HTML browser” (Winer, 2003). This is a patently poor definition, at it successfully includes the home page of most major news organisations, and probably any auction in ebay! While Winer also recognises the importance of a personal voice in blogs, that is “writing about their own experience” (Winer 2003) – which goes some way to possibly removing ebay from potential best fits – I’d argue that any compelling definition of blogs requires a combination of technical characteristics, embeddedness in a life world, and emergence.

The technical elements are reasonably clear (though subject to change as our systems continue to evolve), and involve the use of a Content Management System (CMS) to manage the administration and automate several key aspects of a blog. This includes the management of a blogroll, permalinks, date and time stamps, archives and categories. It also recognises that a blog consists of multiple posts that are displayed in reverse chronological order (most recent at the top), and that these posts are the basic, or primary, structural unit of a blog.

Embeddedness refers to the manner in which a blog is situated within the life world of its author (or authors). This is a stronger statement than emphasising personal experience, only because it moves it away from the presumption that personal may equal the subjective and intimate. Embeddedness, on the other hand, recognises that a blog is about what its author finds relevant in the world, that such relevance may have a very fine focus, (for example documenting an experimental practice or exploring parenthood), and that such embeddedness has consequences for the sorts of truth claims and discursive engagement that is common to blogs (Miles, 2005).

Finally, emergence (which in the context of this essay will not receive the attention it deserves) describes the patterns of connection that are produced, in situ, through the activities of blogging. These are the relations formed by the interconnections of blogrolls and the lattice of links between individual blog posts (something that the

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development of trackbacks have responded to as they are a simple way to make visible these interconnections). These form patterns of relations that build and vary over time which are unfixed, fluid and reflect vectors of interest. They are, in a nutshell, how blogs are small world networks (Watts 2003) where such networks express discursive communities of interest.

As a consequence of these features blogs exhibit very high granularity, and while we could argue forever as to whether such fine granularity constructed the medium, or if the medium occasioned the development of tools to support this piecemeal structure, it is obvious that it is these structures that allows blogs to be a networked writing rather than writing on the network, a writing that is porous to the network.

Definitional Aside

There are numerous ways in which blogs may be defined (see also Walker, 2003, and Wilkie 2003a, 2003b). However while the intricacies of definitions are useful for some scholastic exercises, what is of more contemporary significance is the recognition that blogs are now not merely a noun and a verb (I blog, I have a blog), but a medium in their own right.

This might be controversial — I don't really know — however it is clear that there are now numerous sorts of blogs (diet blogs, war blogs, political blogs, research blogs, group blogs, and so on) and that as a concept it makes little sense to consider them collectively as a genre. We have genres of blogs, just as we have genres of novels, television, painting and cinema. Each of the latter are media, not genres. Each of these media support and allows an extremely diverse range of practices and expressions.

Blogs are at this point, which is a useful moment if only because it helps force us to recognise that the Internet, or the Web, is not a medium in the common held (pragmatic) sense, unless we want to consider paper as media. (Which it is, but I assume my point is clear.)

Specificity of blogging (Detail)

It is reasonable to approach the definition of blogs from two different views. One is, perhaps, formalist in its concentration on the technical or technological aspects and qualities of blogging. The other is more literary or otherwise post-something theoretical in its orientation as it emphasises the textual or writerly nature of blogs.

In the first instance, blogs tend to be defined by such features as the use of a Content Management System (CMS), and the presence of the specific formal features that blogs have developed as a genre. For example to consist of multiple posts which have a heading and time and date stamp, the presence of permalinks, blogroll, and support for

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comments and *trackback*. Several of these terms are neologisms that have developed in response to the need to define a blog nomenclature, that is they're quite specific to blogs, and each in quite specific ways have helped to determine what a blog actually is.

The second approach accepts the presence of these technical aspects of blogging, but generally treats these as secondary to the primary qualities of blogs. This is much like a discussion that may wish to conceive of defining the novel (for example) where the material or technical elements of the medium, for example that it traditionally consists of printed marks on serially bound and numbered paper that is collected between two covers, is regarded as of less significance than the fact that novels are fictional, authored, and have a specific narrative structure. Such an approach, for example, is what we would ordinarily understand literary theory to be, which has of course produced numerous sophisticated, and valuable approaches and methodologies.

In blog theory this approach tends to concentrate on blogging as primarily a textual problem. This may be extremely broad ranging, and participates in a long tradition of textual or theoretical scholarship that continues the Platonic reification of print where the materiality and technical apparatus of the medium is considered secondary to its behaviour as discourse. However, it is clear that blogging as a medium has, like other media, developed via a sophisticated series of exchanges between the constraints and affordances of enabling technologies and the intersections of individual and collective desire.

Granularity

Granularity is a term common to the hypertext literature (as any casual search of the ACM hypertext proceedings will show) and refers to the scale of the units used within a larger system. For example, the Web can be considered highly granular (in general) because it is made up of many millions of individual parts, each of which appears well suited to being interconnected in quite unstructured (non hierarchical and multilinear) ways.

Books, on the other hand, are not as granular as the pages within the book are generally designed to be used in a fixed order, and as an object you tend to have to connect (to use hypertext terminology) to the entire book when wanting to insert it into other contexts. (This is the role of footnotes and bibliographies, for example).

This difference is simple, but illuminating. In a page based essay I need to refer to the entire containing object, lets say the book, and the reader, if they wished to view what I am referring to are obligated to get all of that object. Hence we think of it as being not particularly granular. On the other hand, in a web based essay I may provide a link to the specific page from which I'm citing (which may be one page amongst many in a

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larger work) but there is no need for myself or the reader to have to get the entire 'object' for this connection to take place. Hence we think of this as being highly granular.

Text, as text, and prior to considering it in terms of genres or discourses, is highly granular, as is video ordinarily understood as consisting of narratives composed sequences, in turn composed of shots.

In the context of hypertext and multilinear, interactive web based material, a premium is placed on formats, genres, or systems that support a high level of granularity because such systems offer multiple possibilities for (or of) connection and reconnection.

Granularity of Text

Text is, by and large, granular. Pragmatically its lowest level of granularity is the letter (we even have a specific word indicating this property), and then it scales to words, phrases, sentences, paragraphs, and from there into a very wide range of discursive objects.

This is recognised (and taken for granted) in all our digital tools that deal with text – for example in any contemporary operating system there will be a series of default behaviours that apply to words — in OS X I can double click a word in any application and the word will be automatically selected. In Microsoft Word it is a given that letters are a major minimal unit, and so I can add, delete and manipulate them at this relatively fine level of granularity. The same rules more or less scale elegantly to larger constellations, hence I can also work easily on words, sentences, paragraphs and sections in Word.

Exactly the same holds for digital video, where minimal units (called shots) are combined into larger sets (sequences) which in turn are assembled into more complex units. Similarly, within the tools available for digital video production there is an implicit recognition of this granularity so that editing software is able to easily identify, manipulate and operate upon these minimal units. In other words you can split complete shots into smaller shots, address footage to an extremely high degree of accuracy via timecode and there will be tools to manage these shots as they intrinsically recognise shots as a meaningful minimal unit.

The profound difference in our understanding of granularity in text and video lies, however, not in our tools of production, but in our technologies of reception.

Granularity of Blogs

Granularity is a common term in hypertext theory that is used to describe the level of detail that a particular object or element may have. Detail, in this instance, is if you like, a level of focus. When something is very granular it means it consists of small units (the

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literature refers to these units in various ways, including 'chunks', 'lexias', and 'nodes'), and conversely something with little granularity tends to be a larger discursive object.

Hence, granularity does not refer simply to the size or scale of a unit but more significantly describes the minimal size or scale of a unit that retains discursive integrity. A clumsy term, but one that shows that the degree of granularity is not a measurement of quantity but of quality – a blog post retains this integrity, half a blog post doesn't.

While it could be argued that our ability to reference individual pages in a book are also an instance of such granularity, this misses the specific nature of what is intended by the term. It is not that something may consist of smaller parts that can be identified, but that these smaller parts are suitably or wholly meaningful in themselves. In other words I may refer to a specific page in a book or essay, but there is a recognition that that reference is primarily to find the mentioned material, and to understand it appropriately its surrounding material (possibly the rest of the book) needs to be read. Certainly at least recognised as a more significant whole than the part which I have quoted or alluded to. This is not the case with blogs (and with web pages in general). The individual entry is written and designed to be a self sufficient utterance, by and large.

In relation to many other written forms, and here I have in mind particularly academic genres, blogs exhibit a very high degree of granularity. They are, to use the extremely apt and popular phrase of David Weinberger, 'small pieces loosely joined' (Weinberger, 2003).

Blogs, as generally recognised, consist of short entries that are displayed in reverse chronological order. The blog is regarded as more or less the ongoing sum of these smaller parts. However, each of these parts is largely self contained, so that a reader can read any individual blog entry and in most circumstances understand what it is about.

This makes the blog highly granular because it is possible to link to individual entries within any particular blog. This is why permalinks as a convention developed — a permanent address was needed for an entry at the time of publication as the URL of the homepage of the blog is not the permanent URL of any individual post, yet it is posts, not blogs that need to be linked to.

It is this granularity that has been instrumental in defining blogs as a medium, and has enabled the development of technologies and practices specific to blogging. This includes the development of trackback, comment systems but also the rise of the convention of having named posts which are date and time stamped in some manner, as well as the application of categories to individual entries. Without such granularity, our blogs would merely be essays, diaries, or journals.

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It is also this granularity that has allowed blogs to be woven by the network. A blog consists of multiple posts but also multiple links in and out. These links point to parts, not wholes (individual entries, not entire sites) and it is the presence and density of these links that are fundamental to blogs as emergent systems (Miles 2005b). The issue for a video blogging practice is to try to conceive of video as being similarly granular.

Prototype One

The first prototype developed for this paper consists of a simple QuickTime movie that contains three sprite tracks (see Figure Twenty One). Within this specific work the interaction is very simple, as the video plays (the content is me talking to camera about being able to quote networked artefacts in online video) time based links appear which, when clicked, pause the video and launch their relevant urls in new browser windows.

The thumbnails are derived from the web pages that are mentioned in the commentary, and have two 'states'. The first is when they first appear in the timeline, which coincides with their mention in my commentary. Prior to this point the user is not aware of their presence, and they don't actually exist in the video — they are literally time based. (As a consequence this also means that the user does not know how many might appear.) During their first appearance, and while their context is relevant to what is being discussed in the video, clicking on the sprite will pause the commentary and load the target url in a new browser window.

The second state occurs after the link to the external site is no longer relevant to the commentary as something else is being discussed. Clicking the the thumbnail at this point returns the video playhead to the moment in the discussion where that particular external reference is first mentioned, giving the user the opportunity to retrieve the context of the quote in terms of the commentary. Again, clicking during this interval will pause the commentary and load the reference URL into a new browser window.

Clicking at this point could have simply paused the video, as in the first instance, and loaded the reference URL into a browser window, however a decision was made that the context in which the quote was made should take precedence over simply following the link. This is the case in print citation, from which this is more or less derived, since in print the source of a quotation (for example citation details in a footnote or bibliography) are always offered in the context of the original quotation — the quoted object is always intimately linked in its local context to its source. In print you cannot avoid the context in which the cited material exists, where context means the other material (let's say text) that surrounds the quoted material. In effect the same principle is being applied here, so that the context of quotation is always recoverable.

This first prototype demonstrates that links within video can have such a level of granularity — the links can apply to discrete parts of the image, much like an

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imagemap, and they can be time based where their behaviour may vary over time. Such granularity within video is fundamental to any conception of video that is to be blog like, and assists us in beginning to conceive of possible models for how such a video practice may operate. For example, while this prototype provides a simple visual mechanism by which we can identify the presence of links, and make them available, it does not indicate the destination URL, and lacks many of the basic qualities utilised in a blog, for example a post title (whether of the videoblog prototype or of the linked URLs), URL, date or time information or even where in the video the links appear — the user must view the video, or use the scrub bar, to find the location of any links within the work. Finally, this prototype specifically cites networked objects realised as URLs within a video stream, whereas the second prototype begins to explore the idea of citing video within video.

Prototype Two

The second prototype (see Figure Twenty Two) that was developed begins to utilise and explore more specific qualities and properties of a video blog practice where video from other videoblogs is included within an individual video piece a practice I have described elsewhere as softvideo (Miles 2003.)

In this work there is a commentary and video track of myself, discussing in broad terms the idea of being able to cite other video within a video work. Alongside this video pane there is a second video pane (or window) which will load the video blogs that are mentioned by me in my commentary. These will only be loaded if the user clicks while they are being mentioned, otherwise no other material is loaded and displayed in the second video pane.

Technically this prototype uses a feature of QuickTime known as child movies, a term that bears some affinities with hypertext theory's use of similar terminology to describe hypertext structure (for example the use of sibling, parent, and child as common descriptors of hypertextual hierarchy). The prototype is the parent movie, so acts as a container for other content that resides outside of this individual movie. Such material may reside on a local drive, or in this case, elsewhere on the network. In this specific instance the only material being loaded from outside of the prototype are two other videos, one from the video blog of Eric Rice (2005), and the other from Jay Dedman's video blog (Dedman 2005). These, as in prototype one, are only available when being specifically mentioned in the commentary, and require the user to click the quote mark icon that appears between the two video panes.

This user action will pause the commentary, and then load the mentioned video from its specific networked location, in this case from either of two other video blogs. What is important to note here is that this content is only downloaded by the client (user or

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reader) if they click on it, and that this content resides in a location which I have no control over. If the owner of that content removes it, or changes its location, then this work will be 'broken' in the same way that linking to an external page that is later removed (or moved) will generate a 404 'Page not Found' error.

An advantage of only downloading this content when it is requested is to minimise the bandwidth demands of video quotation systems — if the user doesn't want to view the mentioned material then it is not downloaded to their system. This saves bandwidth and time and minimises for the client, and the authors (the author of the parent video and the authors of the child content that is being quoted) the overheads that such a system may incur where child movies are not utilised. For example, if I had simply used QuickTime to copy and paste the other video into this movie, then the total file size would be dramatically increased, whether clients wanted to view the cited video or not. Alternatively if I had utilised some other strategy (for example preloading the quoted video in case it was to be requested) then the author of the quoted video, and the viewer of the parent video, would still be accruing unnecessary bandwidth charges.

If the user clicks on the quote icon when no specific video is being mentioned then a jpeg is loaded (again this is loaded from elsewhere on the network) indicating that nothing is being quoted at that particular moment. In addition a controller is provided for the second video pane so that the user has control over the playback of this second video.

There is quite a bit that this prototype fails to do, or does poorly. For example as with the first prototype it does not indicate the source URLs of the quoted video, or the blog pages where this video is located. Some access to the original material is important since in a blog it is an established practice to provide a link to another blog post when your entry refers to this content. In addition, the interface is not particularly clear, so it is not obvious to the user that they need to click the quotation icon between the video panes to load the external video. This is a legacy of my own specific creative aesthetic practice where I deliberately encourage users to explore a video to find what or how it may be interactive, an aesthetic that is not particularly amenable to a generic interface for video blogging.

However, the work does quote video within another video, it does provide commentary or comments that allude to this work in a manner that is sympathetic to blogging practice, and it does this in a manner that begins to indicate ways in which a blog based video practice weaves with video in ways analogous to how we weave with text. The third prototype begins from this point, and attempts to explore it more forcefully.

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Prototype Three

Prototype three extends the ideas sketched in the first prototype, and then developed further in the second. This work, the most complex of the three, involves the use of two child movie tracks and an interactive track that consists of fourteen buttons (see Figure Twenty Three).

One of the child movie tracks loads a video blog entry by Michael Verdi, his "Vlog Anarchy" (Verdi 2005). This is displayed in a video pane in the lower right of the prototype, and in the original prototype this comes directly from where Verdi has published this video. This video does not automatically play, which is the case with the second prototype, as in this example the video is quoted in parts, and not in its entirety. This is, in many ways, a stronger example of quotation than the second prototype, simply because in the second example the entire video work is played, or available for play, whereas the usual model for quotation is, of course, to only cite a part of the entire passage or work.

In this example quotation is performed by the user clicking on any of the fourteen available buttons. Each of these plays a specific section of Verdi's video, and only that section, and once it has finished playing it then plays my commentary that responds to Verdi's points or observations. These commentaries, which are only sound tracks (there is no video associated with my comments) are loaded as childmovie tracks, and so as in the second prototype are only loaded and heard if requested by the user.

The video windows that appear down the left side of the video are of me, and have no sound attached, they are multiple videos suggesting and proposing ways in which we can also recognise that video in these contexts is as much an act of assemblage (of montage and collage together, see Miles 2003) as it is of publishing a 'single' window of audiovisual content.

This model is the most mature in terms of its consideration of video as granular. The parent movie, which orchestrates my commentary and the quotation of the specific passages from Verdi's video, constrains which parts of the quoted material is available, so exhibits the idea of quotation as selection. In addition, my use of child movies to load the commentary means that the user, if they wish to view and hear section twelve, does not need to download and listen to commentaries one to eleven. Similarly a section can be easily reviewed and replayed by clicking again on the relevant button. Such random access, the ability to move from any part to another, is of fundamental importance to any system of quotation in time based media.

However, since Verdi's video (which is nearly five minutes in duration and nineteen megabytes) is, in network and blogging terms, a large object, a major constraint in this prototype is that it cannot work successfully until all of this external video has been

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downloaded. This is for the simple reason that if the user selects a commentary button that refers to a sequence that occurs late in Verdi's material this can only be played if it has been downloaded into the parent video – you cannot physically jump to a point in the data if this data has not arrived yet! As a consequence this work is scripted in such a manner that it cannot be played until all of this video has been downloaded and cached locally, which then allows the work to operate properly. A second version was also made, where I recompressed Verdi's original 320 by 240 pixel video clip down to 160 by 120 pixels (which is the size of the video window I am displaying it within in the prototype). This has the benefit of reducing the file size to 5 megabytes, which means it loads and plays much faster, and also significantly reduces the processor demands of the prototype.

In other words, because Verdi's work is, in many ways, ungranular (and to the extent it is conceived of as an entire or whole object it strongly mirrors most existing video blog practice) to quote it within another video requires the incorporation of all of this material within the prototype so that parts of it can then be viewed. This is a legacy of the technical infrastructure of the HTTP protocol, and of QuickTime, so that there is no easy system to deliver specified parts of a file rather than the file in its entirety (this is technically possible and available and is known as byte serving).

Granular Video

Text is granular. Blogs, as perhaps the first indigenous medium to have developed on the web, are granular. Video on the web generally is not.

This is an important, and possibly fundamental distinction, for as I have argued video is highly granular (certainly as granular as text) during the production process yet once published it becomes quite closed to all of those activities that granularity affords.

These activities have two basic aspects, one is granularity in terms of the network, and the other is granularity in terms of users.

In current practice videobloggers compress and embed their content into their blogs and this content becomes a closed object. It is assumed and expected that users will watch or listen to this material in its entirety, and is presented and constructed around these assumptions. This is, for example, why it is common for videobloggers to have opening and closing credits to their work — they assume that anyone will view the entire piece, and hence credit sequences are a part of this work. However, if we could quote just parts of a videoblog, just as we do with text, then obviously credit sequences are redundant. Furthermore, once we quote parts, not wholes, the assumptions that credit sequences rely upon become visible, and we will need to develop alternative methods for nominating such information within video. Just as we have for text.

Furthermore, this time based media, once published, is generally published in a manner where it has little awareness of its networked contexts. Such video does not automatically contain or embed, for example, its URL, time or date of publication, and other basic metadata. Current video architectures, existing and proposed (for example Apple's QuickTime, and potentially MPEG21), can contain this information. Alternatively it could be embedded textually in a post's metadata allowing it to be collected by existing blog systems. That this is possible, but not being done, is perhaps symptomatic of the manner in which video and audio is still conceived of as a 'closed' system, of finished rather than partial or fragmentary works. (Similar issues also arise with the duration of much work presented in this manner, their length makes them the equivalent of blogs posts that run to several screens — in blogging this is probably the exception rather than the rule, in podcasting this is the rule, rather than the exception, currently videoblogging shows all the signs of following podcasting.)

If we use blogging as our exemplar, and if it is videoblogging then presumably the intention is for blogging to be the exemplar, then video in videoblogs should be granular in relation to the network. Furthermore it is reasonable that videoblogs should also exhibit the general qualities of what makes a blog a blog. Hence, blog based video would be made up of small parts, reflecting or expressing the life world of its makers, and an individual video blog would (much like television) become a serial form where the continuities and discontinuities between parts become important.

More significantly, however, video itself and not just its finished artefacts would become granular. For example, in my web browser when I am reading your blog I can click and drag my cursor over your text and copy this text for insertion into my blog post. However, in my web browser when I view your video I cannot nominate a passage of video to copy for insertion into my video post. Why not? The technology certainly supports this.

Similarly, if we recognise that a blog post is not just the text of the post, but includes its title, date and time of publication, trackbacks and possibly even comments, then a blog post is constructed of many parts and blog CMS's have tools that recognise and can extract these parts in meaningful ways. In video and more specifically in video blogs, these parts also exist and can (or could) be extracted. For example a QuickTime movie can read an XML file and include within itself all of the above information. Furthermore movies could read this information from or about each other, and so exhibit the sorts of network awareness that characterise blog posts.

In addition, just as text is granular after its point of publication in a blog, so too can video. This refers to how we might use other video within our video posts, which is what this essay has concentrated upon. However it can also describe a method of working in video where we no longer conceive of video as being the production

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of something with a single image and sound track. This process, which has been elsewhere described as softvideography (Miles, 2003) lets us author video in ways that make it more comparable to text. Video in this model is always, even after publication, something that is constituted from parts that may or may not appear or be realised in the final work. It is, if you prefer, thinking of the video object as more like a blog so that just as a reader may only view part of a blog (indeed only part of a blog post) so too they may only view or listen to parts of an individual video entry. This change is a paradigmatic shift in what we think we are doing when we make a video blog entry, and a similar shift in what we think the role of the viewer or user of the video will be. It is a move towards a more active user, though I'd argue certainly no more active than what we expect the average blog reader to be. It does bear repeating that the change is simple, but deep, and is no more complex than recognising that our video can now be made of variable parts, just as our blogs are.

It is possible, though currently nontrivial, to treat blog published video as granular. The prototypes that have been authored to accompany this paper (which have all been published in a video blog) are early demonstrations of such a process. The first prototype shows a video file which contains partial time based links so that we might be able to imagine a video blog practice that lets users link to other networked items, just as we do with text.

The second prototype is a (rather dull) commentary that mentions two other video blog entries. When clicked upon during their mention, the commentary pauses and the prototype retrieves the mentioned video blogs and plays them within this movie. Such a video blog entry shows that it is technically possible to include other networked videos inside a similarly networked video, and helps to illustrate the questions that this raises.

The third prototype takes this a step further so that parts of an individual video blog (published elsewhere by someone else) is selectively quoted within another videoblog. In this example there are multiple selective quotations so that here commentary is woven around the originating video blog entry.

What each of these prototypes does not achieve is as significant as what they demonstrate. However, what I wish to emphasise at this nascent point in videoblogging is not what generic conventions or even practices ought to be pursued, but to observe that applications could be developed that allow us to work within video so that it retains its granularity after publication. Just as blogs have with text. This would be a hypertextual video, and much like blogs and their emergence, we do not know what such a practice will become. A blog, if printed, is no longer a blog, it cannot be a blog without its permeation by and within the network. If video in a blog can be removed and played, and is qualitatively no different, then it is not yet blog video. That difference requires invention. The architectures and tools exist, the hindrance is simply our

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prejudice, that is our horizons of understanding and expectation. This essay is an invitation to reimagine that horizon.

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CHAPTER TWELVE

Blogs in Media Education

Miles, Adrian. "Blogs in Media Education: A Beginning." *Australian Screen Ed.*41 (2006): 66-9

This essay builds upon my idea of 'network literacy' to argue for the role that blogging can play in media studies education. Very simply it argues that media students require network literacy, that blogs require and perform sophisticated forms of network literacy, and so appropriately scaffolded blogging achieves considerable direct and collateral learning outcomes for media education when done well.

Introduction

In this article I would like to introduce and explore the possible use of blogs in media education. What follows applies, more or less equally, for students and teachers, so if you are wondering about how blogs may be relevant to your professional practice as a teacher, or as a classroom tool, then most of what follows will apply. However, before I launch into the nitty gritty of blogging, some pedagogical context is in order. I have maintained an academic blog since 2000, and have used blogs on a subject by subject basis with university students since 2002. In 2005 I was part of a large and ambitious project within the Bachelor of Communication (Media) program at RMIT that provides a blog for every Media student for the duration of their undergraduate candidature. This use of blogs as a networked writing technology that I have developed over this period has emphasised and explored what is 'peculiar' to blogs, what sorts of things they make possible that other forms of writing (such as diaries, journals, notebooks and web pages) do not, and how these possibilities might contribute to teaching and learning. This approach, in many ways, is different to what happens at the 'enterprise' (university or school wide) level where new technologies have tended to be appropriated to replace or reproduce traditional academic genres or teaching practices, or even simply applied willy nilly with little consideration given to their specific qualities and the relation of these qualities to teaching and learning.

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What is a blog?

A blog is a web based publication. It traditionally consists of entries of varying length (shorter rather than longer being the norm) that are published in reverse chronological order so that the most recent entry appears first. All entries, which in a blog are referred to as posts, have a heading, some sort of date and time stamp, and usually attribute authorship. All posts are automatically archived by date, and it is also common to apply categories to individual entries (categories are basically topics that the blog author defines) and for archives to be automatically generated for each category. A blog has a name, like any other publication, and usually includes a blogroll which is the list of other blogs that the author regularly reads. Most blogs also support optional comments, where readers can leave notes attached to individual posts, and trackback, where links are automatically made between individual blog posts that refer to each other.

All of this automation is realised through what information technology people usually refer to as a Content Management System, or CMS. In the case of blogs, these are specific CMS's that have been developed for the specific purpose of blogging (any organisation that maintains a complex web site via automated systems is using a CMS). While some CMS's are better than others it makes little overall difference which particular CMS you use for your blog — much like there may be a difference in driving different cars, but they all more or less allow the same outcomes. However, what is important about using a CMS in terms of the World Wide Web is that it lets a blogger become a publisher, rather than just the author of a single or even series of single web pages.

That's the technology. What it has allowed to develop is an informal, loquacious and occasionally garrulous medium that has made a strength of the formal qualities of hypertext. In a nutshell, blog posts are small 'chunks' that can be easily interlinked between blogs, and allow writing with a diverse range of 'voices' including scholarly, personal, professional, conversational and humourous tones. This makes blogs exemplars of an interlinked, networked, fluid and distinctly contemporary writing practice and communicative space, and it is these qualities that can be leveraged to make them effective learning environments.

Why Use a Blog?

There are a host of reasons why blogs may be useful in teaching. However, like most literacies and in particular around new technologies and literacy, it is very useful to keep some salient points in mind. The first is that students usually receive several years of intense, specialised and very high quality training in print literacy. This is the basis upon which blogging can work, however the most productive blogging is not the replication of print literacy but is closer to what might be thought of as a post print-literacy. Therefore it takes time to learn how to blog — successful blogging is not

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something that happens in one class, or even a week — just as successful essay writing usually takes many years to develop.

The second major point is that even with the best of intentions if the use of the blog is not strongly integrated into the learning and assessable outcomes of a subject then students will, deservedly, recognise that it simply isn't worth their while and will treat it as a rote activity. (Of course if you as the teacher also don't accord it appropriate 'weight' then there is also the problem of what this models for your students in terms of your valuing of its importance.)

With these caveats in mind, why or how might a blog be used in teaching? Well, and this is an incomplete list, blogs are very useful to document your practice, to encourage and support reflective and process based learning, to nurture peer support and learning, to provide a record of achievement, in assisting idea creation, supporting collaboration, and finally in developing multiliteracies that allow participation within contemporary information ecologies as creators, rather than being limited to being passive consumers.

Blogs, like journals, allow a record to be maintained of ideas, reflections, activities, things to be done, and so on. In this they have the same sorts of benefits that a journal or diary may allow, with several key differences. The first and most obvious one is that a blog is a public document, and it is written with the assumption that it has readers. The number of readers does not matter, the point is that what you write about needs to be written about in such a way that it makes sense for other readers, so requires more care, elucidation and clarification than may be the case in the personal diary or even journal writing. This publicness means that care needs to be exercised, that it is not enough to make a cryptic note to yourself or, what amounts to the same thing, an aside to yourself, since you write with the knowledge that this post will be read by others.

The second key difference, which is a consequence of the first, is that by being public, and a blog, it can be linked to by others. Once this happens, and it is often a watershed moment for the beginning blogger, the experience of blogging and your writing moves from being semi-private to public. This helps you to recognise that your work is able to make a contribution to a larger community, and by learning how to reciprocate — by reading other blogs and commenting in your blog on your views there, a community of practice (in this case a community of learners) is able to be nurtured. This community emerges in use, and in most cases while it may reflect the classroom it is in no way limited to a single cohort, and regularly changes shape during the course of the students' career as they change subjects, work groups, interests, and use their blog to document and explore changes in their lives. Through the careful introduction of blogging, with appropriate invited or required tasks, and sufficient scaffolding offered through class time, participation and simple technical support, a very rich communicative environment does emerge. Students will document lectures, tutorials, readings,

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problems with what they don't know, respond to others' questions, detail confusions (for other students and teaching staff), collect meeting notes for collaborative projects, and loudly proclaim why their sporting team is better than everyone else's.

Yet, to get to a point such as this student bloggers need to have their blog writing 'seeded' by a range of tasks. The role of this 'seeding' is to help overcome any anxieties about using the technology, offer enough teaching and use so that the experience of driving the technology becomes secondary to making and publishing content, and to get students over the tipping point where their blogs shift from becoming assessable, teacher set activities to their own online writing spaces — in effect personal learning web documentaries. In addition, some attention needs to be given to supporting students in process based reflective practice, otherwise the blogs, from an educational point of view, really do risk being little more than garrulous vanity publishing.

Strategies

In my own teaching when I first introduce blogs I set aside a minimum of 30% of the total mark for the subject for the blogs. This often surprises students, who generally have the experience of the emphasis of assessment falling on essays. However, if I want students to actively use their blogs, and get to the point where their blogs become useful (even valuable) to what they do, then their use needs to be rewarded. The next step is to then provide teaching time dedicated to learning how to use their blogs, which consists of how to make and edit entries, making links, adding external links to their blogrolls, and simple customising of their blog designs (this is extremely important and essential to allowing students to 'own' their blogs). A series of set tasks can be useful here, each of which should let the student exercise a particular technical skill while also introducing a complementary learning activity. For example, a task might be to require each student to write an entry which identifies one key idea they have read or noted from the reading or lecture. The task may specifically invite students to note what they like about the idea, what they are unsure about (giving permission and modelling that your blog is, perhaps unlike the essay, a space where you can express doubt and insecurity about your knowledge) and how they think it relates to another idea, for example the general theme of the subject. Then a second follow up task would be for each student to read the same post in several other student blogs and then to write a new post that links to each of these other posts and identifying what they found useful in each of these.

Generally a range of such set tasks encourages students to read and comment on each others work, and helps model for them that they can enhance their learning by reading each other's contributions. In addition students are given permission to write about whatever they wish in their blogs (subject to basic electronic rules of use and legal requirements) so that their blogs are not only used for classroom activities but

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also used to discuss their extracurricular lives. In these supported blogging contexts I find that the majority of students, largely through their own direction, begin routinely reading each others work (not necessarily all blogs, but those they choose to read), and in their blogs will elaborate upon and explore course content beyond the discussions undertaken in class. These may reinforce ideas covered in the teaching, expand the ideas outside of the contexts provided, or simply provide a litmus test for the teacher and other students to gauge student's understanding in situ. In addition, since students can now see each others writing (and the amount of writing being undertaken should not be underestimated or undervalued!) they can also more effectively see and understand the differences that exist between each others capabilities. As a result the poor student actually sees what excellent work looks and reads like, how it engages with ideas and what that actually might be. In a similar way the excellent student can see why their work is in fact exemplary as many students who routinely receive high marks have little idea what poor work looks like and don't really know what it is that they do that qualifies as 'excellence'!

The assessment of blogs varies within my teaching on the basis of how much experience students have had with their blogs. When first introduced there is an assessment matrix provided which outlines key assessment criteria for their blogs. This usually includes a required number of regular posts, evidence of documenting classes or readings, posts that reflect on what has been done, and also posts that reflect on how the student is experiencing their learning, including their use of their blog. At the end of the semester students write an assessable blog post that addresses each of these criteria (which they have received at the beginning of the subject) providing links to individual blog posts that provide supporting evidence for each of these items. This forms the basis of their blog mark, while in later subjects more sophisticated, and generally more strongly process based and reflective self assessment strategies are used.

Consequences and Conclusions

It ought to be a given that the Internet is a paradigm shift in communicative technologies, a shift that has positive and negative aspects. A key feature of the Internet as a communication environment is its decentralised, distributed and densely interconnected nature. Blogs as a medium model this, and so their use within media teaching is relevant not only for their educational benefits, but for the collateral outcomes that blogging achieves for staff and students as they write not only for this network, but within it.

Another such collateral outcome is in the development of an online portfolio. Blogs support the use of categories, which are keywords that can be applied to individual posts, and each category has its own archive within the blog. Simply clicking on the

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category title displays all posts within that category, arranged according to date of publication. Through the use of such categories it is easy for a student or teacher to collate posts around specific themes or practices, eg reflections, photographs, and construct a learning portfolio.

The use of blogs also model questions about online identity. As students write themselves through their blogs they develop an online persona which they control. Once they can be found through search engines such as Google, and receive comments or realise they are being read outside of their immediate class cohort, then the nature of the persona they wish to develop and present becomes a legitimate and pressing question with great relevance to all social aspects of the Internet. A simple case in point is to realise that just as we all Google our prospective employers (or teachers), they too will Google us, and how you are recognised within the context of this social informational network can be controlled by you through your blog.

Finally, contemporary media students need to develop a range of literacies around Internet and digital technologies. A blog models this in an exemplary manner as students are able to publish digital photos, audio, and even video via their blogs, and to write and explore practices that are immanent to contemporary information networks. The shift offered by blogs may appear minor in light of the Internet in general, but blogs consolidate the difference between confusing the Web as a publication medium rather than as the 'writing' medium it has come to be. In addition, through using their blogs simple but essential questions about copyright, intellectual property, and Internet ethics will arise, and these are issues that any student, certainly in senior secondary education and above, needs some familiarity with within media studies.

Blogs provide access to much of this in ways that complement and make concrete what might otherwise appear as abstract or distant concerns. Blogs provide ample opportunity for students to participate as peers within the information rich, interlinked and emergent network of practices and writings that constitutes contemporary information ecologies, and this participation, I believe, has the potential to make a significant contribution to contemporary media education.

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CHAPTER THIRTEEN

A Vision For Media Rich Blogging

Miles, Adrian. "A Vision for Genuine Rich Media Blogging." *Uses of Blogs*. Eds. Axel Bruns and Joanne Jacobs. New York: Peter Lang, 2006. 213-22.

This book chapter, which was written some time before publication, provides a critique of videoblogging from the point of view of cultural and political practice, and as an inherently constrained and conservative media form in light of what it could be. It continues my work around networked practices and softvideo.

Blogs are a rich, diverse and quintessentially disparate medium expressing the internet as a network of noise, connection, communication and difference. Latterly these qualities have been evident with the appearance of traditional time based media, principally audio and video, in blogs and their more recent corollaries pod and video 'casting'. The incorporation of audiovisual media within blogs has seen the development of substantial new blogging genres and also has the potential to generate new genres of audiovisual content and associated technologies. The key problem confronting the successful incorporation of audio and video into blogging practice revolves around how those qualities that make a blog a blog can become part of time based media, versus the appropriation of blogs as merely distribution or publishing 'engines' for audio and video files.

There are, as this anthology indicates, many ways in which blogs can be defined and theorised. The contribution I wish to make to this discussion is to identify blogs with those formal features of blog Content Management Systems (CMS) that can be seen as a material response to the 'affordances' of networked writing. Affordance is a term popularised by the industrial designer Donald Norman and refers to a user's perception of what can be done with an object. In the case of blogs the generic (and hegemonic) form in which blog software has developed 'affords' such things as the writing of individual posts that have a heading, date and time stamp, the automatic attribution of authorship, optional provision of comments, category and date archiving, and the automatic provision of a permanent URL at the level of individual entries. As such blogs have also accepted much of the affordances of hypertext, evidenced in the manner in which their basic unit of construction is the post, which is essentially a

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small chunked hypertextual node. This node is able to be read and understood on its own — you generally do not to read an entire blog to understand a single entry — and by virtue of its permalink can be interwoven hypertextually with other nodes, whether in the same or other blogs hardly matters. Another series of affordances are realised as a consequence of the networked nature of blogging (though of course the hypertextual and networked nature of blogging means that these two key attributes are deeply intertwined) and this is evident in how blogs generically contain blogrolls, trackback, RSS, permalinks, and also the increasingly common provision of links to third party blogosphere, folksonomy or social software sites such as technorati, blogstreet, flickr, del.icio.us and blogshares.

In general, these generic attributes can be understood as a consequence of blogs as a networked hypertextual writing activity, where such a practice has been instantiated in the material technological affordances of specific CMS's. These tools make certain sorts of writing, particularly a writing that is beyond or outside of writing narrowly conceived as my words on my screen, possible and form the foundation of blogging as a medium. In addition blogging also expresses many of those qualities that were originally attributed to hypertext more generally. For example they are multivocal, multilinear and have moved past print to produce complex intertwined docuverses of interconnecting fragments.

Many of these qualities are also utilised in audio and video blogging, however, it is also apparent that much of what can be characterised as the basic affordances of blogs are lost, or ignored, in audio and video blogging practice. To illustrate this we can perhaps use the recent and explosive development of audio blogging. The ability to embed audio in a web page (as opposed to making an audio file available for download and playing in a separate player) has been available since 1996 when Apple first released a browser plugin that supported QuickTime. However, it was the development of podcasting clients in 2004 that seeded the rapid and exponential rise of audio enabled blogs. These clients, in exactly the same way that RSS aggregators facilitated the rise of RSS as a major distribution form (in fact pod and video cast clients are essentially RSS aggregators that support media enclosures) enabled users to subscribe to RSS feeds that contained audio enclosures. These enclosures are pointers within a RSS feed that locate media objects, for example an audio file, and download this in the background. In the case of podcasting, as the eponymous title indicates, the best clients automatically synchronise these audio files into Apple's iTunes library and automatically place them onto the users portable mp3 player to listen to at their leisure. With the rise of the video iPod, exactly the same can now be done for video files.

RSS feeds, which have driven the success of pod and videocasting, are generally automatically produced by blog CMS's, and where they are not several third party services are available to produce appropriate RSS feeds. It is these feeds that users

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subscribe to, and in this manner audio and video files are distributed to clients. This aspect of pod and videocasting clearly takes advantages of blogs as distributed personal publication and distribution technologies, and has successfully appropriated a lightweight protocol (RSS) to provide the infrastructure to develop an alternative distribution regime. This is impressive, and has led to a rise of 'prosumer' commentary, particularly in podcasting, where the best content is, as with blogging more generally, on a par with any commentary heard on public radio, with of course the corresponding observation that the worst content is, frankly, deplorable — this is after all the up and down side of any distributed and accessible networked technology that allows individuals to become media producers and distributors. This content, and here I include audio and video blogging, is as diverse in style, content, presentation and technical excellence as writing is in text based blogging. It includes pieces produced to professional or near broadcast standards, through to what can be generously described as naive media works. However, while this diversity of content and style is a feature that audio and video blogging shares with traditional blogging, this is by and large all that the majority of content being produced and distributed in this manner achieves. In other words most of the qualities that makes a blog a blog have been translated into content but the specific networked and hypertextual affordances of blogging, have been elided. This is, of course, why the suffix casting has been so successful and intuitive for those undertaking these activities as it is, by and large, a practice that looks more to old media models than the affordances and possibilities already realised and provided in what is now the canonical model of text blogging.

I would like to critique in more detail aspects of existing practice, before proceeding to a discussion of other possibilities and futures. As a video blogger I certainly don't believe that the revolution has yet happened, in spite of the runaway success of podcasting and the rapidly pursuing videocasting. To date, the major achievements of both these media rich forms of blogging is best celebrated and understood in the light of existing media institutions and traditional mass media. As with traditional text based blogging, it was not that long ago that to have a publication with an international audience would require very substantial capital outlays. Even if self publishing the cost of printing, distribution, advertising, and of course any editorial and writing costs, are potentially enormous and so have always effectively been a barrier to entry. This is, of course, one of the reasons why in capitalist economies mass media developed — audience must be maximised to generate a return on this capital outlay. The Web has of course changed this dramatically, so that anyone could write and distribute their work for negligible costs internationally. Blogs have taken this a step further than the traditional (and former) web homepage by allowing any individual to become a site publisher, rather than merely the author of individual pages. Exactly the same constraints, though with even greater capital costs, confronted those wishing to broadcast video (television) and audio (radio). In virtually every country access to

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spectrum is state controlled and licences for access are extraordinarily expensive, and this is before you have paid for a studio, on-air talent, the necessary audiovisual equipment, and so on. Audio and video blogging are a minor revolution from this point of view as, just as with text blogging, the cost of entry is minimal, to the point of being trivial for those in first world nations with disposable income. This includes the technologies required, where the majority of these author-producer-directors use domestic audiovisual technologies and commonly free audio and video editing software that comes included with their PC operating systems.

It is this ease of access to publishing, combined with the ease of distribution via a blog CMS, particularly with the rise of enclosures in RSS, that offers the first major contribution of audio and video blogging to media culture. This has seen the rise of 'citizen journalism' and alternative media, for example. However, alternative in this context needs to be strongly recognised as alternative to mainstream mass media, and certainly does not extend to alternative or other conceptions of audio and televisual media per se — the material forms of audio and video distributed and published via blogs remains resolutely conservative in its conception of what audio and video actually is as a material practice and object. Furthermore, it is possible to critique much of the recent commentary around these alternative media practices (much of it appearing within blogs) in terms of a particular North American (more specifically United States) experience of mass media which is marked by its homogeneity and commercial imperatives — most of the rest of the world has the experience of state run media institutions which generally support significantly more cultural and aesthetic diversity than mainstream US media, and do not rely (and regularly don't even include) any form of advertising. In addition, the long tail notwithstanding, most of the rhetoric about alternative media practices, remembering that alternative means alternative to mass media, participates in an economy of audience maximisation that is very similar to that which occupies mass media — after all, if you are attempting or claiming to offer other voices to that of the dominant media institutions the effectiveness of this alternative does appear to be premised on confusing influence with audience scale.

This does mean that audio and video blogging is a media practice that sits in an interesting and potentially productive tension with existing audiovisual media institutions. It currently favours individual production versus existing capital and time intensive industrial production models, supports a diversity of voices, and is comfortable with a range of genres and production standards. However, as those familiar with the histories of film, video, and sound will appreciate, such a list offers little, if anything, that distinguishes audio and video blogging from existing practice — there is a strong and established tradition in each of these media that recognises and supports an extremely diverse range of genres, production standards and the legitimacy of self

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defined creative constraints. What remains novel in the audio and video blogging model is only the range and ease of distribution.

This is not the case with text blogging, and this difference must be made clear to see how constrained existing audio and video blogging is as a blog based practice. Blogs do considerably more than provide ease of publication and distribution for a diversity of voices. For example, as indicated, they support and have lead to the development of emergent communities of practice through the provision of blogrolls, trackbacks and similar services. These products of good blogging should not be thought of as adjuncts or supplements to blogging, but are integral to blogging as a different writing practice, a writing that has recognised the network as an immanent site of intensive connections. Blogs are about these relations between parts, it is absurd to think of there being a single blog (whereas it is trivial to conceive of their being one book, in fact many religions are premised on such an assumption) precisely because a blog is determined by its relation to other blogs, whether individual posts or entire blogs. If you publish your blog in print, i.e. make it a book, then it is no longer a blog, its 'blogness' is broken. In the case of audio and video blogging it is the presence of audio and video files that defines it as an audio or video blog. However, it is possible to remove the audio and video from the context of the blog and to publish it in other media and for there to be no intrinsic change, or loss, to the material. Currently you can place the video content of your videoblog onto DVD and project it in a gallery or cinema, and it is for all intents and purposes the same content as appears in the videoblog. Exactly the same applies to audio content. This is why podcasting can be successful — there is nothing intrinsic in the media file that necessarily relates it to its 'blogness' and so it survives this translation with ease. In fact, it is conceivable and trivial to imagine a television show for broadcast along the lines of "Australia's best videoblogs", and similarly a radio show based on "Australia's funniest podcasts". It is possible to conceive of an alternative audio and video blogging practice in the same way that text blogging is an alternative media form to the book and print. This alternative steps past the reductive consideration of content as that which constitutes and defines audio and video blogging and recognises that it is the formal material properties and affordances of the network as distributed and interlinked that have been fundamental to the development and construction of blogging as a different writing practice. The problem for audio and video blogging then becomes one of how these media artefacts may weave amongst and interlink this network.

We have seen that pod and video blogging share some of the qualities of text blogging through its multiple genres, voices and, for want of a better term, production standards. The work ranges from the genuinely naïve, passing through wannabe broadcast quality through to a deliberately low bit networked aesthetic. However, lets consider some of the elements missing from audio and video blogging in relation to blogging more generally

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to see how it could be different — after all it is supposed to be audio and video blogging and not merely audio and video on demand or via syndication!

Currently audio and video content in blogs is unable to be used in the ways that we take for granted with text, and more specifically is unable to manage most of the now ordinary tasks of posts in a blog. For example, within any contemporary web browser or RSS reader I can click and drag over text in any blog entry, from any blog, and then copy this text using the software's generic edit-copy command. This text can then be pasted elsewhere and so it is technically trivial for me to quote and so comment upon or otherwise engage with, someone else's writing. If I listen to audio or view video in my browser or RSS client, there is no similarly trivial manner in which I can select some audio or video to then paste into my audio or video entry. If I open the audio or video file in a specific player application, for example QuickTime Player Pro, I can copy and paste someone else's content into my own, as I have always been able to do with text, however to do this I need to know considerably more about HTML, the web, and file formats than is required for any other user simply wishing to copy and paste what they find in a text blog. Why is this the case? Why, for example, does the QuickTime plugin not allow the user to nominate a passage of audio or video and copy and paste it directly from the browser's Edit menu — this is exactly what you can do using QuickTime Player Pro outside of the browser, and presumably would be trivial to implement.

In addition, the simple ability to edit and paste audio and video from within your browser or RSS client (after all this is where we do our blog reading) points out a further anomaly in relation to audio and video in blogs. If I do quote your text in my blog post, and follow the usual citational protocols of linking to the source of the quote in its individual entry, then your blog will know that I have written about that entry via the use of *trackback*. This is not the case with audio and video, so even if I were to open your audio file in QuickTime Player, make a selection, copy and paste this into my blog audio post and publish this there is no equivalent to *trackback* supported so your audio file will never know that it has been quoted. This is not merely a technical question, after all an architecture as sophisticated as QuickTime (which can read XML, supports the dynamic editing of text tracks and largely has all the functionality required to allow the types of intermovie communication to support some time based equivalent to *trackback*) can already do this, and so its lack is more appropriately a theoretical, critical or ideological question where the absence of these functions, indeed the largely complete disregard of these as possibilities within the audio and video blogging communities, demonstrates the extent to which audio and video blogging as a practice looks backwards to existing media for its methods rather than towards the possibilities of blogging.

This simple example of quoting is useful to foreground the manner in which the key aspects of audio and video blogging is only the presence of audio and video and these

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are in fact ignorant of the network and its affordances. This is evidenced not only in the simple problem of quotation, but is also evident in the rise of syndication as a major component of audio and video blogging so that the media files are routinely viewed or used with a dramatic loss of their networked and blogged contexts. In other words title of the entry, date of the entry, the presence of comments or trackbacks, descriptive or associated text in the blog entry that accompanies the audio or video, links within that text, and so on, are gone. The media file remains utterly mute in relation to the network, and so remains firmly embedded within the paradigms of audio and video traditionally conceived. It is possible using existing technologies to include links within audio and video where these links can be time based and so only present during relevant periods of the entry, and in the case of video, or audio with a simple image track (for example a still image) they can also be located on parts of the image just like a traditional imagemap. Once again the problem is not technical, QuickTime has these affordances, but the tools to easily link from and to parts of time based media in the manner established by text blogs falls outside of the paradigms by which time based media is understood. In this manner the existing uses of audio and video in blogs is much closer to print and the book than the hypertextual fluidity of text within any common garden variety blog. Once you have published your audio or video blog entry (regardless of the efforts to produce it) it becomes a closed and whole object that is deaf to the network that it ostensibly participates within.

What it might mean for audio and video media to be porous to the network? To allow quotation, interlinking and to develop a media which is as permeable and granular as networked text? These questions cannot be answered until we have tools that enable this to happen as easily as it can be for text. The narratives that could then be sung remain to be discovered. Blogs are the first online popular media to have recognised that relations between parts are an immanent quality to a properly networked practice, and while audio and video remains closed to the network audio and video blogging can be little more than audio and video in a blog, rather than audio and video blogging. Until this event occurs, the moment which in retrospect makes it obvious why audio and video ought to be plastic and permeable, the culture of the media star remains uncontested and central to audio and video blogging which accounts for why much of this content mimetically mirrors the direct address forms popularised by mass popular media. This paucity of invention mistakes style for new paradigms and with the rise of mobile non-networked devices there is every opportunity for TV and radio to kill the yet to be born video blogging star.

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CHAPTER FOURTEEN

Network Literacy: The New Path to Knowledge

Miles, Adrian. "Network Literacy: The New Path to Knowledge." *Screen Education* Autumn.45 (2007): 24-30.

This brief and very accessible essay outlines what print literacy 'really' is, and then uses that as a way to understand what network literacy is, and needs to be. This is in many ways a 'non' academic paper that was written for media educators as a pedagogical intervention.

Network Literacy

Think of a student who enters the school library seeking a book. They first consult the catalogue, searching by author name and title, but have no luck. Next they ask help from the librarian, who confirms that the book isn't there, but can help the student find other, related material using a subject search. As a result our student is now armed with a Call number and while locating the book on the shelf finds two other useful titles nearby. She takes all three books to the counter, "borrows" them and that evening at home opens the first. She notes the title of the book, publication details, and the editors name. Perusing the table of contents she finds the two chapters she believes relevant and marks their pages in the book with some paper bookmarks. Later, after she's done some reading she'll copy direct quotes into her workbook, being careful to note what page each quote comes from.

The above example describes print literacy. Not the print literacy that is ordinarily described as literacy in general (reading and writing) but a literacy that expresses a much deeper understanding of the implications of what it means to be a participant, even a peer, within a print defined and governed information economy. If we pause and consider the literacies that our student has in the above example we can begin to see what these look like, allow, and how deeply ingrained they are. We can then use a similar approach to think about just what a 'network' literacy (or literacies) might be, require, and allow.

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Book Knowledge

The most obvious, and important, point to make is that our student (we'd better give her a name — "Penny") knew that she'd need some books to do her work. She knew that a book was a particular sort of object, and that in her case she needed a non fiction title. Penny also knew that there was a special room (or building) in her school where these books were collected, arranged and maintained, and that she had quite specific privileges and rights in relation to these books. These rights included being able to 'borrow' them (an increasingly quaint notion in an age of infinite and near zero cost digital reproduction), not writing on them, and also returning them within a specific and institutionally defined period of time. Furthermore, Penny knew that to find any particular book in such a place you would need to use a catalogue which provides an index to every object in the library (we won't worry whether Penny's ever had to deal with a card catalogue and just assume its always been electronic) and allows subject searching, Boolean searches (this "and" this but "not" that), and whether the book is available or not.

Not having any success, Penny also knows that there are people in the library, known as librarians, who can not only help her find a book, but also have expertise in how to find related information from a variety of locations. She knows she can ask for this help, and that they can show her how to find these things, and how to even get them from other libraries. After locating a likely candidate, she also more or less understands that they are serially organised on shelves according to Call numbers (the mysteries of which she probably leaves to the librarians, but being bright Penny does realise that books about similar topics tend to live together, unlike her Dad's music collection which is organised alphabetically by performer, or her own CD collection which is organised by colour), and that is how you locate the specific title.

Once home with her books the technology of the book (as thus far all that we've described are the technologies that support the housing of books) is transparent to her. For example, that they have authors, or in this particular case an editor, and therefore contains sections written by individual authors. She will assume (largely unconsciously) that the text will be arranged from left to right, top to bottom, because it uses a Latinate language, and that the pages will be serially numbered, chapters will have headings, that the small writing at the top and/or bottom of each page (the header and footer) do not need to be read, but are sometimes useful — particularly the page numbers. Since it is a non fiction title, the book will probably have three major ways of 'navigation'; sequential page numbers, a table of contents, and in some cases an index which provides the nearest thing to random access that print can provide. She also quite reasonably expects the material to be linear, sequential and complete. It will have a beginning, middle and an end.

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Finally, she knows that she can quote from this text, simply by repeating the words in identical order (though intriguingly line breaks, leading, font and colour are regarded as irrelevant except in unusual cases) and that there are formal ways to declare this in her own writing and to document what other books have been used in the production of her own work.

This is the culture of print, and is what constitutes print literacy. All of this implicit knowledge is deeply embedded through many years of teaching and learning, and grounds the ideology of what it means to be print literate. These skills, which extend way beyond simply being able to read and write, have provided the basis of education for several centuries, and have been instrumental in the rise of the essay, journal, and book as the major forms for the expression of knowledge in the humanities. (The case is, interestingly, slightly different in the sciences and the design disciplines, in each of these there is a substantive experimental practice which is often considered primary — an applied and explicit heuristic of doing and making that is then reflected upon in writing so that writing is regarded as primarily documentation.) Forms such as the book and the essay are the activities that for many of us translate information into knowledge, and have been maintained as the key ‘forms’ or ‘containers’ for knowledge and its expression. However, with the rise of the Internet, and more recently the establishment of a robust framework for the exchange of information between online services, it is now clear that knowledge is being expressed and distributed in new forms, and the participation within these new economies is the realm of network literacy.

Network Literacy

To be network literate is not the same as, or at least not equal to, being computer literate — in the same way that we can see that being print literate implies considerably more than just being able to read and write. Network literacy is, in a nutshell, being able to participate as a peer within the emerging knowledge networks that are now the product of the Internet, and to have as ‘deep’ an understanding of the logics or protocols of these networks as we do of print. This does not mean that you need to understand the intricacies of programming and other computer miscellanea (that would be like needing to know the intimate language and history of typography in order to read and write) but that an understanding of some general principals about the properties and qualities of these networks will allow you to successfully use them (for example knowing that there are typefaces and fonts).

The most basic quality of network literacy is recognising that content and its containers, whether web pages, blog posts, photos, video or any other media type, are distributed across the network, and that we weave these together very easily using simple protocols that were developed to allow ‘inter’ and ‘intra’ communication between different sorts of internet services. The paradigmatic shift that this represents

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in relation to what I have described as book knowledge is twofold. The first is that the parts remain as parts at all times, so it is not simply the 'cut and paste' operation that is the basis of earlier digital practices. The second is that in contributing my content to these services others have access to my material (if I desire), in the same way that I have access to theirs. Through such sharing the distinction between consuming and creating content dissolves so unlike books in network literacy we become peers in the system, and indeed to be 'good' at network literacies is to contribute as much as it is to consume.

In practice, this means that I might read something online that is relevant to my teaching. I will write about this in my blog, providing a link to this content. I will also bookmark this site via my del.icio.us account so that I can find it again and so that others may also find it. Meanwhile, I've also added some academic references to CiteULike, and I know my students and others can get this information because each service provides custom RSS feeds that can be subscribed to. Next, I move two photographs from my mobile phone to Flickr, one of which I'll be publishing into my blog and the other will be shared with some colleagues for a paper we're writing together. The video of my baby will also move from my phone to be published via YouTube into my blog. I'll then update all the RSS feeds I subscribe to, paying particular attention to any new references from CiteULike and adding any relevant essays found to my library from relevant journal archives. I skim all of my student's blogs and reblog relevant research posts so that all of these are collected into one location for these students (and others) to use in their research projects.

This is not an imaginary description of what my academic work day might look like in a few years, it is my usual working day now. While it is easy to read the above description as little more than an odd geek patois (which it can so easily and often become), it is useful to keep in mind that what I described above is no more complex than what "Penny" did in using the library and its books, and is clearly a key mode of intellectual activity online. This is the nitty gritty of being a creative knowledge worker, a member of what Mackenzie Wark describes as the new 'hacker class', and forms network literacy.

Sharing and Naming: RSS and Tags

However, let us step away a little from this detail to gain some perspective. The key qualities that we need to keep in mind around network literacy is that different services or web sites (for example a blog, flickr and CiteULike) are all able to communicate with each other. This is managed (and the development of this is perhaps the most underrated achievement of the recent Internet) through a virtual Esperanto which usually goes by the names of XML and RSS. Google these if you'd like to find out more, but essentially XML is a way to standardise the publication of information so that it can be shared, while RSS is a simple syndication system based on XML that allows for

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the exchange of this information between different services. Hence, Internet services and their content now chat amongst themselves, and this lets us, the users, easily place content in disparate locations and just as easily weave them together as new 'publications' in other locations.

Now, why would you store things in different places? One answer is because we use a range of services and each of these is, usually, an independent Web site. Each service generally specialises in one thing (for example flickr manages photographs) and to 'write' with these you generally register an account on each service (one aspect of being network literate is learning to have a username for yourself that is only yours so that you only need to remember one for all the different services you may end up registering for!) and this lets you contribute your material. For example, I have an account on CiteULike so that I can add entries to my online academic library. I, and any one else, can view these entries and if they find a reference I have added then they can also include this into their own library. Of course, as an active member of CiteULike I can also view others references and similarly include these as part of my own library. In the case of CiteULike I can then very easily build a collection of resources, all appropriately cited. I can then use such a site for research to find references I don't know about, or to easily compile an ongoing bibliography that my peers and students can access and use.

Now each of the services I mentioned above work the same way, hence I have a flickr account (for photo sharing) and a del.icio.us account (for sharing web bookmarks), and each allows me to contribute my own content, while also viewing others and being able to add other's content to my own collections. Such services are generically described as social software, and they earn this title because they are designed to facilitate the collecting and sharing of information between otherwise disparate individuals or groups.

Now such a sea of information begs the question of how I might find anything of value, particularly given the enormous amounts of material being added daily. This is where tags have become very useful. A tag is a keyword that I can apply to anything in any of these social software systems. Unlike the taxonomic classification used in libraries, museums or even in biological speciation (where the keywords applied are usually limited to an already known and agreed upon set), tags are defined by end users. Hence, in CiteULike a user may have added a book that I want to add to my library, but they have tagged it as "computer-science", however in my universe that book is actually of interest to me as "hypertext-theory" and so when I add it to my library I can then add my individual tag to it. This makes it easy for me to catalogue or categorise my own content (remember all of these systems provide these tagging abilities) but also to search others' content on the basis of their tags. This use of tags by individuals is described as a folksonomy, and the categories they form, and their relations, are described as tag clouds. Of course, because we all tag things differently there is a

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lack of consistency, but on the other hand there are a sufficient number of users in these systems that their scale tends to make this a moot point, and in many ways this informal tagging adds value to the knowledge 'networks' that such tags form.

Weaving it Together

Each of these web services provide the ability to subscribe to content via RSS, which is commonly known as a RSS feed. This is syndicated, time sensitive, information that can be automatically published to you — if you have chosen to subscribe to it. Now, the elegant part of this is that in all environments that utilise tagging you can subscribe to an individual's account (for example my CiteULike account) or to individual tags. If you subscribed to the RSS feed from my account in CiteULike then any time I add a new reference to CiteULike it will appear in your subscription via the RSS feed. If you subscribe to a RSS feed for a specific tag (think of it as a user defined topic), then whenever anybody added a reference with that tag to CiteULike it would appear in your feed. To stick with our CiteULike example, if I subscribe to the tag "hypertext-theory" I would get new references whenever any other user on CiteULike adds a new reference and chooses to apply that tag. Similarly, if my students subscribe to my course specific tag in CiteULike then each new reference I add that includes that tag will also be automatically delivered to them via their individual RSS subscriptions.

Now there are lots of ways to subscribe to and read RSS and it is much like reading email. There are web based services that do it, and there are programs (called RSS clients) that you can run on your own computer. Some are free and others are commercial software. The advantage of using RSS is that you can subscribe to a range of sites and information resources and this information, collected or made by other people, is then brought to you, allowing you to skim, bookmark (perhaps via your own del.icio.us account) and note what is of value.

This largely describes the current architecture that is driving knowledge production and distribution online. It relies on what we describe as 'trust networks', since you subscribe to sources that you regard as valid or legitimate. Content is distributed as the parts are scattered through the network, and since it is made up of small parts you can then easily rearrange and rebuild with them (it is a sort of Lego type of architecture). This is, currently, often the role of a blog, which is not only where you make personal and reflective observations but usually actively incorporate what you find out there on the net. This is also why a blog remains one of the single best mechanisms by which to teach network literacies. For example, from my blog there are links to my del.icio.us, CiteULike and flickr accounts, and I easily include parts of each of these services into my blog, depending on what I wish to do. For example, from within flickr I can choose to post an individual photo into my blog so that it will appear in my blog as a post, with accompanying text. Or, I might like to include my most recent flickr contributions as a

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sidebar within my blog where it automatically includes my most recent photos — again easily managed. Similarly, I can include other RSS feeds in my blog, whether as posts, an individual category, or as a collection that can be accessed via a mouse click.

And there's the rub. Network literacy is not merely knowing about this, it is doing it. It is in this doing that we can understand that literacy is an applied knowing, or if you prefer a knowing through doing. And this literacy does include knowing a little bit of web code so that you know where to put the snippet of code that flickr automatically writes for you into your blog. It is knowing enough HTML to be able to easily write a link to somewhere else, for without links none of this is at all possible. It is being comfortable with change and flow as the day to day conditions of knowledge production and dissemination, and recognising that all of this may change, and appear differently in six months. What underlies such change, however, are the principles of distributed content production and sharing, folksonomies, trust networks and having access to skills that let you collate and build with these varieties of content and knowledge. While Flickr or any other service may be eclipsed by something else (just as text books change over time) these principles survive. Such skills require a simple understanding of the basics of HTML, and more than a passing understanding of the distributed, emergent and personally defined content driven infrastructure that has always underwritten the Internet. Network literacy means recognising that there are no longer canonical sources and having the skills to find what it is you think you want, of being able to judge it, and then of being able to incorporate this, in turn, into your knowledge flows. Finally, networked literacies are marked by your participation as a peer in these flows and networks — you contribute to them and in turn can share what others provide.

What is important to remember in this is that what is being described applies across a very wide range of services and is not specific to only those I have named. These are general features of Internet based services today, and all offer RSS and forms of sharing and collaborating. Having an understanding of the basics of these protocols then allows you to participate within contemporary networks as a contributor and a consumer — what Axel Bruns has described as a produser. This is half of what it means to be network literate, for all that I have written about is intended to help map the underlying material forms that network literacy are grounded within. To return to our earlier examples of 'book knowledge' this preliminary half of network literacy is analogous to understanding the relationship of pen to paper as an enabling technology that supports particular sorts of media and genres. What we then do with these things is deeply enabled by these material possibilities — they make some things easier than others, suggest some possibilities rather than others — and by 'naturalising' or 'internalising' these properties literacy becomes embedded in day to day practice. Jill Walker has defined network literacy as:

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Network literacy means linking to what other people have written and inviting comments from others, it means understanding a kind of writing that is a social, collaborative process rather than an act of an individual in solitary. It means learning how to write with an awareness that anyone may read it: your mother, a future employer or the person whose work you're writing about. Yes, it's difficult.

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Glossary

CiteULike. <http://www.citeulike.org>

This is a free web based service that allows users to compile, maintain and publish academic bibliographies. You apply tags to each item to catalogue them.

Flickr. <http://www.flickr.com>

This is a free and commercial web based service that allows users to upload their own photos. You can form collections ('sets') of your own photos, and generate web based slide shows. Tags allow you to catalogue your photos.

Delicious. <http://del.icio.us>

A free bookmarking web site. Here you can maintain your collection of bookmarks, applying tags to each bookmark to help you categorise (and retrieve) them.

RSS.

Really Simply Syndication. A way for different web services (eg flickr) to send information to people or other web services. Generally individuals subscribe to a specific RSS 'feed' and this collates for them the information that is published from a web service. For example a blog may have a RSS feed which automatically syndicates recent entries. By using RSS a user can easily collate a wide range or material (for example from many blogs) without having to visit each blog on the chance that it may have published new material. For web services that use tags, there is usually an individual RSS feed for each user, and each tag.

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CHAPTER FIFTEEN

Virtual Actual: Hypertext as Material Writing

Miles, Adrian. "Virtual Actual: Hypertext as Material Writing." *Studies in Material Thinking* 1.2 (2008).

This essay combines hypertext theory and Deleuze and Lévy's concept of the virtual and the actual to argue for a material practice of hypertextual writing in the humanities.

Introduction

As Nick Rombes has recently identified, much contemporary academic writing is stale. The reasons for this vary between the consequences of academic promotions policies that emphasise publication quantity over quality, the rise of a veritable cornucopia of publishing opportunities (due to the commercial exploitation of niche academic markets, and of course the rise of the Internet as a low cost publishing alternative), the inevitable conservatism of existing institutions in the face of developments bought about by structural changes affecting the institutions themselves, and by the rise of alternative forms of knowledge expression and expertise — for example blogs and other varieties of academic self publishing. Whether taken together or individually we have witnessed and participated in the development of a writing within the humanities that has generally divorced itself from the materialities of the thinking of thinking within language as a material medium. A productive way to instantiate this materiality and to situate it within practice is via the materiality of a genuinely digital writing practice. Such a writing in many ways falls outside of the boundaries of the academy and of academic legitimacy because of its intrinsic interest in form and its affinity with writing as a technological practice. However, as Carter points out:

As the inventions of creative research are local, it's unlikely that an overarching discourse 'of', rather than 'about', it is either possible or desirable. The discourse of creative research — or material thinking — is likely to be occasional, generically disrespectful and promiscuous, and localised. (Carter, 9.)

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Hence, in my practice as a media studies scholar, and in the humanities more broadly, what is, or could be, a materiality of digital academic writing? It would, of course, be a practice based activity where writing would be understood as an embodied activity that has its own particular affordances and possibilities — its own constraints and local actualisations. Some of these, possibly banal, are literally the product of the specific materialities of writing — its temporary linearity, a historical predilection for serial and paginated presentation, and its very specific history of permanent or semi-permanent textual inscriptions upon receptive surfaces. Such literal materialities, which in the protestant and platonic ideality of academic writing have always tended to be treated as outside of writing proper, have been well documented in the canonical literature on printing, print literacy and hypertext, and ought not to be overlooked. However, what has also been marginalised in academic writing is the examination of a particular mode of academic knowledge production that is, in fact, the investigation of writing as an experimental practice in itself. Through this examination writing as a heuristic, poetic and iterative ‘thinking–within’ (not quite the thinking of thinking so much as the thinking of thought–as–writing) aligns itself with design. Writing is no longer the retrospective and teleological reporting of the discovered, realised, or already understood ‘had–been–thought’, but is the very event of a material thinking in itself. A sketch book, if you like, for a sort of scholarly activity that is primarily situated within the milieu of writing as the site of its practice. From this perspective writing is an expressive medium for thinking, and as with all designerly practices what becomes possible, as well as what is actualised in the event of such a writing–as–thinking, is a conversation between the written, thought, writing (as material system we are subject to), and writing as a local, specific and creative practice of material thought. As Carter argues:

Creative research deals in matter that signifies. It is a discourse of material signs. To say this is not only to redefine the meaning of ‘sign’ but to reconceptualise matter. Matter ceases to be solid. Its beau ideal is no longer the marble from which the sculptor excavates an image. Instead, matter becomes mobile. (Carter, 182.)

Hypertext writing, that is a writing that is completely under or within the digital as a specific, local, material practice, offers a vantage point from which to defamiliarise writing and though such a defamiliarisation reconsiders academic writing as a mobile material practice. Such writing, which, following Balestri we might describe as a soft writing, looks past the digital or computational as instrumental end, as merely writing with a computer which is the problem that digital dissemination projects including e–archives, online journals, and simple web publishing still refuses to address. Hypertext, as an exemplary form of soft practice, offers an academic model for such a writing.

This distinction between soft and hard writing is easily demonstrated by thinking about our use of a word processor. The word processor is obviously digital, and so

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lets us do things with text that, while taken for granted, are only possible because it is digital. The ability to replace, delete or insert text at any point and have all the content automatically reflow, automatic page numbering and pagination, multiple fonts, automatic foot and end noting, spell and grammar checking, automatic table of contents generation, indexing, and alphanumeric sorting. However, it is a word processor, and so its aim is to, eventually, get this content onto a page. Hence there is, of course, a print dialog, and its default view is that your screen is the size and shape of some piece of paper. All of these abilities, this mobility of the word and the fluidity of the screen and its text is, by necessity, removed once the work is published in its final form on paper. Yet in a soft environment this is no longer the case and the affordances of the digital can now be maintained post publication. There has been a considerable body of literature examining the implications of this from a literary and textual point of view, both in terms of the possible forms that texts might now take and the role of reading in understanding such objects, however there has been surprisingly little written about the implications of such environments for writing in general, or what it might mean for academic writing per se.

To regard writing as a soft practice enables writing to approach its own eventfulness as a thinking-in-writing and, as a digital writing, of having specific materialities that require a recasting of the relation of writer to the written and to writing. In other words, there is a way of doing hypertext that helps to align writing as an academic practice with design, while also allowing us to foreground the affordances of writing and the digital as a particular material writing practice. This I describe as writing hypertext 'hypertextually' which can also be thought of as a material hypertext practice.

To write hypertext hypertextually is to regard the link as the performative and enabling connection of parts into mobile wholes. These wholes are constituted not only by the sum of their parts, their content nodes, but also by the variety of possible relations established between them by their link structures. This allows a writing that is not only multisequential and partial for the reader, but also has these affordances for the writer and writing. To write hypertext hypertextually is to be subject to the productive and irruptive imperative of the link as a device of dis and conjunction. This imperative falls on the other side of grammar, syntax and other formal requirements of using a language 'successfully' because the link is not a discursive structure but an event of connection. As an event the link, which is best thought of as isomorphic with the cinematic edit, always produces some force of connection and this force, when writing hypertextually, is experienced as a promiscuous need to connect and create almost labyrinthine series of ideas and possibilities. In this manner writing becomes a 'studio practice' for an embodied thinking where 'thinking', like designing, is an engagement with the fluidity of material which extends and flows between the instances of writing as a thinking-in-action. The link, as a hypertextual event of the here and now, inserts an interval into

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thinking as writing and it is this interval that offers the possibility of a mobile, other academic writing. Such intervals encourages the enlargement of the moments, spaces or pathways that lie between statements producing an indeterminacy not only in reading but in the experience of an applied writing. Or, as Carter points out, “[i]nvention, after all, depends on equivocation — the possibility that something might mean something else.” Links, in other words, perform and allow for their own form of equivocation within the activity of writing.

None of this is necessarily new, or even original. The point is not to invent a different writing but to enlarge or expand the range of what ‘counts’ as academic knowledge through the recognition and validation of the materialities of writing as a mode of doing and making for some forms of humanities research. In such contexts research is able to slide from an activity that is prior to, or somehow anterior to, the act of writing, and into the very fabric of research in itself. When writing hypertextually the multifaceted, porous and heuristic nature of knowledge as a sketching between the constraints of reason and the localised affordances of discursive technologies becomes manifest. By recognising such an economy other objects of knowledge, still grounded in the rationality of the written, can recognise the materiality of our media as enabling and productive in themselves and not merely the empty carriers of our own ideas.

Virtual and Actual

This materiality of writing hypertext hypertextually can be productively considered in terms of Lévy’s use of the virtual and the actual. The virtual is the set of all possible events for any given condition or state while the actual is that which comes to be, that which has been actualised of the virtual — it is said to be actualised. For example, before me lies many future possibilities, each more distant the further in the future they may be. As I sit at my desk writing my virtual future for the next few minutes is quite constrained: I may continue to write, one of my children may interrupt, my wife may call, stick her head around the door, or the dog might seek a pat. One year from now I can’t be sure what I will actually be doing, let alone where I may be (out for dinner, in a different city, have a different home, and so on), or what major life events may have occurred. In each case we can reasonably say that any of the described events are possible, and as such these constitute my virtual world. Significantly, for Lévy (and Deleuze which is where Lévy derives this from) the virtual and the actual are equally real — the virtual prior to its specific actualisation is as real as the actual. However, as Lévy notes:

The virtual should, properly speaking, be compared not to the real but the actual. Unlike the possible, which is static and already constituted, the virtual is a kind of problematic complex, the knot of tendencies or forces that accompanies a situation, event, object, or entity, and which invokes a process

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of resolution: actualization [sic]. This problematic complex belongs to the entity in question and even constitutes one of its primary dimensions. (24.)

Now lets try to return this to material thinking. Within material thinking a series of virtualities are created amongst various distinct materialities, where each materiality expresses of itself its own virtualities. For example, on a recent field trip for a research project participants were required to define a constraint as an a priori productive methodology for documenting place. In this case we travelled to the Grampians, a large and rugged national park in western Victoria. Laurene Vaughan, one of the participants on this trip, was using photography and as she began a walk up a local landmark (a large rock incline) she declared her constraint to be lace and that she would photograph lichen and other small patterns on the rock that were lace like. Now, lets see if this can be teased out using the terms just introduced.

There are rocks, and there is lichen. There has been growth, weather, erosion, human intervention, predation, competition and so on. The lichen itself is a complex symbiotic relationship between a fungus and a photosynthetic partner (which in the terms I'm using here can be thought of as two separate or external virtualities that are actualised via their intersection within lichen). These constitute some of the vectors that produce the virtual futures, for the lichen (and rock). The specificity of the individual patterns are those which have been actualised. The actual shapes that the lichens form is contained or expressed by these vectors, is immanent to them, and is the problem of the lichen. However, they only become patterns of lichen–lace because of the external relation produced by Laurene where they are actualised along an aesthetic vector. The lichen express and are a multiplicity of patterns, lace actualises one vector through this virtual multiplicity, and this actualisation is possible and realised precisely because of its virtualness. It existed as a possibility amongst an infinite array of others, and this pre-existed any particular pattern. Material thought is about this actualisation of relations between the virtual as multiplicity rather than the explication of the content of what are treated as self evident objects — what lichen is or means. The lichen is lichen, the rock rock, but a value is established via the new relations that exist between the constraint, the camera, the rock and the lichen. The meaning and value is not located within the lichen (what could 'lichen' mean in such a context?), or any of the other objects of this exchange, but is enabled by the exchange itself which produces an actualised vector within a series of virtual relations as a problematic complex.

Within the practice of material thinking we develop new relations between the possible and available affordances (the known and the to be realised as a consequence of material thought) of our ideas, their exteriority and our expressive media. That is we actualise particular relations amongst these yet other virtualities always remain, producing polysemy, ambiguity, and an intellectual miscegenation that ought to be valued. Thought here is not within myself but between, a thought realised as the action

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of thinking inside and as expressive media. Carter's contribution, for me, is to allow us to expand this 'between' so that it becomes an interval with its own critical language and applicability to the production of knowledge and is not misread as 'only' creative or as the silence of the black box.

In the example of writing hypertext hypertextually this interval is, as we saw, the role of the link where the link is the always available possibility of establishing relation to something else, whether a new idea, article, media object or simply the elaboration, explication or criticism of what is being thought through writing. In this model links produce epistemological architectures where each part of a hypertext (each node or content kernel) has a virtual set of relations to other nodes, including those not yet written or thought. The link (and links can be multiple) actualises this virtual set, and when deeply immersed in such a practice (when writing hypertext as soft writing rather than using the computer as instrumental machine to facilitate our usual modes of writing) academic writing is about possible structures, a multiplicity of connections, and the flights of ideas. This is in contrast to much other digital writing, even for online publication, where the more usual workflow is to write the essay (for example using a word processor) and then 'designing' the essay for online presentation through the considerations of typography, colour and layout. In this hypertextual model design is a part of the doing of writing and is the realisation, in situ, of possible relations actualised through hypertext's ability to keep things near to hand as there is no node further away than any other, unlike the essay where a first paragraph must always precede the last.

Cones

This can be visualised, quite separately from the interface of any particular hypertext system, through the following illustrations. Figure Twenty Four is a simple sketch showing the common experience of writing an essay (or designing). The horizontal axis represents time, and the end can be thought of as a deadline — perhaps when the work needs to be finished or simply when a required number of pages or words have been achieved. It can also be thought of as an illustration of what it might mean for the work to be completed, when something has been sufficiently explicated so that what falls outside of the cone is not perceived, or otherwise made minor courtesy of our normative 'good enough' argument which has been realised through the materialisation of thought as writing. This suggests that what is outside of the cone becomes not relevant or otherwise accounted for and so the end is sufficient in relation to its beginning — whether this be a concluding paragraph or a realised design. In this illustration research and the practice of writing is an activity of collecting material and then filtering and concentrating it down, distilling it if you like, towards and into an argument. The point at the tip of the cone (labelled "essay") is this end point and it is represented in this way because in the normative model of the good essay all that falls before this point ought

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to teleologically lead us to it. In other words to the left of the end of the essay we can imagine the contents of this research and writing cone to include those references and other material that are deemed relevant to this conclusion, and all of the arguments and clauses contained within its paragraphs that are to help move us, inevitably, towards this conclusion. Like any good narrative it will all make sense in light of this ending, and anything that falls outside of this, that is outside of the cone, needs to be excluded since it disrupts, interferes with and otherwise problematises the inevitable trajectory of the argument and the writing of the essay.

If we then treat the horizontal axis as time and the tip of the cone as representing a deadline then this situation is exacerbated as the closer you get to the deadline the more disruptive anything new becomes and so the more likely it is to be ignored or at best acknowledged via a footnote. This form is highly teleological, and encourages an emphasis on finding material that 'matches' and in disregarding that which disrupts or otherwise problematises this end. This is clearly the case in much essay writing, whether undergraduate or professional, which historically and institutionally has valued clarity, certainty and concise causality of argument over thinking per se.

Figure Twenty Five, on the other hand, is how I represent writing hypertext hypertextually, and in this case also how a material digital practice in the domain of writing (as thinking) can be illustrated. Clearly this illustration is schematic and simplifies matters (but in this case isn't that it's value?) by its reversal of Figure Twenty Four. Here we begin from an idea or a problem which we take to be a complex knot that is to be investigated. This model is promiscuous and the sorts of objects that are produced are not teleological in the manner of a 'good' essay. They may have no conclusion, many, or one that while offering itself as a good enough place to finish will also contain links back into the writing so that other passages and ideas can be found or explored. In this model the intent is to include what might ordinarily be regarded as 'outside' so that those ideas or things that would disrupt and problematise an argument can be included. This is achieved through the use of the link as a performative and connective event so that when writing in this manner the link is no longer instrumental (in the sense in which they are most commonly treated as navigational or interface elements) but generative, associative, metaphorical and inclusive. In this model, which is of course as normative in its own way as the 'good' essay, it is possible to include that which disrupts what you are doing, that may have arrived at the eleventh hour, but which is valuable and indeed may even suggest new directions. In other words links are part of the very materiality of such a writing and become a part of a particular mode of thinking within the activity of writing where these links produce an architecture of argument that lies between the affordances of writing-as-thinking and a thinking-through-writing.

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This is not intended to be an idealist argument, nor to suggest that such writing systems erase the problem of what can and cannot (or should and should not) be included, or of relevance. Arguments still need to be conducted, claims explored and justified, and all of the usual procedures of academic and intellectual conduct apply, however, it does indicate how the digital is able to produce and construct a particular practice that complements and is a mode of material thought, and to situate material thinking within quite specific terms to help sketch what in fact a materiality of thought as a realised practice might be.

While each of the figures suggest something single or unitary as the point of each cone, within Figure Twenty Five this point is not singular but can be more productively conceived of as having a crystalline structure.

Crystalline Facets

The idea as a problematic complex has many facets where each facet is an aspect of the problem that the idea poses. These are plural, multiple, literal, concrete and metaphoric. Each facet in turn has its own set of virtualities, of possible actualisations, and of course may intersect or share particular qualities with other facets. As problems these facets are those aspects of the idea that pose a question of us, that perhaps fall beyond common sense and require us to not so much answer them (which tends to assume that the task is to answer what we already know) but to hear them in such a way that as we struggle to answer what they ask new things emerge — knowledge, other questions, new problems. These are, of course, the material resistances of writing.

The crystalline structure allows us to see that there are as many facets as there are tendencies or vectors of the problem — they are as multiplicitious as they wish to be made. This concept of the crystalline, in its virtuality, encompasses or expresses all the ways in which the idea addresses and is addressed by everything else. This might include theoretical connections and precedents, other writers, and also such prosaic things as what I am seeing as I write, what I have recently read, the music I am writing to, the humid stickiness of my fingers on the keyboard, the scratch of fountain pen on paper, as well as just what it is I think I am doing in the dance between word, thought, line, link and argument. In a crystalline structure any of these facets might be actualised, and while several will be, most, will not and will remain virtual (and so present) as a consequence. Of course not all facets are ever realised, however in a 'good' hypertext many more can be acknowledged and incorporated than in the linear form of traditional academic writing and to this extent it offers a model that is deeply digital and also expands upon the immanent materiality of writing as a particular practice of material thought.

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It is the ability to undertake writing within such a crystalline structure that is the key contribution of hypertext to academic practice. This is a deeply material mode of thought where one becomes subject to the affordances of the technologies of thought and representation that are available. The strength and relevance of Carter's contribution to this is, I believe, not in the specificity of his own terms and practice, but in providing a blue print for the translation of a deeply poetic mode of thought into the registers of writing and argument. In this process both the legitimacy of other modes of thought, of vernacular ways of thinking in and with material other than words, is demonstrated and situated within writing as a specific way of translating the epiphenomena of material practice into a language for the academy. This reminds us that writing is a doing, and that simple observation provides the interval necessary to demonstrate the relevance of material thought to a writing in itself.

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Endnotes

1. Rombes, 2005.
2. See Bolter, Landow, and Lanham for example.
3. Softcopy is broadly understood in hypertext theory to refer to a mode of writing where the computer is used not only as the medium of authoring (for example using a word processor) but also as the primary or only means of publication and distribution. The affordances of the computer are then maintained in the completed work — for example multiple windows, random access, variable window size, readers who can add or edit content, and so on.
4. This essay is not the place to develop this, however see Tosca (1999, 2000) and Miles (1999, 2001a, 2001b).
5. Carter, p. 10.
6. Hypertext scholar Nancy Kaplan elegantly likes to describe hypertext nodes as just particularly "slow links" (pers comm.).
7. Much of what follows is indebted to the opening chapter of Lévy's appropriation of Deleuze.
8. This distinction between the possible and the virtual is important as it expresses the qualitative difference between the production of the already known (the possible) versus the creation of the new (the virtual).
9. For instance a deer, botanist, mycologist, sandstone and water all have quite different actualisations of the lichen's virtuality.

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10. What follows is indebted to the example of Grocott and Marshall and also to the illustrations of poetic research provided by Rosenberg.

11. A very simple exercise I provide students is to write a simple hypertext where every link from text must be from a verb or an adjective, rather than a noun. In a hypertext authoring system – where you are not 'designing' the look of the text but actually writing complex linked structures, this exercise produces a qualitative change in what is written and how.

12. See for example Kolb, 1994.





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CHAPTER SIXTEEN

Hypertext Teaching

Miles, Adrian. "Hypertext Teaching." *Reading Hypertext*. Eds. Mark Bernstein and Diane Greco. Watertown: Eastgate, 2009. 223-38.

This book chapter makes an argument for the specificity of reading required to understand and appreciate hypertextual and multilinear works. It does this by first demonstrating the role of deep literacy to all our reading practices, and that this deep literacy is tightly interwoven with our familiarity with writing. On this basis I argue that to teach how to read hypertext you also need to teach how to write hypertext. What follows is an outline of my old curriculum, its theoretical import, and then an outline for a praxis of hypertextual reading.

Introduction

There appears to have been surprisingly little written about how to teach hypertext to students. While we have some major contributions from figures such as Douglas and Rosenberg on how we read hypertext, and their key differences to traditional print texts, this work does not provide any real guides for others on how to go about hypertext in the classroom. In this essay I intend to describe the teaching activities that I have developed over a number of years to teach hypertext to undergraduate students. In describing these activities I want to emphasise that my aim is to provide a 'thick description' of my practice so that others can appropriate aspects of these for themselves. My teaching is aimed at helping students to contextualise hypertext amongst other textual and discursive practices, and to begin to recognise what is specific and peculiar to hypertext. This, inevitably, is strongly influenced by my own views of what constitutes 'good' hypertext as a particular sort of writing and reading practice, and I will try to make this as visible to the reader as I can. Hence, what follows is not a curriculum for 'Hypertext 101' but a practical series of tasks and activities that I have employed that seem to work. I hope to outline what some of these tasks are, how they are applied, and why they are done in the way that they are.

The general aim of these pedagogical tasks is to help a series of naïve and novice students become literate in hypertext as a practice, which includes some sense of the critical and theoretical implications of hypertext, as well as its differences to other forms of writing and reading. Finally, what follows has worked in my context, however

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I am a teacher who employs an explicit process based pedagogy where a great deal of what I teach concentrates on a variety of 'meta' questions and problems around how we learn, why we are learning what we are, and ways of grounding what is being learnt into the everyday professional and life worlds of the students. As a reflective teacher I regard the classroom as an experiment in participatory learning where I routinely make mistakes. I see my role as facilitator, provocateur and foil rather than content expert and if I had to describe my curricula in terms of hypertext it would be constructive rather than exploratory — the class is able to change direction and to create knowledge as we proceed rather than exploring an existing curriculum . Finally, students are given time and resources to make connections themselves, so in what follows please bear in mind that it may not translate well, if at all, to a content directed traditional lecture based program.

Print Literacy

When students come to hypertext they bring with them many years of acculturation within print literacy where they have become deeply implicated in and by the values of print. As a consequence they rely very heavily on the values and model of existing print based paradigms by which to understand hypertext — after all it appears to be primarily textual so applying existing print schemata would seem a reasonable hypothesis from which to begin. This is both a benefit and a problem for teaching hypertext.

Firstly, it provides a substantial benefit as it means that, as a teacher, I have a clear understanding of a series of basic knowledges and competencies that I know all my students share. These are such things as some ability to write an essay, which also means to construct an abstract argument. They are deeply familiar (willingly or otherwise) with books as artefacts and so have, unconsciously, accepted an entire suite of protocols including the presence of libraries and librarians, pagination, alphabetisation, linear sequential written forms consisting of beginnings, middles and ends, and complex sentence structures with clauses and subclauses. They must have these basics of print, for without them it is highly unlikely that they would have even gained entry to a university, and they routinely exercise these things in their day to day activities as students.

On the other hand, this is a problem because many of these protocols do not translate very well, if at all, into hypertext, and so students quickly become disenchanted, confused and even alienated by their experience of hypertext precisely because their existing models of print based text appear to no longer work. This difference provides both the bedrock, and the beginning point, for one aspect of how I teach hypertext, as what I do relies upon illuminating and 'making strange' the naturalness of print in order to make hypertext simply one way to read and write amongst others. Neither is better or

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worse than the other, just different. I begin this through a very simple exercise where I role play someone completely unfamiliar with a book. I have an academic anthology with me, and I invite the class to describe to me what it is, and how to use it. We go through everything that we can think of, no matter how minor it may appear, in describing this book to me. For example, that it has a cover (“why? what does it do?”), serial pages, page numbers, a table of contents, headers, footers, a spine, an index, the words are created by things called authors, and so on. I also wonder where you go to find them, why you would use them and how you actually use them. We begin to see the extent of the institutional and social apparatuses around this object, that there are book shops, libraries, publishers, printers, systems of classification and even social conventions of use — silent reading, not marking borrowed books, and so on. All to make concrete the technological and cultural protocols we have as a consequence of, and requirement for, the book. This activity, which usually takes an entire fifty minute lecture, is to make strange something they take for granted, and through this making strange to make print, the book, and by implication how we read and write, the culturally and technologically mediated activity that it is. From this point it becomes much easier to introduce, situate and contextualise hypertext for once print begins to be seen as a more or less arbitrary cultural and technological system students are unable to insist or rely upon print as a privileged ‘natural’ (or inevitable) way of reading and writing. In other words, making the book strange generates a gap between the book, and reading and writing, as a taken for granted cultural object, and this gap is then used to locate other ways of thinking about reading and writing. The object of the teaching then is not so much to fill this gap, but to place within it a variety of ways of doing reading and writing.

Hypertext Writing

Hypertext, like print, is a problem of literacy. Literacy is always a problem of reading and writing — I simply don't understand approaches that treat literacy as only a question of reading, as if print literacy is of value because we can then all read Shakespeare, without also acknowledging that for the majority of us it also lets us write the more prosaic things such as a Valentine, shopping lists, and a letter home. Therefore, when I teach hypertext, I always teach hypertext as a reading and writing practice as both of these are fundamental to hypertext literacy. As a consequence, I usually begin with writing hypertext because the struggle of learning how to write within a hypertext environment provides concrete experience of the particular possibilities of hypertext, and this helps students to realise the sorts of affordances available to hypertext authors. It also means that as students read hypertext literature (whether fiction or non fiction) they can also think about how what they read and find can be applied or is relevant to their own writing practice.

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All of the introductory hypertext writing that I have taught has utilised and relied upon Eastgate's Storyspace. This is a deliberate pedagogical decision as Storyspace is simple to use, offers complex hypertextual features (multiple links, visualisation of structure, a variety of link types – text to text, text to node, node to node, and link conditions if desired) and prevents hypertext writing from becoming confused with web design, graphic design, or information architecture. Storyspace lets the students concentrate on hypertext structures via linking, and by writing in a specialised hypertext system they are immediately 'doing' hypertext in a manner that translates easily to any other hypertext system. This may seem trivial, however, if students begin with HTML then there is no imperative in the tools to actually do anything hypertextual — HTML for example can be used to simply mark up single long pages of text — and for novices it too easily slides into an activity of visual design and technical tom foolery as they play with background and text colours, layout, fonts, roll overs and so on. This is not hypertext, in the same way that traditional typography and book design is not writing.

As a first exercise students write a short autobiography. This is chosen as a topic because they have (hopefully) intimate knowledge of the subject and so rather than wondering about what to write, they can immediately move away from a concern with content towards actually writing. A simple principle is provided where I insist that each node should be about one key idea or thing. For example, someone might create a first node that indicates they have a mother, a father, and a brother. Rather than going on to describe or discuss their family in that node, they are to link to a new node for each of those family members, and that is where they are then described. As they write, if they find themselves writing a second idea or going into detail about a second thing, then they should copy and paste this to a new node, and link accordingly. This writing is only done for a short time, perhaps a half hour or so, and we then critique a small selection of student work.

The role of the critique is to begin to identify some of the problems and affordances of writing hypertext hypertextually. This is done after some writing has been done as discussing it before hand generally appears to be a waste of time — like writing in general this is a learning by doing — and the sorts of issues that are identified and discussed at this preliminary stage generally revolve around the basics of link structure. It is reasonable at this point to recognise that in link node hypertext I regard links as the most important problem or concept to be understood. Links not only constitute the hypertext as a hypertext (after all if there were no links it would simply be a traditional page) but are what forms and defines structure and establishes the relations between nodes that lies at the heart of link node hypertext as a discursive system.

At this point we examine the draft writing to identify dead end nodes, and I argue that all nodes should contain at least one out bound link. Students often argue against this, citing the legitimacy of using the meta navigation tools of 'forwards' and 'backwards'

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(as derived from reading history), in lieu of explicit links. We discuss and argue about the differences and implications of both approaches. I argue that explicit, authored links are architectural, productively constructing relations between parts, while the use of the meta-navigation tools is only ever contingent, accidental and instrumental. If you rely on using the reading history (forwards and backwards) for your readers, or as a reader, then the relations that are produced move towards the accidental, but if you write with links then pathways are always planned passages through the work. Furthermore, if it is possible to have a link to an existing node, then it is reasonable to believe that it is possible to create a return link from that node, and that it is these connections that create structure within the writing, and that the structure that flows as a consequence of the linearity of the page now becomes a consequence of the link.

From here it is common, and often necessary, to have a discussion about how a particular node does not offer any points of connection with any others, usually on the basis that its existing content has no connections and that is why it leads no where. It is simple to demonstrate to the class that this is not the case, that there are possible connections between this node and others, and that to achieve this new text simply needs to be added to provide a link opportunity. In other words, students are taught and encouraged to write in such a way as to ensure that there are words or phrases that they can link from to other nodes. Once again, some students will complain that this is highly artificial. Of course it is. However, is it any more artificial than the use of any other figures of speech in our writing, such as 'therefore', 'however', or 'hence' which implicitly assume and require sequential linearity? Furthermore, as all of my students are also studying radio or television production, I use the example of the 'cutaway' to show another entirely artificial practice that is used to make editing possible. A cutaway is a shot you record before or after an interview of some object or thing, it might be the desk, a phone, bookshelf, and so on. Its role is that when the interview is being edited material will be removed, thus breaking continuity. At such points a cutaway is inserted by the editor as a simple device to preserve continuity. This is a staple of editing, and so I define the creation of link opportunities as similarly artificial but required in a writing practice that is deeply defined by these links. In practice in the autobiography example it often is as simple as adding to, say, the node about a brother some text that mentions (almost in passing) the father, or mother, or the family pet, and so then being able to link from that text string or phrase to relevant nodes.

This is a different writing practice to what these students are accustomed to. Throughout their education they have been taught to privilege sequential writing that develops and shows complex linear causal argument and reasoning. This style of academic writing eschews repetition, yet for a successful hypertext some degree of repetition develops in response to the need to provide for link opportunities. In the very simple example of the autobiographical hypertext several nodes might make mention of

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their mother, in turn allowing links from 'mother' to the relevant node. However, as they mature as hypertext writers they may no longer rely on such simple nouns as 'mother' but rephrase their writing so that the link can still be created. By using a variety of terms or phrases their writing is no longer quite so literal, and it allows for a more poetic or associative series of terms to develop to describe an idea, or in this case their mother.

While still within this first hypertext the visual structure is also utilised to help students theorise and reflect upon hypertext structures. Many students, when they first begin to experiment with hypertext writing, produce hub and spoke or radial hypertext structures where there is a primary, central node with multiple links out to the subsidiary nodes. These subsidiary nodes routinely link back to the hub, and may or may not link to each other. There are even examples where a student will literally make a wheel, relying on the visualisation of the hypertext structure to understand linking. These patterns are useful, as they rely heavily on conservative notions of structure that remain deeply embedded as a consequence of print. The central hub might be legitimate, after all in an exercise such as this where they have described themselves a hub might be inevitable. However, the single links from the second tier of nodes is, frankly, nonsense as there are always many more possibilities of connection. For example, there might be a link from a node about a sister to a node about a brother, and they've been written and linked sequentially and that is why there is a single point of connection between them. However, if I ask the students to think of other rules or principles of connection, for instance 'family' or 'kinship', then they immediately see that there are many other possible points of connection from this node to others. This helps them to see that the creation of link opportunities provides multiple possible points of connection between nodes and that this builds discursive structure. For example, once they realise they can produce multiple links from something as straightforward as 'family' to each node for each family member a form of abstract 'meta' linking emerges where links are now defined by ideas and associations rather than literal nouns. This produces a complex and sophisticated level of abstraction where the types of links students create changes from more or less simple navigational cues towards the authoring of links as the creation of abstract and associative patterns between nodes, which in turn encourages the creation of nodes as a consequence of link possibilities.

This more complex facet of linking is supported by a simple exercise that I invite students to do. As they return to some more writing of their autobiographies I require students to no longer link from nouns (eg "mother", "dad", and so on) but from verbs or adjectives. I require this as in my own experience of writing hypertext links have performative force where what you choose to link from encourages and leads writing. For example, in even a simple sentence like "My dad works for an insurance firm and enjoys footy" I'll suggest a link from 'works' and 'enjoys' rather than 'dad', 'insurance

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firm' or 'footy'. This encourages a change in their attitude and approach to their writing, as what is written in a node that comes from a link entitled 'enjoys' is quite distinct to a node connected to a link entitled 'footy' and encourages a more abstract and sophisticated writing. This is in contrast to the default manner in which most students link, which I suspect is partly derived from the example of the Web where the majority of links (certainly before blogs) are navigational and instrumental. In this more conservative model the student would generally only link from nouns, and as a consequence the destination nodes become descriptive of whatever the node name (which they generally default to be the link name) and link text have been. Of course, this is not very productive hypertextually, as there may be other possible links to the same node which are overlooked as writing stays descriptive and literal. Such a writing style tends to produce what I think of as catalogues, and there is nothing in the practice that encourages the associative and creative development of structure and thought within writing that hypertext enables. By changing the link text towards more abstract terms there is an imperative to write differently in the destination node, as linking from 'enjoys' produces a more evocative, associative and engaged writing than a link from 'footy'. This not only helps to develop a more sophisticated writing, but also by moving towards more abstract links each node tends to become more amenable to links in and out. This helps the individual nodes to become more porous to the other nodes in the hypertext, which encourages more links, and through this more complex link patterns are able to be produced. This is important, for one of the significant ways in which students develop as hypertext writers is to experience hypertext writing as a generative practice where structure emerges through, and not prior to, writing. This is where writing 'flips' from being something predesigned where links and nodes are deliberately planned in advance (much like the traditional essay plan) to something more associative, emergent and productive. This is a hypertextual writing, in situ, where students are able to recognise that linking produces structure as an act of writing and that this is coterminous with argument. This experience of hypertext is associated with a reasonably high level of node and link density where links are suggested within the very activity of hypertext writing itself. The writing, and linking, becomes promiscuous and students commonly have the experience of then not knowing how to finish their writing simply because they recognise it can continually expand.

This is the moment when students begin to understand the intent and depth of the problems and questions that hypertext structure poses for reading. Just as they no longer have a clear external definition of what it now means for the work to be finished, or even where their writing may go, so they also realise that to read such a work (including their own) it is no longer sufficient to rely on their existing paradigms of comprehensive reading as traversing beginning, middle, and end, in that order. This is where we begin to read hypertext literature.

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Hypertext Reading

Existing work on reading hypertext can be divided into two main approaches. The first is exemplified by scholars such as Landow, Bolter and perhaps even Joyce, and is about the manner in which hypertext literature is affiliated with postmodern and poststructural theories of textuality and discourse. The second is characterised by the canonical work of Douglas and Rosenberg and is best characterised as an approach that identifies what is specific to hypertext reading where texts are constituted as 'whole' by the reader's activities and interpretation rather than materially by the media itself.

The first approach is productive as it allows a very broad range of theoretical material to be employed in considering hypertext. This material, what I would loosely describe as poststructuralism in general, allows many collateral learning outcomes to be a consequence of considering hypertext reading as it provides the opportunity to explore poststructural theories of textuality beyond the exemplar of hypertext literature. On the other hand, the second approach also provides for a variety of learning outcomes beyond the specifics of hypertext literature. The materially indeterminate text, that is a text that is to some extent created and defined by the actions and activities of reading (Aarseth's ergodic text), provides a productive heuristic for understanding other varieties of distributed creativity and practice, including games, interactive video, and blogs.

In my teaching of hypertext reading I employ aspects of both approaches, however as my students are not literature students (they are generally media students) I also consider hypertext as a post-cinematic reading practice. While this approach may, or may not, be at odds with existing literary models, my general intent in teaching the reading of hypertext is primarily to develop general competencies so that students develop a critical vocabulary for the reading of hypertext in general. Specific theoretical outcomes are less focussed, but include general ideas around multiple narratives, the dialogical, multilinearity, marginalia, acentredness and the plurivocal.

I have historically based my introduction to hypertext reading on Joyce's *Afternoon: a story*. I have a relatively strict reading protocol for this, which involves students reading *Afternoon* for, say, 20 minutes, and then forming small groups to discuss what they think the story is about, what events they have read, characters they have found, how they navigated the text, and their general experience of reading such a work. A class discussion is then held.

After this preliminary reading the overwhelming experience for the majority of students is that the work appears to be unstructured and almost random, that their choices don't appear to have had consequence, and they are unsure about who is who and what the story may be about. In sharing their experiences they can see that while others have had similar experiences they have also found other parts of the story, indeed may have

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been reading around characters that in their own reading made no appearance, and that some may have employed different strategies to read the work — for example clicking on particular words within a node, or just hitting the return key for every movement through the text. Students are then required to begin a new reading of *Afternoon*, and if they relied upon the default reading (pressing return within each node) to now select text. They now read for another twenty minutes. It is imperative that they begin a new reading and do not continue from their previous reading. It is this second reading that makes all the difference to the students as hypertext readers.

In this second reading students generally find themselves in different parts of *Afternoon*, while also occasionally returning to nodes or sequences they have already read. In doing this they realise that their choices actually do make a difference, and so have consequence in terms of what the story might be. In addition, they begin to realise that *Afternoon* appears to be structured around constellations or clusters of interlinked sequences, and that in their second reading they commonly find themselves in a different sequence to their first reading. However, the writing has enough detail, and ambiguity, for the students to be able to find connections to what they understood and found from their first reading. Through this they begin to recognise that while the work is not linear and ordered in the sense that they have come to expect from print based literature, there are recognisable patterns and structures that can be used as a basis for interpretation, and that these structures are produced through repetition, reiteration and quite specific sorts of rhythms that are quite distinct from existing literary models.

This is why the second reading is so important. It is through this second reading that patterns are able to form, be identified, and that particular rhythms begin to be noticed. This is used to structure a class conversation about their agency as readers, and while the common experience is to feel subjected to, or by, the text it is also recognised that their individual decisions as readers produce quite different reading experiences because they read quite different texts. This point receives quite a lot of attention and explication as it lets me illustrate what is at stake in the discussions about reading, meaning, and interpretation. Many students think that hypertext's claim for different 'readings' is on a par with the soft serve post modernism they received in high school where they learnt that all interpretation is variable, to some extent individual, cultural and political. No. Hypertext's claim is that each reader, by their actions, makes and reads a different text, which is a very different proposition to agreeing that we may have different interpretations of the same text.

I then ask the class to describe their experience of reading the hypertext. This usually produces a long list but within the terms several distinct clusters emerge, for example around repetition and looping, exploration and feeling lost, and narrative causation. A general discussion is then held about these properties, what they are, how they appear to be different in *Afternoon* to other stories the students have read, and to then ask why

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these differences might exist, and what their implications for the story (and reading) might be. Remember, the role here is not to provide a hermeneutic interpretation of *Afternoon* so much as to defamiliarise the students' experience of reading by providing a reading context that, at first glance, appears to be so different from all their other reading experiences. Hence, the conversation continually tries to move away from a negative and reactive negation of the work ("it doesn't work like a book so it is wrong/silly/stupid") to productive questions about what it might mean for a story, for reading, and writing, when the reader appears to have to accept much more activity and responsibility than was previously the case.

It is around this point that I introduce another way of thinking about reading hypertext literature which is intended to locate hypertext outside of the domain of literature. This alternative relies upon cinema. I, and others, have argued elsewhere about the ways in which hypertext can be theorised as a post-cinematic writing, and the affinity that hypertext links appear to share with cinematic edits. I use the example of cinema in two fundamental, though related, ways. The first is to return to their experience of writing hypertext and to recast this as a cinematic practice. I do this by reminding them of the almost 'self contained' nature of the nodes in their hypertext, and that this makes them analogous to the shot in cinema. Each node, like a shot, is meaningful, in and of, itself, and so to some extent already whole, but each is also placed within differing series to build narrative sequences. In cinema this is through editing where shots are cut and placed in any variety of possible sequences to produce a narrative. In link node hypertext this is achieved through linking. I then suggest that in a system such as Storyspace each node can be literally thought of as a shot, and a link as an edit, and that the only deep difference it has to cinema is that in Storyspace each shot can now have an edit at different points, and can also exist in multiple sequences. In over ten years of teaching I have yet had a student suggest to me that this is not a reasonable claim.

The second example, which is a product of the first, relies on Kuleshov's canonical examples from the early history of the cinema. In his experiments he used an identical shot of an actor's face and in each case intercut it with something different (the specifics of the experiment seem to vary somewhat depending on which sources you rely on). Audiences interpreted the actor's expression completely differently in each case — even though it was the same image each time. From this we can see that the meaning of a shot, and by implication a hypertext node, is not only based on what the shot or node contains, but on the sequences and series it is located within. *Afternoon*, of course, affords a simple and famous example as the node that contains "I want to say I may have seen my son die this morning" has quite a different significance if you arrive there immediately as a consequence of the default reading, or much later. This also applies with re-readings, where you may know the node exists, but when it appears

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is much more significant than just the fact of its appearance. This lets the class think about how it can be a strength for the style and content of nodes in a hypertext to be relatively poetic or abstract, less linear and causal, as in this way they can more easily be connected to other nodes, and so able to exist in multiple possible sequences. From this it is a simple step, though one that still takes considerable time to discuss and consider, to recognise that when reading hypertext the meaning and interpretation of the work is no longer simply understanding the content of each node but is very heavily dependent upon the sequences that the nodes form. What appears when, matters.

I make this even clearer by two simple exercises. The first is to invite students to work in small groups to describe four brief cinematic shots which could be rearranged into different sequences to see how these different arrangements produce quite different versions of what may have occurred. This helps make concrete the way in which what things mean in a hypertext is a combination of the content of the node and the sequence it is contained within. Therefore, if a node can appear in different points in a sequence, or within different sequences, then the way to understand a hypertext is to pay as much attention to where and when things appear as much as to what is written. This is quite distinct to the students' existing experience of reading where they pay little attention to sequence and treat close reading as synonymous with having read all of the words ("cover to cover"). However, as they have learnt, sequence clearly matters, and in hypertext we have a system that allows for variable sequences within a single work so what it might mean to have read a hypertext comprehensively is in itself problematic. This provides material for further discussion around the question of what 'comprehensive' reading might mean in the case of hypertext, and what constitutes closure. This clearly has very strong affinities to the work of Douglas and Rosenberg and helps construct a conversation about the significant distinction between a comprehensive as opposed to a satisfactory reading of hypertext.

For example, the former retains connotations of having read all content nodes, with some sense of having also read, or having sufficient knowledge of, the possible sequences available. On the other hand the latter is a much more pragmatic experience where 'comprehensive' is no longer equated with such a sense of completeness but must now be negotiated between the reader, reading, and the text. The difference between these is largely a consequence of the respective materialities of print and hypertext. The print text is bound, linear and sequential which obviously has a beginning, middle and end making it trivial to equate comprehensive reading with reading it all. In the hypertextual case the materiality of the form provides no such empirical substrate so what counts as a complete reading must now shift from the object itself to the reader and the reading as an event.

In my experience, this discussion about what then is a 'satisfactory' reading in hypertext becomes significant. It helps the students to recognise that their existing

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model of reading as consuming all of a text just can't work in these contexts. Once again, this difference is utilised to illustrate the distinctions between hypertext and literary texts, and the different competencies they require. It is also to make strange their default assumptions about what it means to not only read, but also what constitutes a whole text — when being able to read from beginning to end has been treated as the model for comprehensive reading what does this become when sequence always varies and the works have no materially determined scale?

Following the four shot, cinematic sequence, exercise students work in pairs to write their own version of a four node hypertext sequence where any node can appear in any point in the sequence. This sort of task makes very clear that if the writing within, or between, nodes is highly linear and sequential then the possible sequences that can be formed are highly constrained, but if the writing is more self contained and atomistic then it is easier to have them in multiple sequences. This allows for a consideration of the differences between these styles, how they might be combined, and more importantly to see the distinctions between a linear print model and the multilinear hypertextual form as about providing the opportunity for links to produce narrative structure in concert with the content of nodes.

Finally, this four node task is used to show that complex multisequential patterns can be produced through simple procedures. In the case of the four nodes there are twenty four possible combinations, and this complexity is achieved through a very simple constraint. For new readers and writers of hypertext this is important as many confuse complex structures with either link density or the development of overly elaborate trails and pathways through a work. However, as this task helps illustrate, complexity is able to be productively created through the iteration of a simple rule and it is this that allows for the formation of complex but intelligible patterns.

The idea of pattern, and hypertext as a post cinematic form, are then reapplied to the consideration of *Afternoon*. This leads to intriguing conversations about what sort of film it would be (Jean Luc Godard remains a popular choice for those with sufficient cinema history), and also to the recognition that a key facet of reading such work is the ability to identify and then interpret such recurring patterns.

Conclusion

All that I have described can take a semester of teaching to achieve, and is routinely repeated or alluded to in an ongoing way through other subjects. While I have no direct evidence that these students go on to be regular readers of hypertext works, or even hypertext authors themselves, anecdotally it is clear that they do develop a vocabulary of practice that they are able to successfully apply to the reading and writing of multilinear works. These skills have gone on to be used in a variety of different contexts,

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including in some cases the writing of academic hypertext essays in Storyspace, the development of interactive multilinear video works, and the writing of hypertexts using HTML. However, the most significant outcome that I seek to achieve from this teaching is for the students to recognise that they have been deeply acculturated to particular forms of reading and writing that are determined by print and that there are other ways of writing that can express knowledge and experience. These other ways require other literacies, or competencies, that are as legitimate, though different, to what we find in print literature and traditional academic writing. The role of repetition, linking, and the creation of meaning through sequence are highlighted, and become the basis by which they can appreciate and approach not only hypertext but other multilinear forms. The specificity of hypertext as a literary system is emphasised so that students do not make the error of disregarding or dismissing hypertext because it doesn't appear to operate the same way as their more common experience of the novel and story. While this approach departs some way from more literary ways of approaching and teaching the reading of hypertext, I hope it is clear that it is quite easy to teach and learn that hypertext requires a specific reading practice, one that is no more arbitrary or complex than what we apply to more traditional texts, and that the hegemonic authority of existing paradigms of print literacy tends to obscure and obfuscate the actual qualities of hypertextual forms.

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appendix: figures



appendix: figures

The material collected here is a selection of my published research from 1999 to 2009. It does not include any of the more than one hundred interactive videos, or digital media projects that I have undertaken since the early 1990s. The work is divided into three major sections; cinematic hypertext, softvideo, and networked writing, and describes the arc of my research up to approximately 2010.

I have selected these essays as evidence of the extent and quality of my work as a portfolio to meet the requirements of the PhD by Publication model. An accompanying exegetical essay contextualises and provides insight to the concerns and themes collected in what follows.

Adrian Miles
Bachelor of Arts (Media Studies)
M.A. (General and Comparative Literature)
RMIT University
2012





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IV



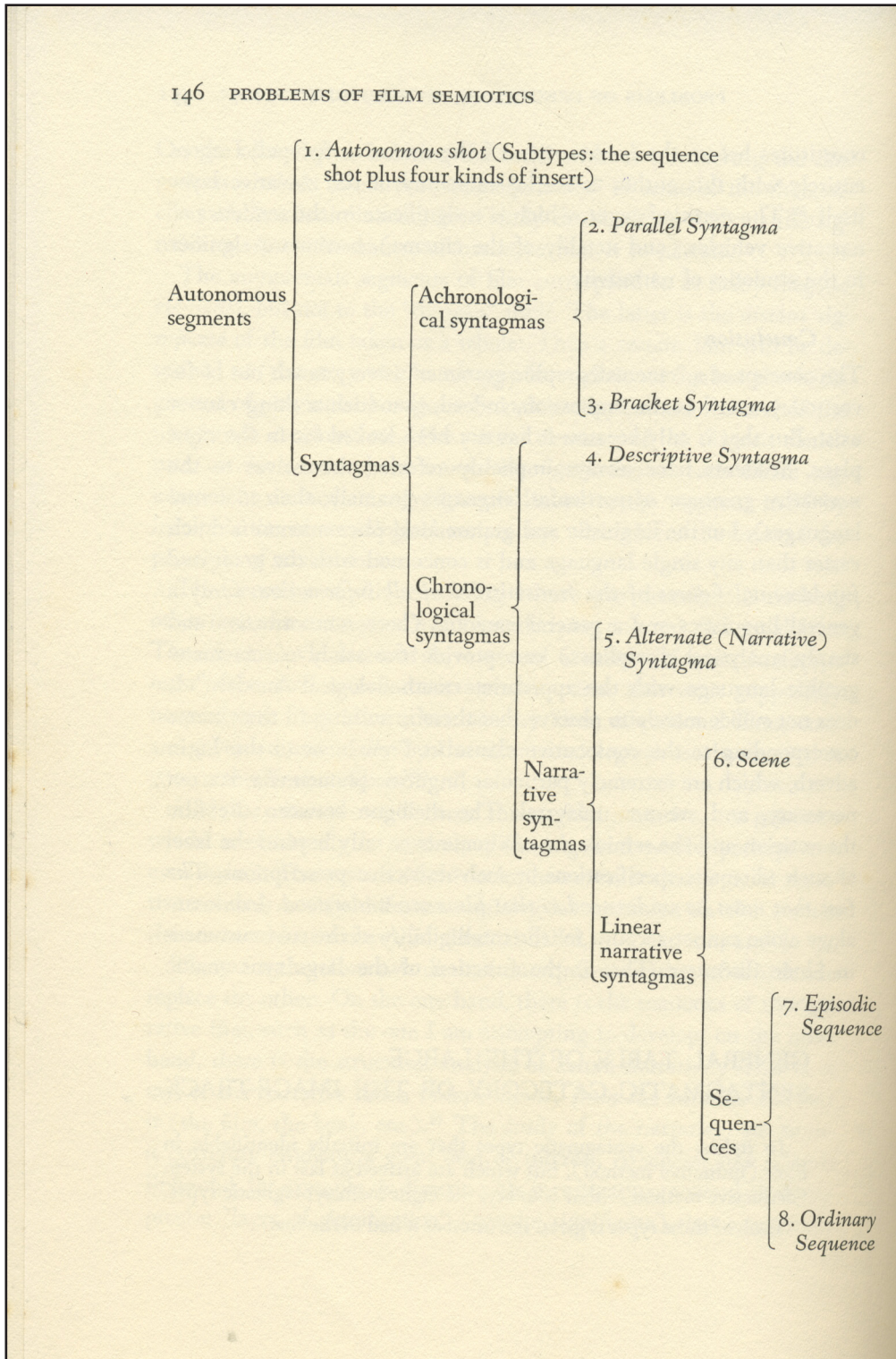


Figure One. Metz's 'Grand Syntagmatique'. Metz, Christian. *Film Language: A Semiotics of the Cinema*. Trans. Michael Taylor. New York: Oxford University Press, 1974. Print. p. 146.

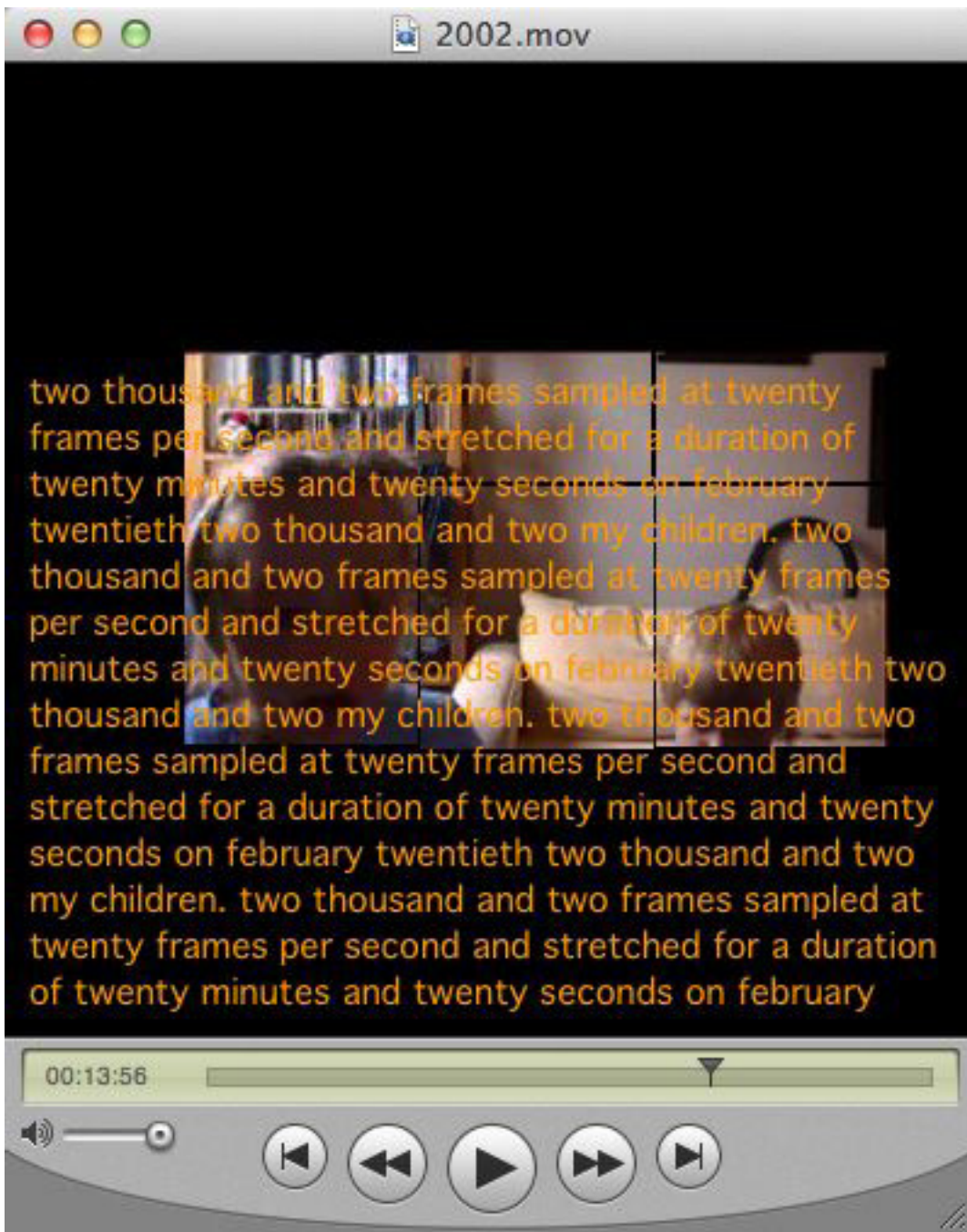


Figure Two. "International Day of Time Dependent Art." A sofvideo work by Adrian Miles. The text (which takes twenty minutes and twenty seconds to scroll) is able to shift over or behind the nine video tracks based on where the user places the mouse.

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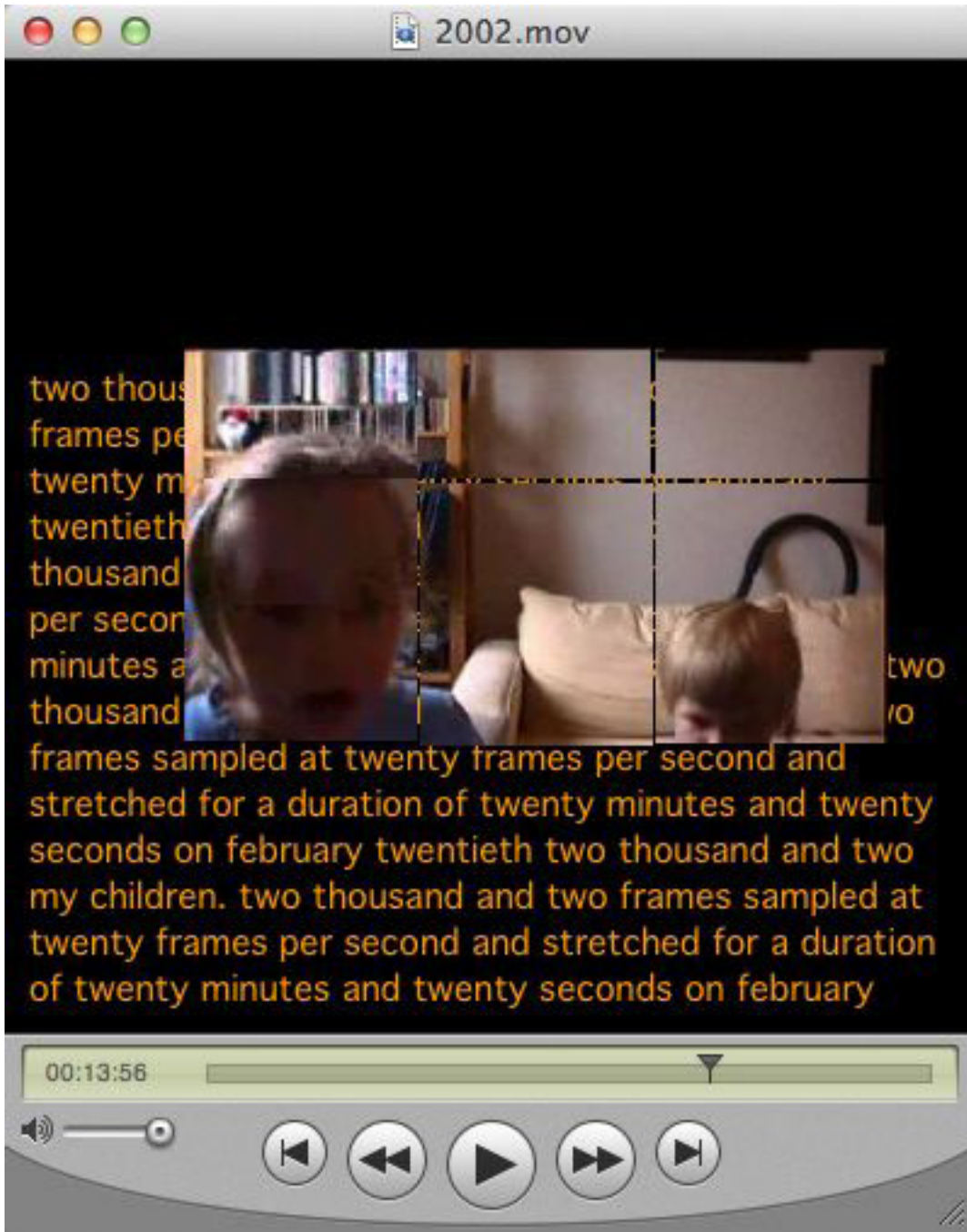


Figure Three. "International Day of Time Dependent Art." This is a softvideo work by Adrian Miles. The clip is at the same moment as in Figure Two, and now the text is behind the video due to where the user has placed their mouse in the movie.



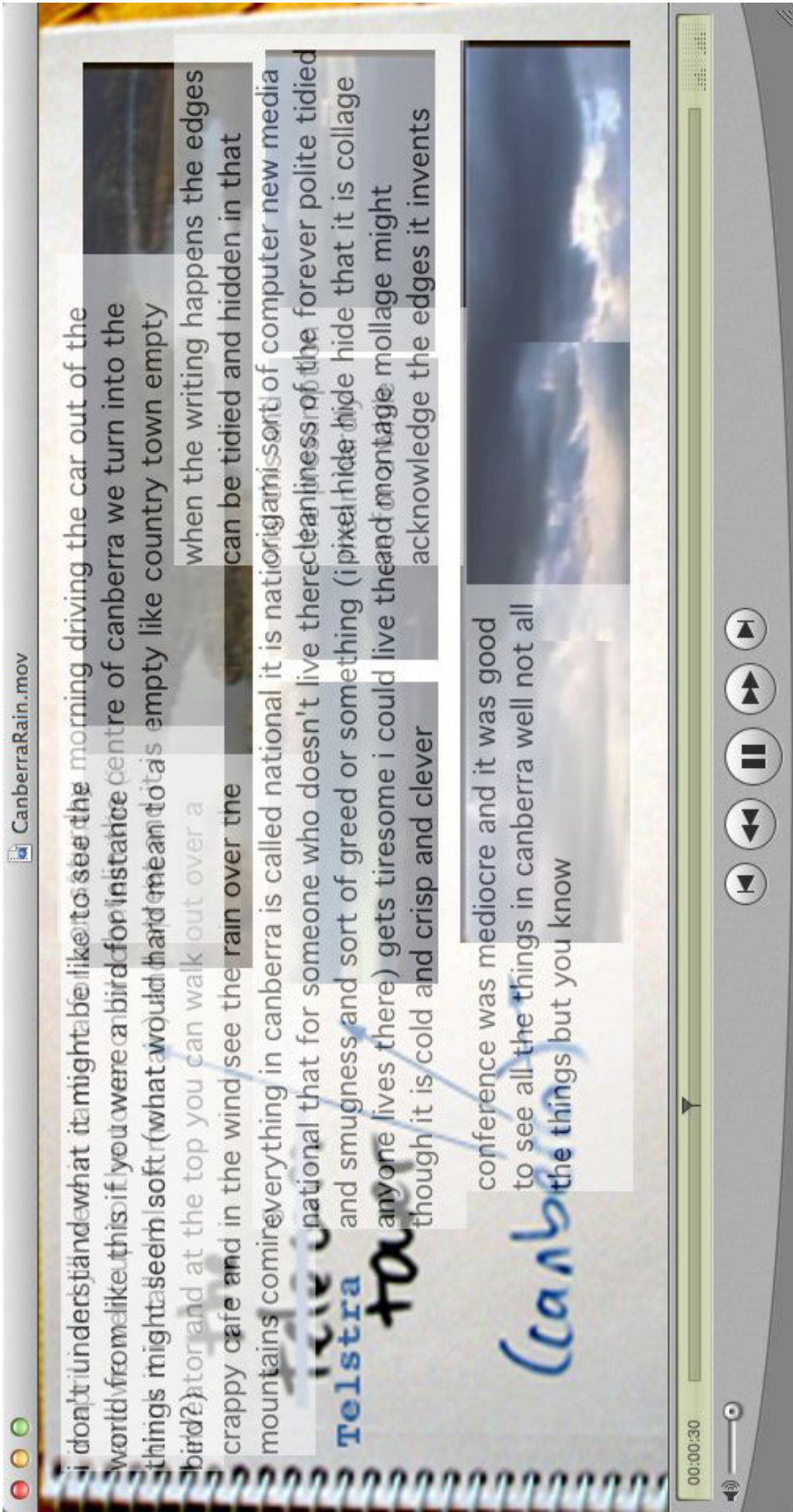


Figure Four. "Canberra Rain." (2002.) A softvideo work by Adrian Miles. Mousing into each of the nine video panes toggles the visibility of nine individual text panels.

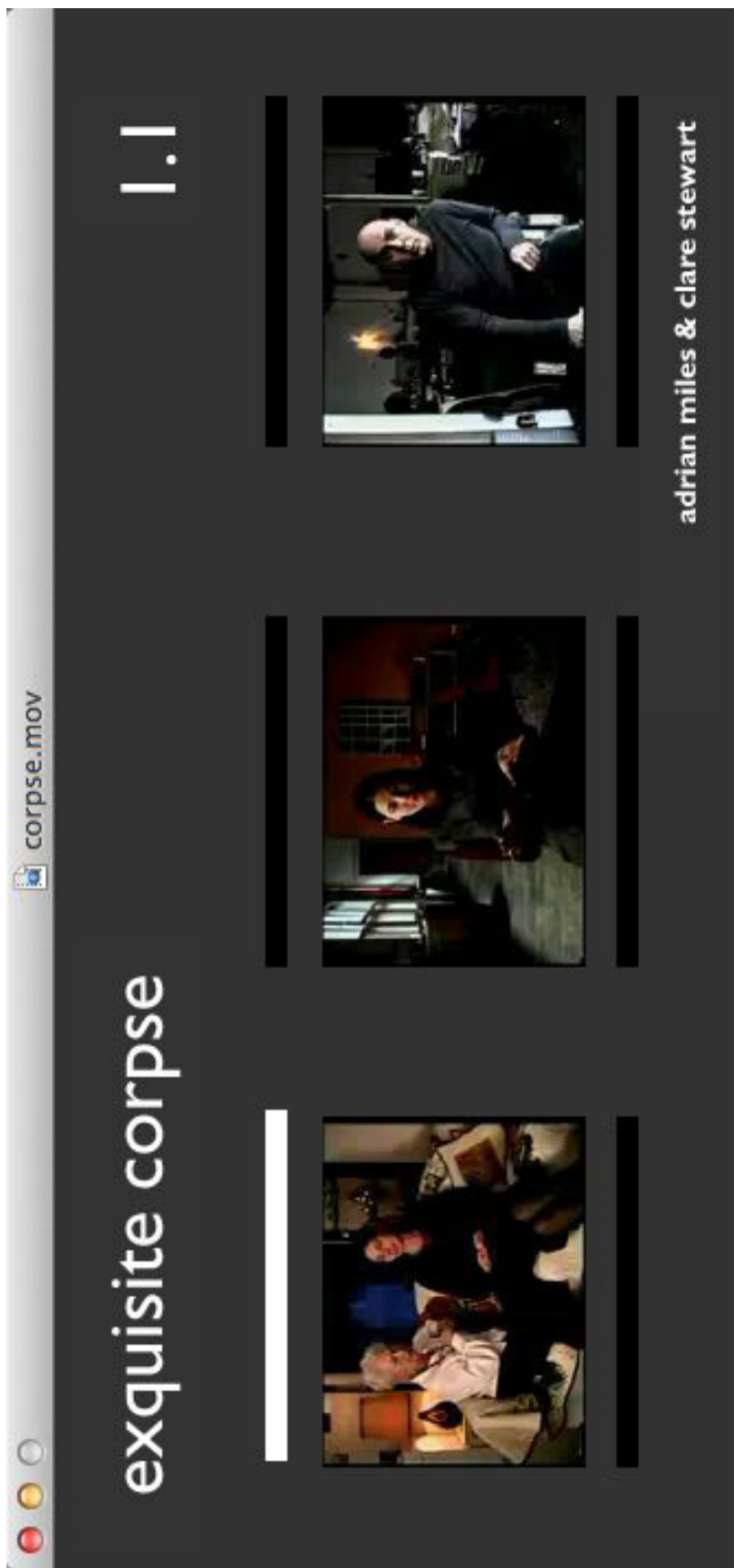


Figure Five. "Exquisite Corpse", (2002). A softvideo work by Adrian Miles and Clare Stewart. Mousing into the bars mutes the other two video panes while also varying their playback speed.

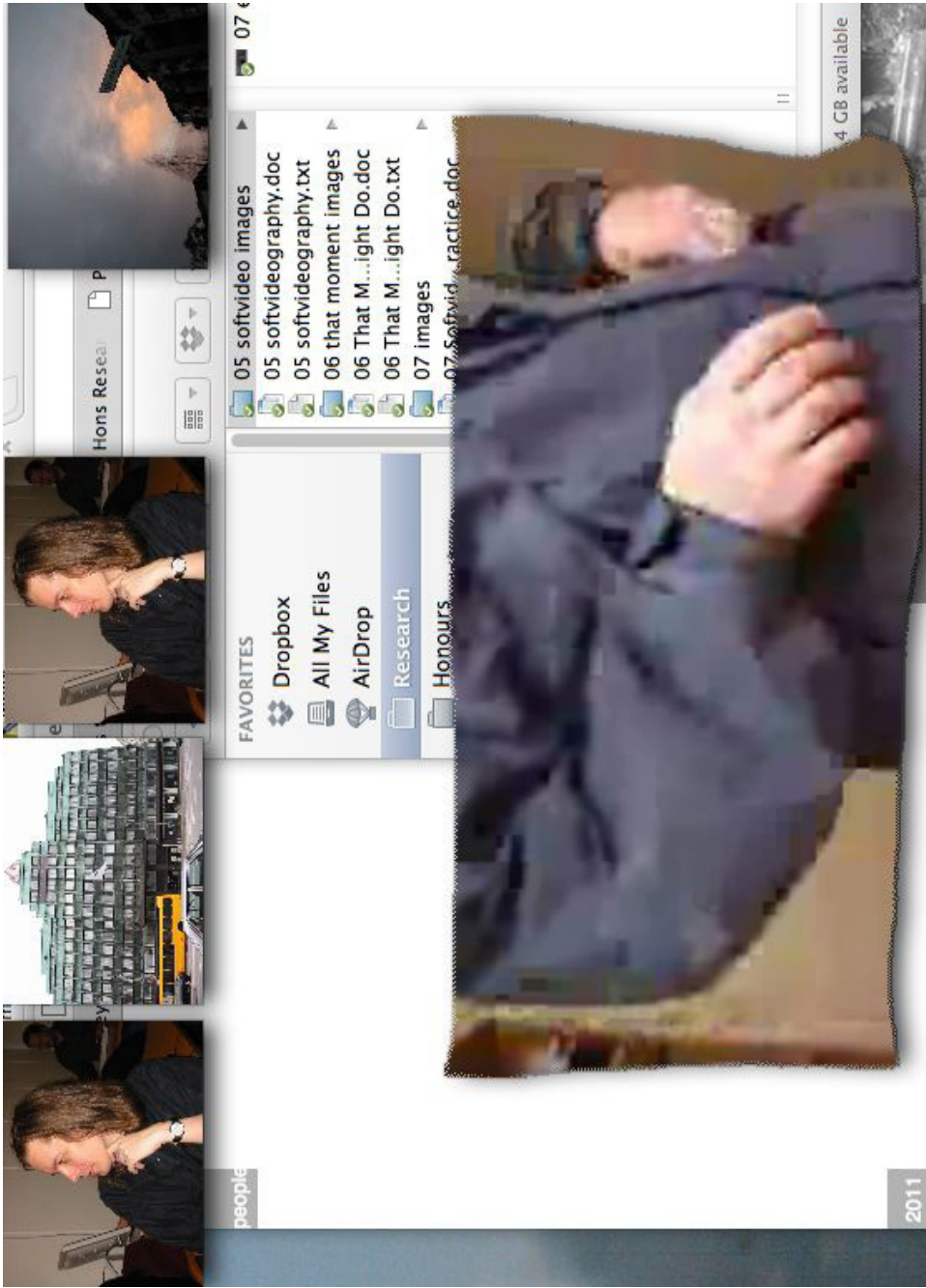


Figure Six. "VoxVog" (2002). A softvideo work by Adrian Miles. The lower lo-fi video has four quadrants, mousing into each causes different still images to load above.

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Figure Seven. Screenshot from "That Moment Might Do." Softvideo essay. The opening screen.

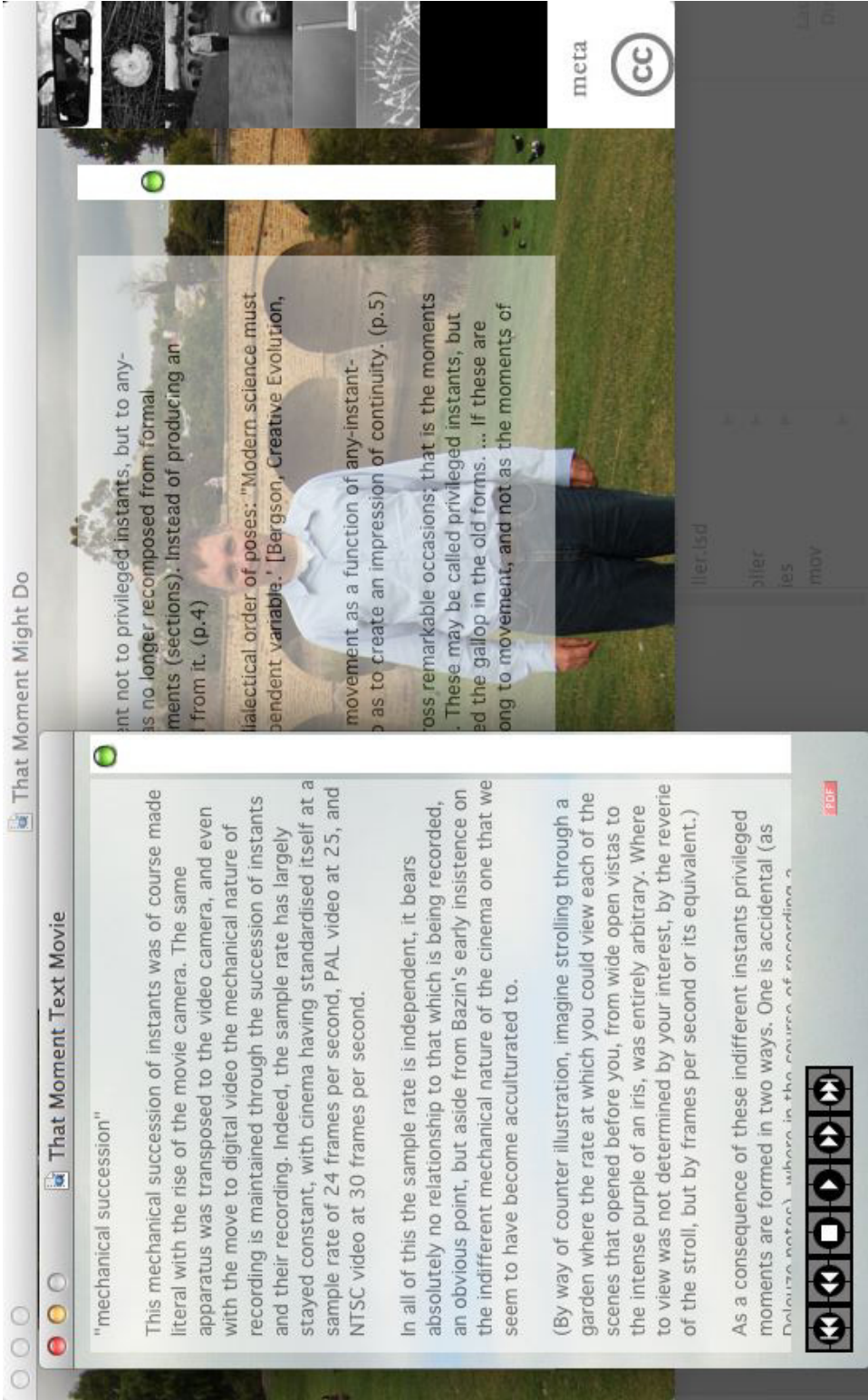


Figure Eight. Screenshot from "That Moment Might Do." Softvideo essay. This shows a scrollable text window, an open link to a PDF file (viewable within QuickTime) and the controls that were added to control the playing of the commentary in this section.



Figure Nine. “Collins Street” (2001). A softvideo work by Adrian Miles. It consists of nine separate videos, nine sprite tracks and three sound tracks. Each sprite has an attached graphic with a timer. In the screenshot three of the sprites and their graphics have been ‘triggered’ by a mouse enter event.



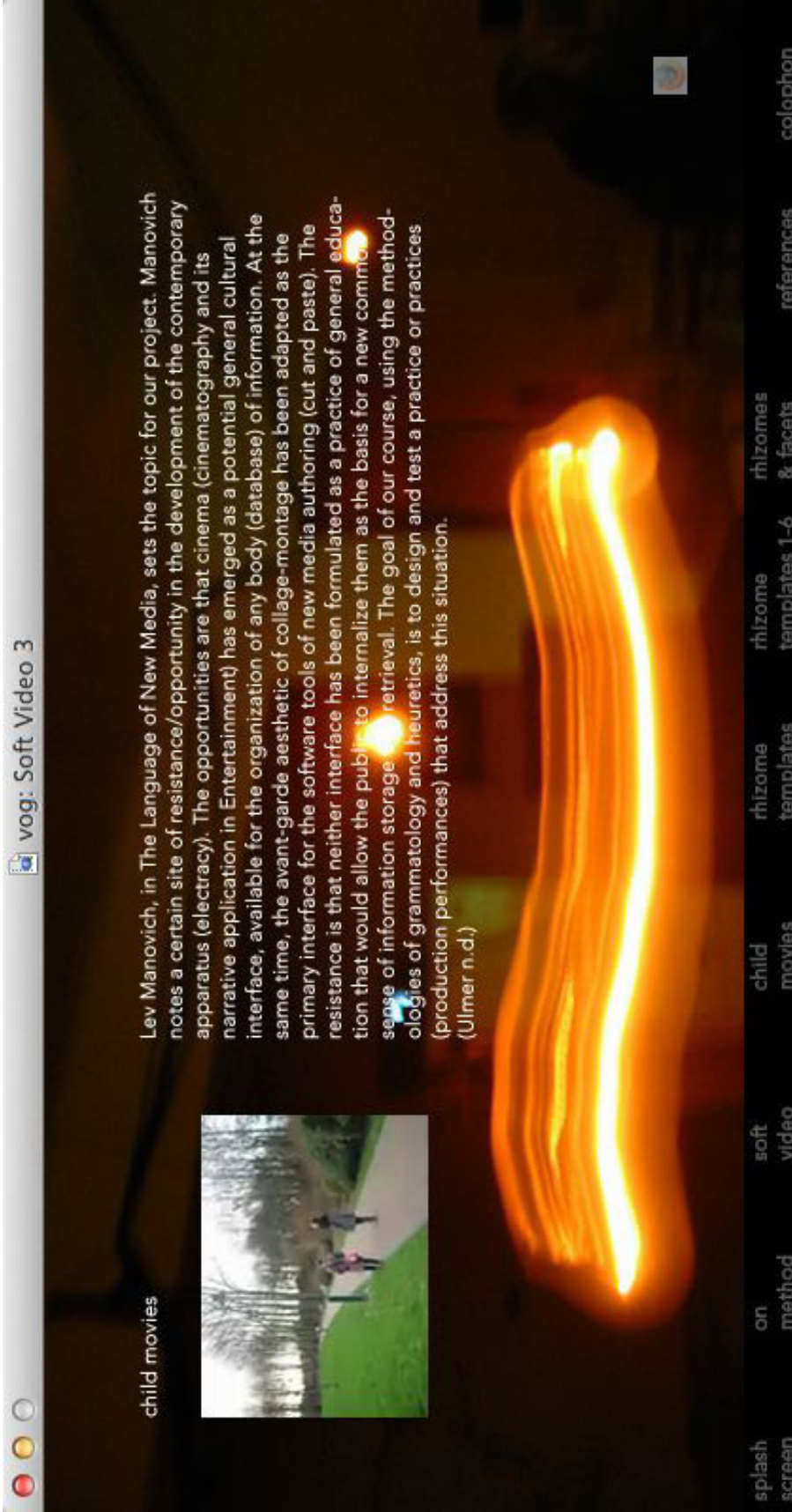


Figure Ten. "Soft Rhizome 2.0" (2007). Screenshot from the interactive video window. There is an embedded video window, a menu of 'frames' across the bottom of the movie, and a quotation. Each 'frame' has a different commentary attached.

Soft Rhizomes 2.0: A Softvideography Essay

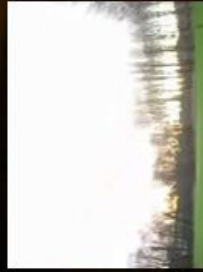
Introduction

What follows is the transcript, as the primary work or document, in reverse of the usual order of the disciplines it is common for the supplementary to the media of engaged humanities practice, as the sketch books of a painter, themselves fall outside of the expresses. Work in this vein is traditional humanities writing, designers produce of their own contribution towards the 'material' grounded in the materialities of opportunity for new practices a

Softrhizome

This is an interactive QuickTime. Clicking on these takes you to content that will be played is also be visible and playing content have made over the previous screen of the video window will load the

child movies



vog: Soft Video 3

Lev Manovich, in *The Language of New Media*, sets the topic for our project. Manovich notes a certain site of resistance/opportunity in the development of the contemporary apparatus (electracy). The opportunities are that cinema (cinematography) and its narrative application in Entertainment) has emerged as a potential general cultural interface, available for the organization of any body (database) of information. At the same time, the avant-garde aesthetic of collage-montage has been adapted as the primary interface for the software tools of new media authoring (cut and paste). The resistance is that neither interface has been formulated as a practice of general education that would allow the public to internalize them as the basis for a new commonsense of information storage and retrieval. The goal of our course, using the methodologies of grammatology and heuristics, is to design and test a practice or practices (production performances) that address this situation. (Ulmer n.d.)



on method splash screen soft rhizome rhizome rhizomes & facets templates 1-6 templates references

Figure Eleven. "Soft Rhizome 2.0" (2007). Screenshot from the interactive video essay. This shows the text loaded in an accompanying web page, which is hyperlinked within the video via the Firefox logo in the lower right of the movie.



Figure Twelve. "Soft Rhizome 2.0" (2007). Screenshot from the interactive video essay. This is the second version created where the embedded video is able to be controlled by the user, independently of the commentary soundtrack.

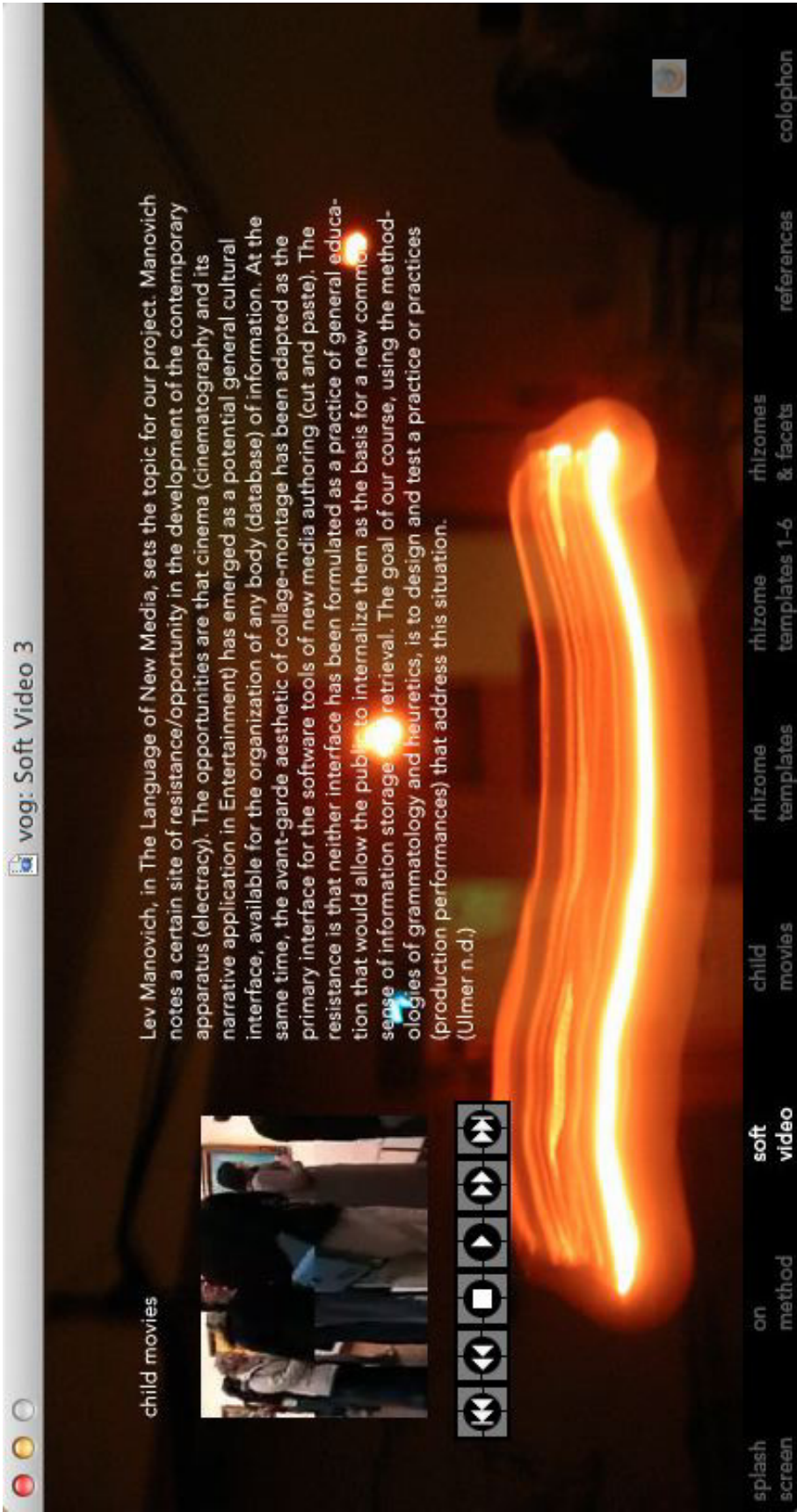


Figure Thirteen. "Soft Rhizome 2.0" (2007). Screenshot from the interactive video essay.



Figure Fourteen. "Rhizome Template 1". Screenshot showing the two video panels where clips could be loaded, via an XML file, and played alongside each other.

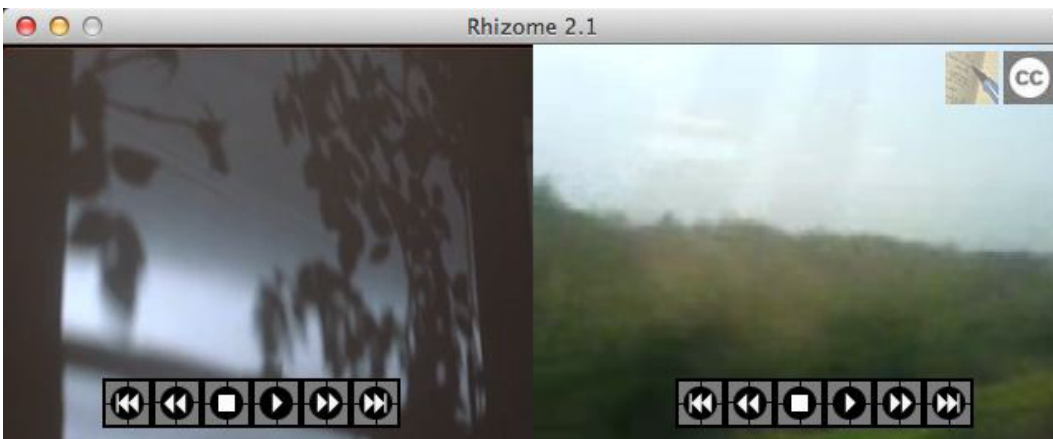


Figure Fifteen. "Rhizome Template 2". Screenshot showing the two video panels where clips could be loaded, via an XML file, and played alongside each other. Each clip now has its own controller.

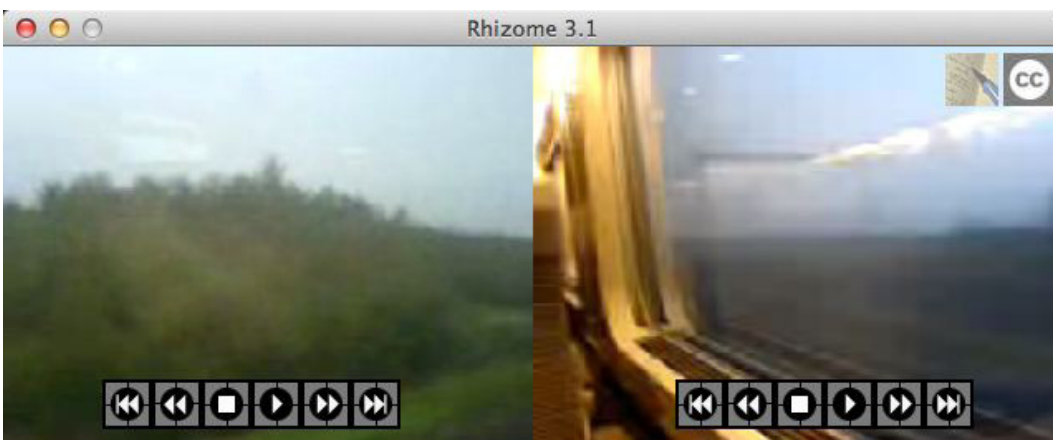


Figure Sixteen. "Rhizome Template 3". Screenshot showing the two video panels, each clip with its own controller, and though not visible an audio track that, by default, autoplays.

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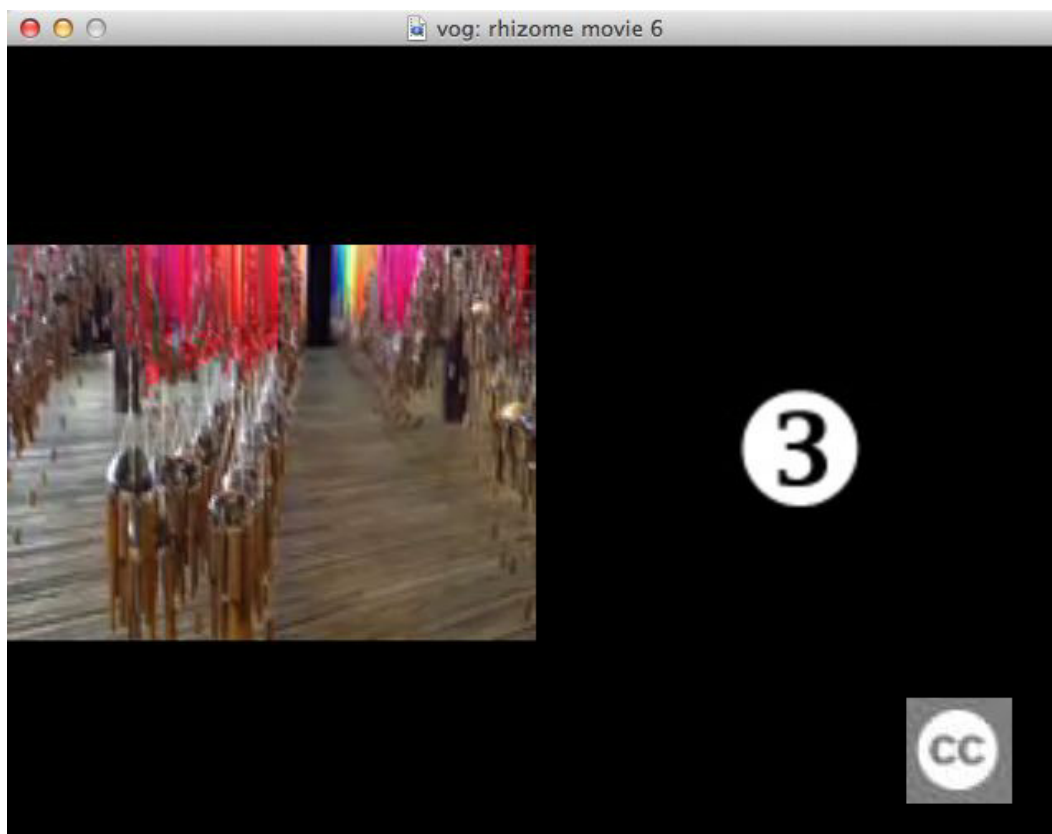


Figure Seventeen. "Rhizome Template 6". Screenshot showing the two video panels. Here as you click on the left video a new video is subsequently loaded on the right. The videos loaded are contained in a list, and are loaded one after another as the user clicks, looping through a total of five films.



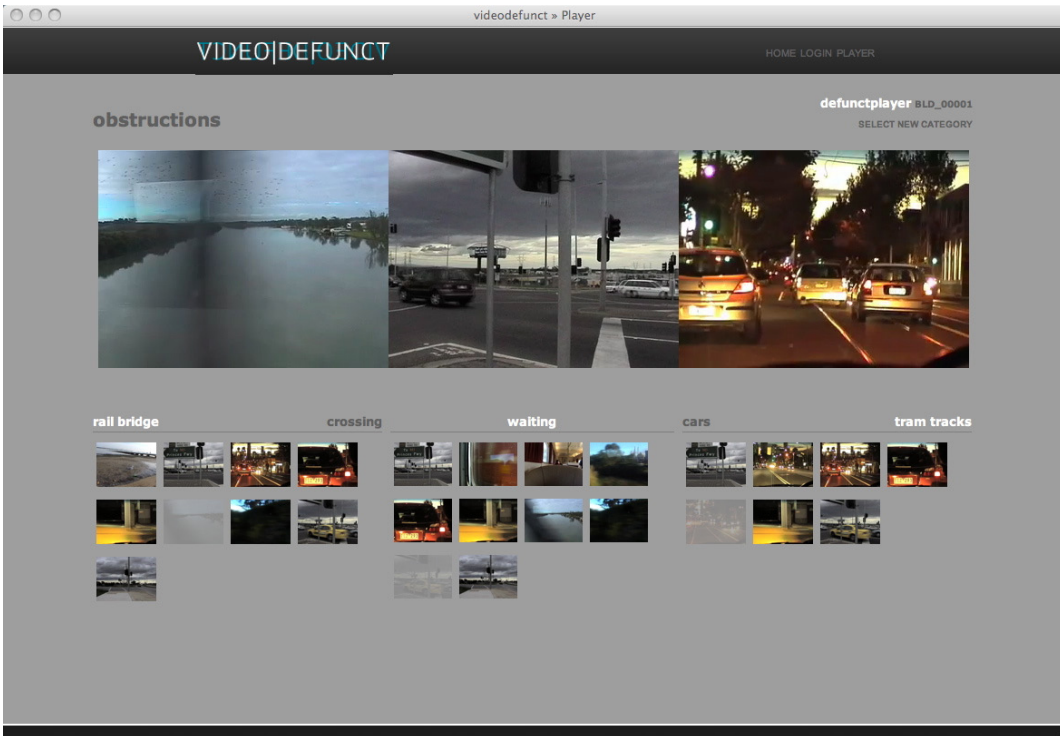


Figure Eighteen. "VideoDefunct". Screenshot showing the triptych video panels and tagged thumbnails. (Seth Keen, David Wolf, Keith Deverell.) Used with Permission.

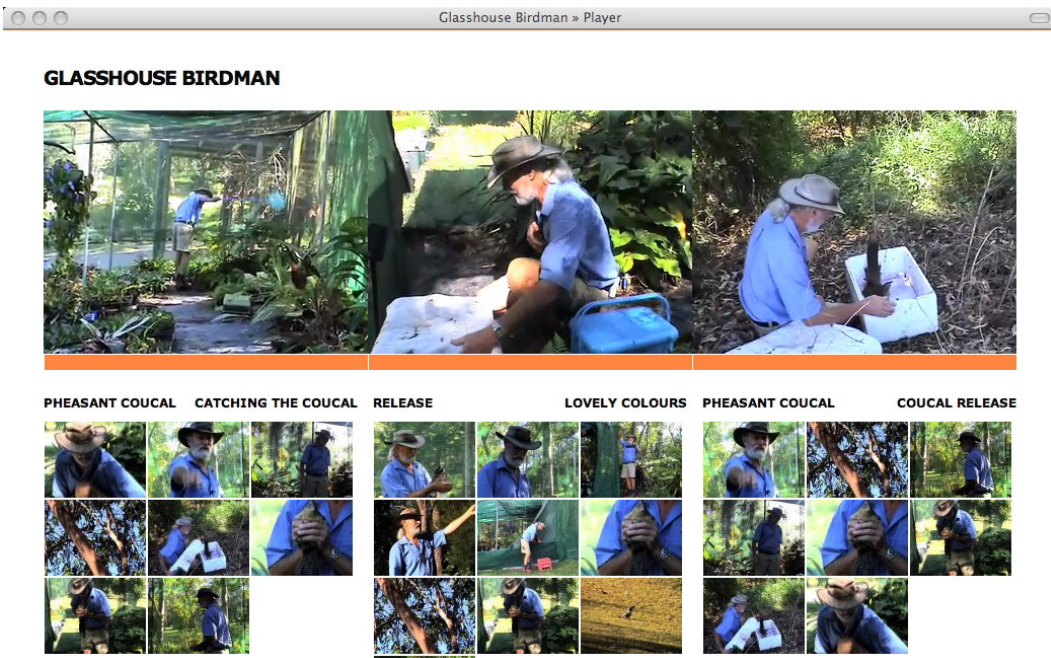


Figure Nineteen. "Glasshouse Birdman". Screenshot showing the triptych video panels and tagged thumbnails of the VideoDefunct System. (Seth Keen, David Wolf, Keith Deverell.) Used with Permission.

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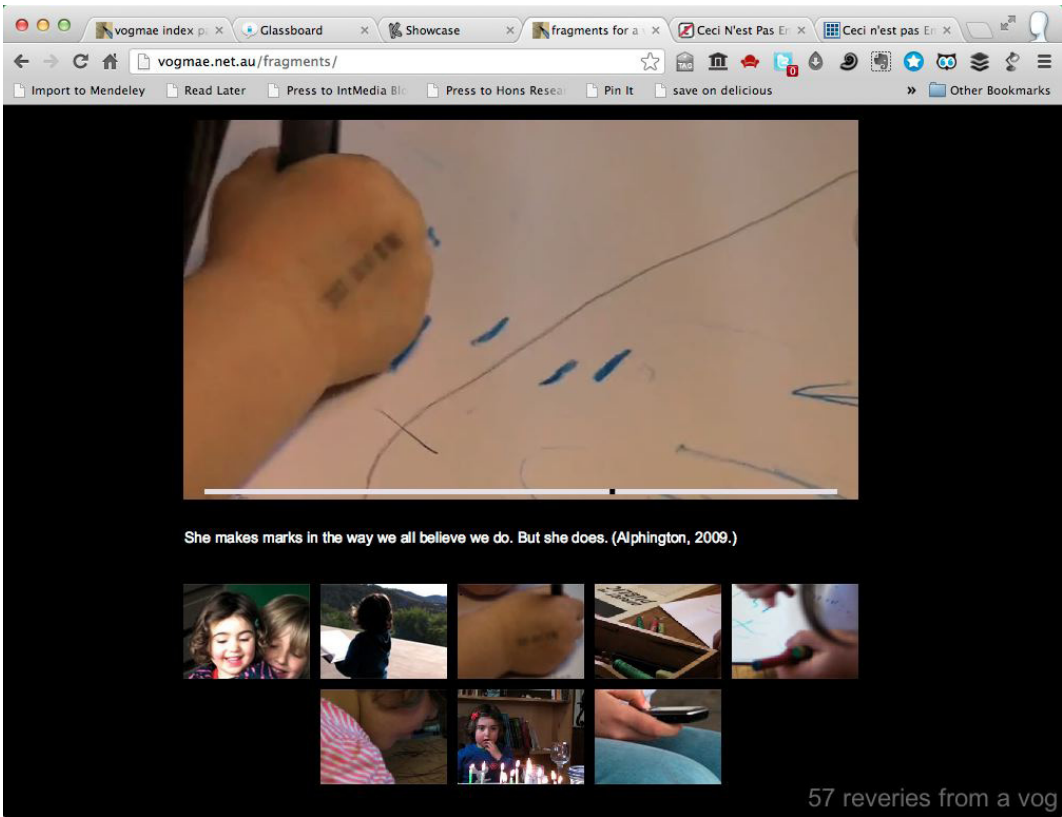


Figure Twenty. "57 Reveries from a Vog" (2009). Screenshot showing a completed Korsakow film with extensive use of thumbnails. (Adrian Miles.)



Figure Twenty One. "Prototype One" (2005), Adrian Miles. Screenshot showing the three clickable sprite tracks within the video.

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Figure Twenty Two. "Prototype Two" (2005), Adrian Miles. Screenshot showing two video panels within an enclosing video. The video on the left has time based links that cause new material to be loaded on the right if the left video is clicked by the user.





Figure Twenty Three. "Prototype Three" (2005), Adrian Miles. Screenshot showing my embedded commentary, an external video (from Michael Verdi), with 14 specific commentary tracks that operate as a videographic response to the points being made by Verdi.

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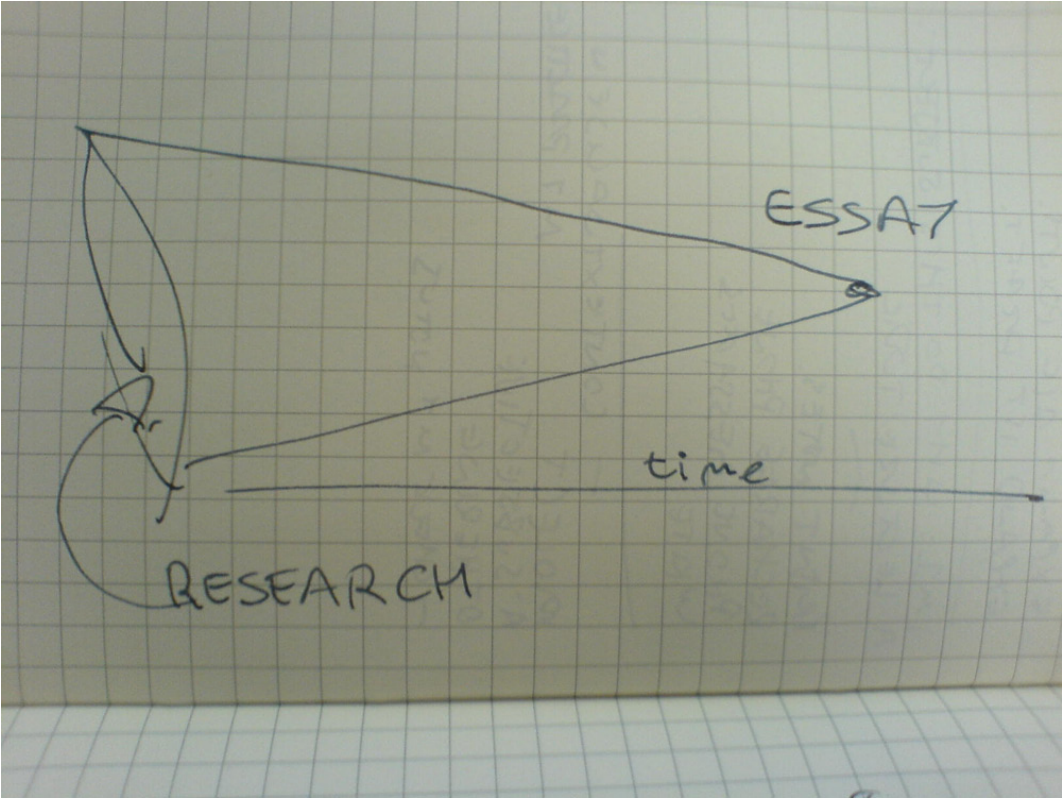


Figure Twenty Four. The essay writing teleological 'cone'.

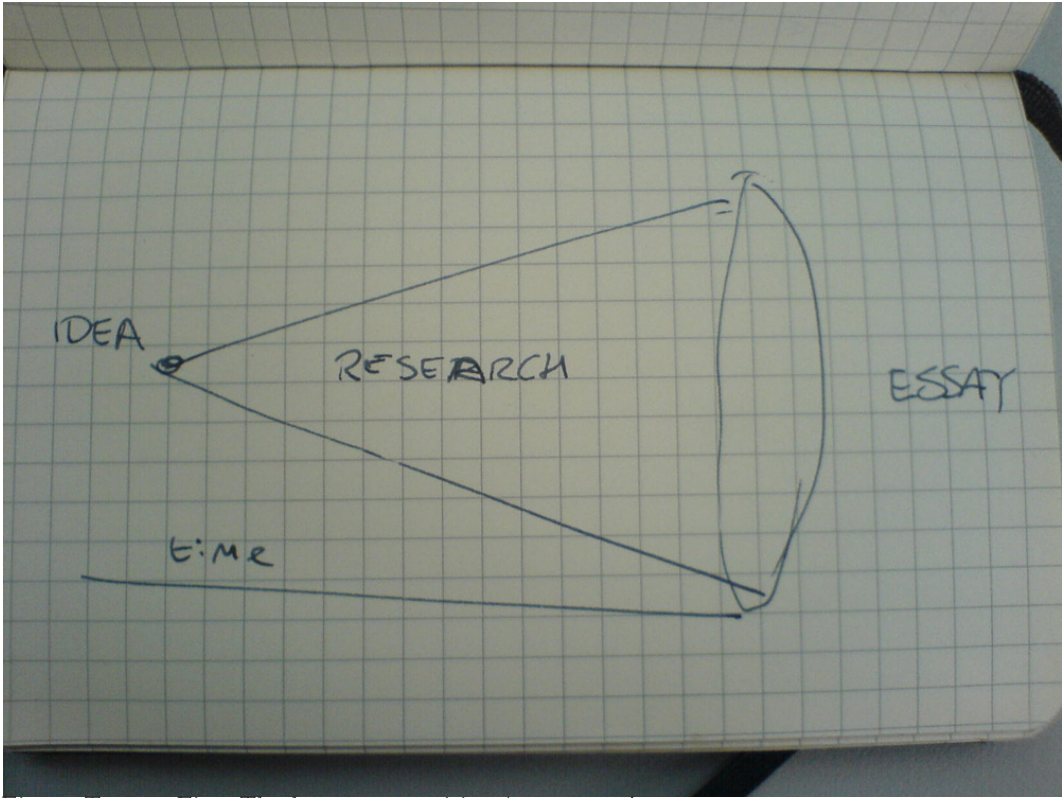


Figure Twenty Five. The hypertext writing 'open cone'.

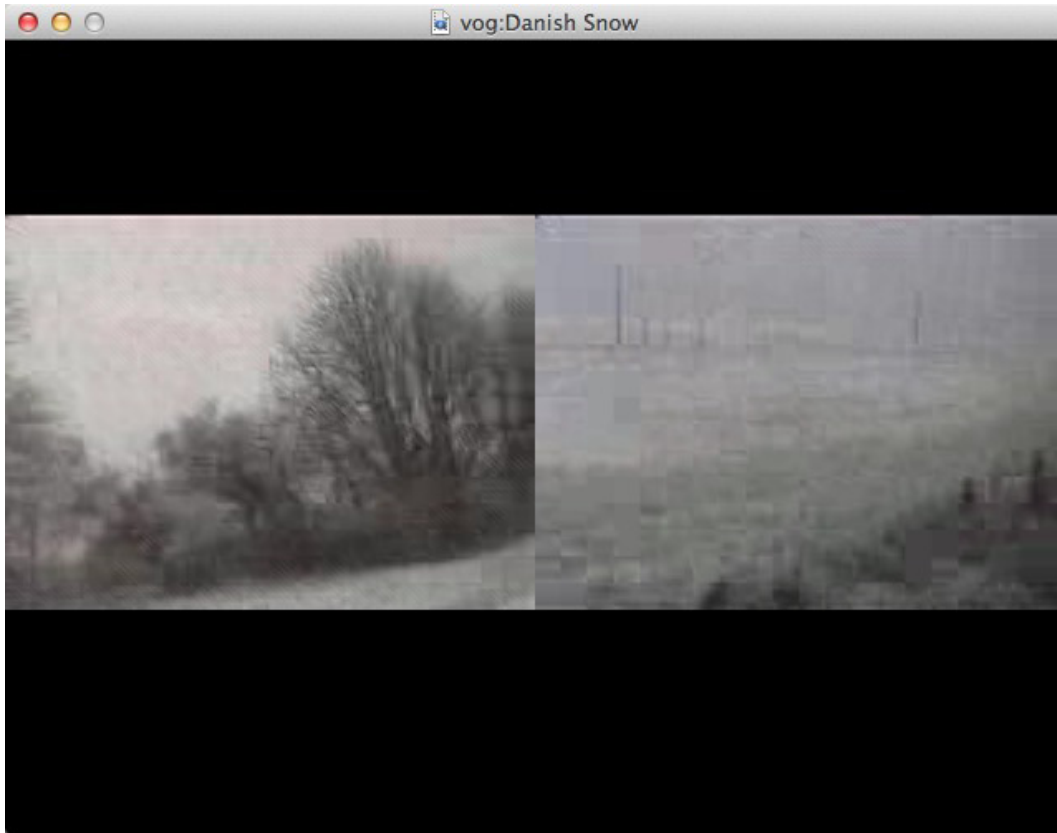


Figure Twenty Six. "Danish Snow". (2004.) A softvideo work by Adrian Miles.

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