

Soft Rhizomes 2.0: A Softvideography Essay

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Softvideo is a term applied by the author to video works which treat the computer as the means of production, distribution and consumption of video works. In these contexts video develops novel affordances or possibilities that problematize traditional uses and understandings of video as time based media. In this essay, which consists of a printed essay and an accompanying interactive academic QuickTime project, a critical and reflective analysis of a series of softvideo templates – the "rhizome templates" – is undertaken. These templates are publicly available and allow video bloggers and others to experiment with softvideo forms. The essay documents the use of the templates and situates them within a critical view of traditional video practice from the point of view of softvideo and video editing as a rhizomatic practice..

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INTRODUCTION

What follows is the transcript, come script, for a pair of interactive, web-based QuickTime essays.1 These interactive versions are regarded as the primary work or document that is "Soft Rhizomes 2.0", 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 realization of. Such objects, like the sketchbooks 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 the formalized 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 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 change not only the dissemination of knowledge but its very production.

SOFTRHIZOME2.MOV

This is an interactive QuickTime essay (see Figure 1). 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. 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 medium 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 these outside media can have play states quite independent of the containing object. A major implication of such work, apart from the interactive



Figure 1.

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.

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 14 MB works would become closer to 200 MB and in that break their ability to exist meaningfully 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 characterize 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 which 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 us 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 shall 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 cliche' — 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 cannot do this entirely, not yet, does not lessen the desire, or even the idealism, of such an attempt.

Address

It is not an essay. It is not 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 subclaused 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 timebased 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 would suggest synonymous with) all forms of writing that participate in

hypertextual economies of parts and wholes. This is a different writing from 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.

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 takenfor-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 nonpermanence 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").

Soft copy, 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 hard copy 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 realized, 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.

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 programme can appear alongside the current show's 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 soft copy, 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 recognize 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.

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 do not 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, network-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 from 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 Quick- Time 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 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 shall treat sprites as synonymous with 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 selfcontained 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 am 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 that is 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 (URLs if you like) to specific media assets. These assets can be any file type that Quick-Time 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 in 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 frontend 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 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. 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 for 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 the other, each with a different duration, and their playback states can be as independent or as fixed as the writer wishes.

This confuses most televisual practitioners as they think it is no different from embedding video in video in their editing or post-production 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 lightweight, 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 utilization of child movies.

There is probably a bit too much packed in there, so I will rewind a bit.

Technically, the rhizome movies are 320 240 pixel QuickTime movies. Each uses two internal video windows of 160120 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 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 in a parent QuickTime movie.

Each template relies on 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 artefact, then it does not run, or its mode of performance is qualitatively different from 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 on the form or content of the work should be significant and effect nontrivial 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 merely to edit the existing XML files to include the URLs 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 in 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.

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 problematize the essentially canonical forms of televisual and cinematic media. In other words, by utilizing two video panes that load and play video simultaneously, yet independently of each other, a softvideographic architecture is enabled that problematizes hard video's intransigence with regard to duration. In hardcopy video the time of the work is slaved to this duration: 20 minutes of image track is always 20 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 demonstrates, in softvideography video may have multiple video windows where each window is now presenting content that has a duration independent of any other and is outside 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 16

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

Rhizome two 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 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 play automatically, 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 soundtrack, and this third, looping soundtrack (which again as a child 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 its possible soundtracks.

Rhizome four is built on the same structure as rhizome three; 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 do not want this soundtrack all you need to do is load a tiny jpeg in its place — it is not visible and the rhizome movie will not crash because it cannot 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 (e.g. 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. Here the mouse event also mutes the target video, but instead of slowing down playback it increases playback speed. This is a work that accelerates, and once again clicking a video pane restores the other video to its normal speed.

Finally, the sixth rhizome template offers a single video that plays in the left video pane, while the right video pane consists of five 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, e.g. 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.

The rhizome templates and more details are available at: http://vogmae.net.au/content/category/5/18/50

RHIZOMES AND FACETS

It is a theoretical commonplace to use Deleuze and Guattari's (Deleuze & Guattari, 1987) image of the rhizome as an explanatory trope for hypertext, contemporary information architectures, and new media (see for example Burnett, 1993; Moulthrop, 1994). The better work recognizes 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 cliche' (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 Deleuze & Guattari 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 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, pp. 325) passim, though you could mouse in to the text icon on the rhizome screen in the softvideo vog essay to read them). However, to contextualize 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, one produces 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 connection that defines the integrity or viability of the node. On the contrary, branches connect to a trunk that is connected to a root system; breaching any part tends to be catastrophic for that which is connected "above". Similarly, beyond 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 do not 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 to 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 were literally to cut a book in half, or just remove 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, to 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 Deleuzean sense whereby it is perfectly possible, whether it is realized or not (where the virtual becomes the actual), and has this internal aspect 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 brought 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, let us say, a person standing in a doorway. The view is from outside looking in (it might be from a melodrama, or perhaps it is home in a John Ford western). This shot lasts, oh, 20 seconds. I can shorten it so now it lasts 10 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 from a hungry person. However, it is to recognize what the shot means, and here Kuleshov's experiments need to be recognized 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 are 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 are a sound artist), e.g. "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.

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 actualize 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 actualized, 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 realized as an actual via each "performance" of the softvideo artefact. 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 utilize 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 actualization of a virtual possible becomes a provisional and singular actualization 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 exists. 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 course the content that appears within a work may still be constrained, though this is not, in principle, 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 realized 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 that are enacted and canonized in the artefact 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.

NOTE

The QuickTime essays discussed in this article can be accessed via the electronic version on the Artifact website
Visit www.tandf.no/artifact for details.

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COLOPHON

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